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# Official Year Book

OF THE

## Union of South Africa

AND OF

Basutoland, Bechuanaland  
Protectorate, and Swaziland.

Statistics mainly for the Period

1910-1921.

No. 5.

C. W. COUSINS,

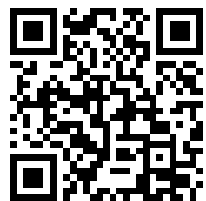
*Director of Census.*

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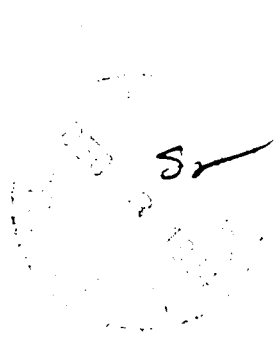


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[S.P. 33.]



UNION OF SOUTH AFRICA

UNION OFFICE OF CENSUS AND STATISTICS

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OFFICIAL YEAR BOOK  
OF THE UNION

AND OF

Basutoland, Bechuanaland Protectorate  
and Swaziland.

No. 5—1922

CONTAINING STATISTICS MAINLY FOR THE PERIOD  
1910-1921

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Published under Authority of the Minister of the Interior

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PRETORIA

The Government Printing and Stationery Office  
1923

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**SELECTED LIST OF SPECIAL ARTICLES AND NOTES IN PREVIOUS  
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## CORRIGENDA.

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- Page 201, table headed "Ages at Death and Causes of Death—White Persons, Union, 1920." 13th column, item ii, Typhus, for "—" read "1"; item iii, Malaria, for "11" read "1."
- Page 642, table headed "Gross Value of Factory Production," Natal, 1917-18, for "£13,754,356" read "£13,070,557"; Union, 1917-18, for "£60,806,910" read "£60,123,111."
- Page 643, table headed "Value Added in Process of Manufacture," Natal, 1917-18, for "£6,076,189" read "£5,392,396"; Union, 1917-18, for "£26,558,569" read "£25,874,770."
- Page 710, table headed "Analysis of Trade between the Union and Other Countries, 1910-1921—*continued*, (iv) South-West Africa," item Total Exports, 1921, for "£508,752" read "£881,302."

# PREFACE.

In the present issue considerable sections of information, relating mainly to the earlier stages of development in the Union, have been omitted in order to permit the inclusion of additional matter of present import.

Attention is invited to the following points :—

1. The section in vital statistics has been amplified by the inclusion of information as to the causes of infantile deaths and the incidence of such deaths in the principal urban areas.
2. Fuller information has been given on labour and other social questions, such as wages (including wages of non-Europeans), hours of labour, housing loans, friendly societies and liquor restrictions.
3. A summary has been given descriptive of the share taken by South Africa in the European War.
4. Some further information has been included on the subject of irrigation and water-boring, and a more complete statistical statement has been inserted of recorded rainfall for a series of years at the more important meteorological stations.
5. The chapter dealing with agriculture has been rendered more comprehensive, and will serve in itself as a reasonably complete "Year Book of Agriculture," for which a demand has been claimed. It includes an examination of the economics of maize production.
6. Important articles on the mining industry, which have been a feature of the Year Book since its inception, have been omitted, or greatly reduced; but a more detailed study of certain aspects of the gold-mining industry, particularly as to its finance, has been added.
7. In the chapter dealing with commerce has been included a section on the services of Trade Commissioners in connection with South Africa. There is also a statistical analysis of the volume of imports into the Union from the year 1910, and an analysis for the same period of the distribution of the external trade of the Union. Information of this character has not previously been available in any connected or comprehensive form.
8. An important monograph analysing the results of the six completed censuses of factory production has been prepared by Professor R. A. Lehfeldt, D.Sc., of the University of the Witwatersrand. This article (p. 1017) is the first of a series proposed by the Statistical Council in the development of a policy requiring the subjection of important branches of statistical information to analysis and interpretation at the hands of skilled technicians.  
A special article on "The Earliest Records of South Africa up to the First British Occupation," by Mr. C. Graham Botha, is also published. It is hoped to continue this series in future issues.
9. There has been an increase of the use of graphs and this feature is being developed in many directions.
10. Information throughout has been brought up to the latest possible date, both in the body of the text and by means of an Appendix, and it will be found that, although in the main the statistics cover the period 1910-1921, particulars are given in some cases of events which occurred as late as November, 1922.
11. Attention is invited to the list given on the following page of the principal publications of the Office of Census and Statistics.

It only remains to express, as in previous years, cordial appreciation of co-operation freely rendered by Government departments and members of the public in supplying information. It will be obvious that this is derived from sources almost bewildering in their number and variety. It is to this fact that the Year Book, with its comprehensive range of information, owes a large part of its value. Only through the work of a single office tapping every source of information can data on such a scale be collected, arranged, and combined in one volume.

Special acknowledgment is recorded of the assistance given by the Administrations of Basutoland, Bechuanaland Protectorate, Swaziland, and South-West Africa.

The help given by those who discover and will take the trouble to point out mistakes, is particularly welcome. The greatest care is taken to secure accuracy, but the entire avoidance of inaccuracies is impossible.

C. W. COUSINS,

*Director of Census.*

UNION OFFICE OF CENSUS AND STATISTICS,

PRETORIA,

November, 1922.

# UNION OFFICE OF CENSUS AND STATISTICS.

## LIST OF PUBLICATIONS

Obtainable from the Government Printer, Pretoria.

NOTE.—Further issues of the undermentioned publications, with the exception of the *Official Year Book*, have been discontinued (from 1st April, 1923).

PUBLICATIONS.	SUBJECT.	PRICE (Post free in South Africa).
<b>ANNUAL.</b>		
<b>s. d.</b>		
Official Year Book—		
No. 1, 1917 [S.P. 2].....	Statistics mainly for period 1910-16.....	3 0
No. 2, 1918 [S.P. 6].....	Similar, for 1910-17.....	3 0
No. 3, 1919 [S.P. 14].....	Similar, for 1910-18.....	5 0
No. 4, 1920 [S.P. 22].....	Similar, for 1910-20.....	6 0
No. 5, 1921 [S.P. 33].....	Similar, for 1910-21.....	5 0
Statistics of Production—		
Manufacturing Industries [S.P. 1].....	Statistics of factories and productive industries in the Union for the year 1915-16..	5 0
"    "    "    [S.P. 5].....	Similar statistics for 1916-17.....	5 0
"    "    "    [S.P. 12].....	"    "    1917-18.....	7 6
"    "    "    [S.P. 21].....	"    "    1918-19.....	7 6
"    "    "    [S.P. 29].....	"    "    1919-20.....	7 6
"    "    "    [S.P. 39].....	"    "    1920-21.....	5 0
Agriculture [S.P. 11].....	Census of Agriculture, 1918.....	3 6
"    "    [S.P. 18].....	"    "    1919.....	1 0
"    "    [S.P. 26].....	"    "    1920.....	3 6
"    "    [S.P. 38].....	"    "    1921.....	4 6
Directory of Industrial Establishments.		
"    "    "    (1921).....	.....	2 6
"    "    "    "    (1921).....	.....	2 6
<b>BIENNIAL.</b>		
Statistics of Population [S.P. 3].....	Population statistics for 1918 and vital and health statistics for 1916.....	5 0
"    "    [S.P. 7].....	Population statistics for 1918 and vital and health statistics for 1917.....	5 0
"    "    [S.P. 24].....	Population statistics for 1918 and vital and health statistics for 1918.....	7 6
<b>QUARTERLY.</b>		
Quarterly Abstract (first issued in January, 1920, and thereafter every quarter to January, 1923).....	Summary of Latest Union Statistics.....	0 6
<b>MONTHLY.</b>		
Bulletin of Statistics [S.P. 31].....	Latest Union statistics, 1922.....	*
"    "    "    [S.P. 41].....	"    "    "    1923.....	*
<b>SECTIONAL STATISTICS.</b>		
Social Statistics [S.P. 4].....	Statistics of private schools for 1917, and of rents of habitations for period 1910-18	1 0
"    "    [S.P. 8].....	Statistics of cost of living (monthly from January to June, 1919).....	0 6
"    "    [S.P. 13].....	Statistics of wholesale and retail prices, rents, and the cost of living (1895 to July, 1919).....	1 6
"    "    [S.P. 19].....	Statistics of retail and wholesale prices, rents and cost of living—No. 2, 1920....	1 6
"    "    [S.P. 23].....	Statistics of wages and prices (1895 to 1920)	2 6
"    "    [S.P. 35].....	Statistics of wages, prices, etc. (1895 to 1921).....	2 6
POPULATION CENSUS, 1918 [S.P. 10].		
Parts I to VIII (separately).....	.....	—
Part IX.....	Report.....	10 0
POPULATION CENSUS, 1921.		
Parts I, IV, and IX.....	.....	Varying

\* Limited number published about 15th of each month; obtainable on application at Census Office, Pretoria.

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# OFFICIAL YEAR BOOK

OF THE  
UNION OF SOUTH AFRICA  
AND OF BASUTOLAND, THE BECHUANALAND PROTECTORATE  
AND SWAZILAND.

## PART I. UNION OF SOUTH AFRICA.

### INTRODUCTORY.

#### STATISTICAL SERVICE AND SOURCES OF INFORMATION.

##### § 1. Statistical Service of the Union.

1. **Statistical Information prior to the Constitution of the Union.**—Apart from the statistics collected at each census of population, the statistics published up to the constitution of the Union were those procured by various Government departments as an incident of the ordinary work of their administration. Special mention may be made of the work of the Customs Statistical Bureau, established by the South African Customs Union in July, 1907, which gathered and published comprehensive statistics in regard to oversea trade and shipping for all the States in British South Africa. Apart, however, from such sources of information as those mentioned, there existed no other organized means of obtaining statistics. When, therefore, the Union was constituted statistics were lacking in regard to many matters of essential importance to those concerned in the administration and development of the country.

Particulars of early statistical information in South Africa are contained in previous issues (Nos. 1, 2, 3, and 4) of this Year Book.

The following official publications indicate the principal sources of earlier statistical information for the territories now comprising the Union:—

*Cape of Good Hope*; Cape Statistical Register (1887-1911).

*Natal*; Departmental Reports (1898-1900); Blue Book of Natal (1890-1893); Statistical Year Book (1893-1909).

*Transvaal*; Staats Almanak voor de Zuid Afrikaansche Republiek (1897-1899); Statistics of the Transvaal (1902-1909); Transvaal Statistics (1902-1906).

2. **South African Censuses.**—The following table gives the date of the taking of each census in the four Colonies now constituting the Union and of the first census in the Union:—

#### DATE OF EACH CENSUS TAKEN IN THE UNION AND IN THE COLONIES AND STATES NOW COMPRISED WITHIN THE UNION.

Area.	Year.								
Cape of Good Hope.....	1865, 5 Mar.	1875, 7 Mar.		1891, 5 Apr.	1904, 17 Apr.				
Natal.....				1891, 5 Apr.	1904, 17 Apr.				
Transvaal...				1890,* 1 Apr.	1904, 17 Apr.				
Orange Free State.....			1880, 31 Mar.	1890, 31 Mar.	1904, 17 Apr.				
Union.....						1911, 7 May.	1918,* 5 May.	1921, 3 May.	

\* White population only.

The *Census Act of 1910*—the second Act passed by the Union Parliament—provided for the taking of a census in the year 1911 and in any subsequent year determined by the Government. Section 34 (ii) of the *South Africa Act, 1909*, requires, for electoral purposes, that there shall be a quinquennial census of the European population. The census of 1911 met this requirement, but at the same time went further and effected a full census of the population of the Union. The next quinquennial census should thus have been carried out in 1916, but was postponed owing to the War, and was taken on the 5th May, 1918, in respect of the white population only (Act No. 15 of 1918). The second complete census of the Union was taken on the 3rd May, 1921.

**3. Statistics subsequent to the Constitution of the Union.**—Amongst the operations of the central Government after the constitution of the Union, an effort was made to collect all available statistics in a satisfactory form, and an annual statistical publication was issued in 1913, and has been continued in subsequent years, giving either in detail or in abstract such information as has been available. Owing, however, to the fact that legal authority for the collection of statistics was wanting, the work was found in many ways to be unsatisfactory, and, in 1914, the Union Parliament provided the necessary powers for a complete system of statistics by passing the *Statistics Act* (No. 38 of 1914), empowering the collection and publication of statistics in respect of the following matters:—

- (a) population;
- (b) vital, social, educational, and industrial matters, including rates of wages, cost of living, prices of commodities, and rents of habitations;
- (c) local government;
- (d) employment and non-employment;
- (e) imports and exports;
- (f) immigration and emigration;
- (g) posts, telegraphs, and telephones;
- (h) factories, mines, and productive industries generally;
- (i) agricultural, horticultural, viticultural, dairying, pastoral, and fishing industries;
- (j) banking, insurance, and finance;
- (k) railways, tramways, shipping and transport;
- (l) the tenure, occupation, and use of land;

and any other matter prescribed by the Minister of the Interior.

By the *Statistics Amendment Act* (No. 5 of 1919) authority was further granted for the issuing of regulations, if necessary, requiring particulars and information to be furnished by persons in prescribed areas or as to the addresses and occupations of persons or in respect of prescribed periods.

**4. The Union Statistical Department.**—For various reasons the *Statistics Act* was not promulgated until 1st April, 1917, but on that date a central Statistical Office for the Union was established. The following is an enumeration of the main provisions of the Act:—

- (i) Provision is made for the appointment of an administering officer, and the *Director of Census* was appointed for the purpose.
- (ii) A Statistical Council is provided for, to consist of not less than four and not more than eight members. The function of the Council is to advise the Minister in regard to matters connected with the Act.
- (iii) Arrangements, if necessary or convenient, may be entered into with the Provincial Administrations with a view to the collection of statistics by means of officers of such Administrations.
- (iv) Every person of whom information is required under the Act is compelled to supply it on demand.
- (v) Officers under the Act, for the purposes of inspection and making inquiries, are given powers of entry upon any land or premises upon or within which any industrial undertaking is carried on, or persons are employed.
- (vi) The *Director of Census* is required to compile, tabulate, and publish statistical returns obtained under the Act.
- (vii) Penalties are imposed upon an officer who—
  - (a) puts an improper or offensive question to any person;
  - (b) asks, receives, or takes, in respect of or in connection with his employment under the Act from any person other than an authorized officer of the Government, any payment or reward;
  - (c) divulges, except as allowed by the Act, the contents of any form or return filled up or any information furnished, in pursuance of the Act.
- (viii) Persons supplying false information, forging any document, or infringing a regulation under the Act by making default are liable to punishment.
- (ix) Every form, notice, or other document given or issued by an officer under the Act, is sufficiently authenticated if it bears the name of the issuing officer printed or stamped upon it.

- (x) Free postal service is provided for communications relating to the Act dispatched by or to an officer, when marked "*Statistics. On His Majesty's Service.*"
- (xi) No entry in any return, book, register, or record made by an officer or private person is admissible in any legal proceedings, except upon a charge of an offence against the Act.

**5. Organization of Statistical Collection.**—(i) *General.*—The principles involved in the statistical organization of the Union under the Statistics Act is that of centralization. The statistics of South Africa prior to the promulgation of this Act were open to arraignment amongst other things on the following grounds, viz. : The restricted and incomplete character of available statistics ; the lack of coherence and common purpose ; the unevenness of quality ; in many cases the lateness of their presentation and their inaccessibility ; the duplication of publication and the inevitable conflict occasionally resulting therefrom, due to the detachment of the various Government Departments concerned with statistics ; and the expense of production due to lack of skilled supervision and the absence of mechanical tabulating appliances.

Centralization provides a remedy for the defects enumerated ; and already a large amount of co-ordination has been secured. Amongst certain operations for procuring statistics in regard to which important information was previously lacking, the following may be mentioned as having been initiated by the Union Office of Statistics :—

- (a) A complete annual census of manufacturing industries.
- (b) A complete quinquennial and a less detailed annual census of agricultural and pastoral production.
- (c) Investigations in regard to rates of wages, hours, and conditions of labour, wholesales and retail prices, the cost of living and kindred matters.

On the advice of the Statistical Council further branches of public statistics, including the subjects of banking, rates of exchange, insurance and general finance have been and are being obtained from time to time. The series of publications initiated includes *The Official Year Book* of the Union giving the substance of all available statistics and official information ; *Quarterly Abstracts of Statistics* and *Monthly Bulletins* designed to bring the information in the *Year Book* up to the latest possible date ; and sectional publications and monographs giving in greater detail from time to time the results of the various census operations and statistical investigations conducted by the Office. The Office of Census and Statistics is also charged with the duty of conducting the quinquennial censuses of population called for by the *South Africa Act*. (See paragraph 2 above.)

It should be noted that the following Departments undertake sectional statistics on a considerable scale as regards the subjects indicated, viz. :—

Customs Department.....	External Trade.
Mines Department.....	Mineral Production.
Railways and Harbours Department.....	Transportation.

(ii) *The Statistical Council.*—The Statistical Council as reconstituted in November, 1921, was as follows :—

*Statutory Members :*

- Sir Johannes van Beeschooten.
- Professor R. A. Lehfeldt, D.Sc.
- Professor W. A. Macfadyen, M.A., LL.D.
- Dr. G. D. Maynard, O.B.E., F.R.C.S.E., M.R.C.S., L.R.C.P. (Lond.).
- Messrs. Duncan Eadie.
- J. G. van der Horst.
- Robert Niven.

*Chairman :* C. W. Cousins, M.A. (Director of Census).

*Official Members :*

- Messrs. P. J. du Toit, Secretary for Agriculture.
- (Alternate : Col. G. N. Williams, D.S.O., Under-Secretary for Agriculture.)
- W. Marshall, Financial Adviser to the Railways and Harbours Administration.
- H. K. Vere-Hodge, F.S.S., Customs Department.

(iii) *Office of Census and Statistics.*—The office of Census and Statistics is organized as follows :—

*Section A. Administration.*—This Section is concerned with the general executive work of the office.

*Section B. Population.*—This Section deals with the quinquennial population census, Vital Statistics and statistics of Migration and Hospitals.

*Section C. Judicial.*—Statistics of crime and penology, insolvencies and divorcees are collected and tabulated.

*Section D. Prices and the Cost of Living.*—Monthly quotations are collected from a large number of towns in the Union in respect of retail prices of commodities, and the results provide a series of monthly, quarterly and annual figures relating to prices and the cost of living. Quarterly quotations are also obtained in respect of wholesale prices in the Union.



**Section E. Production.**—This Section is responsible for the censuses of (a) Agricultural, Pastoral, and Fisheries Production (annual and quinquennial). (b) Manufacturing Production (annual). (Statistics of Mining Production are produced monthly and annually by the Government Mining Engineer.)

**Section F. Social and Industrial Statistics.**—Statistics are compiled in regard to labour and wages, insurance, local government, charitable institutions, private schools, and a variety of miscellaneous subjects.

**Section G. Tabulation.**—In this section is undertaken the general work of statistical tabulation for all sections of the office by means of electrical machinery. The utilization of machinery obviously tends to economy, and the equipment will serve an increasingly useful purpose as providing in a central office for the tabulation of departmental Government statistics other than those specifically undertaken by the Office of Census and Statistics.

**Section H. Compilation and Computing.**—This Section deals with the work of compilation and computing for various sections of the office, including expert tabulation by hand or by machines (other than electric machines), and all calculations by machine or otherwise.

**Section J. Publications.\***—The work of this Section includes the production of the *Official Year Book of the Union*; the *Quarterly Abstract of Statistics*; the *Monthly Bulletin of Statistics*; and the periodical sectional statistics, together with the supervision of official and exchange distribution. This section is also responsible for the Library of Statistics, representing a large collection of general statistical information; and for the revision of the sections dealing with South Africa in a number of annual and other publications issued by publishing firms in South Africa, Great Britain, and elsewhere. The editing of the annual reports of most Government Departments is centralized in this section.

In regard to a large number of the operations involved in the system of statistical organization above indicated the sections named are responsible for the organization of field collection, which involves in every case a very large amount of labour. For certain purposes, such as the censuses of agriculture and manufactures, the Union Police Force supplies the necessary field machinery in a most adequate manner. The police organization covers every part of the country and has been perfected to such an extent that for any operations of this kind it is able to render efficiently a service which otherwise would in any event involve a very heavy annual expenditure from public funds and would never be as efficient. Unfortunately the circumstances inevitably surrounding a population census render it impossible to utilize the assistance of the Police Force in this connection to any very great extent, with the result that a complete system of field organization has to be improvised on the occasion of each census, involving in the Union, as in almost all other countries, a very serious but unavoidable item of public expenditure.

**6. Government Publications.**—Lists published by the Government Printer, Pretoria, enumerate the more important publications of the Government, including a number of periodical reports and publications, reports of Commissions and other special reports, the records of Parliament and reports of Select Committees of Parliament, the reports, records, and other publications of the various Provincial Administrations. In 1922 the first number of a volume containing abridged versions of the annual reports of most Government Departments in the Union was issued by the Government Printer. The period covered was 1920-21. Separate reports for the same period were published by the following: The Government Mining Engineer, the Public Service Commission, the Director of Irrigation, the Commissioner for Inland Revenue, the Public Debt Commissioners, the Trade Commissioner (London), and the General Manager of Railways and Harbours. A number of interesting publications of the South African Railways are obtainable from the Publicity Branch. The third issue of this *Year Book* contained a list of these and other publications up to the year 1919. Considerations of space prevent the continued inclusion of this information.

**7. Other Official and Statistical Publications.**—The list hereunder gives information as to calendars, annuals, year books, and other records and reports of public bodies in the Union, and other statistical publications of a periodical or special character:—

*Records, Reports, and Publications of Public Bodies and Societies and Publishing Companies*  
**Higher Education—**

- University of South Africa—Calendar.
- University of Cape Town—Calendar.
- University of Stellenbosch—Calendar.
- University Colleges—Calendars.

**High Courts—**

- Monthly Summary of decided cases in the Supreme Court of South Africa.
- Manual of Criminal Procedure.
- Manual for Justices of the Peace.

\* A list of publications of the Census and Statistics Office is included at the end of this volume.

**Municipalities—**

- Mayors' Minutes and Municipal Year Books.
- Valuation Rolls.
- Municipal By-laws.
- South African Municipal Year Book (*F. G. Pay: Cape Town*).

**Manufactures, Industries and Commerce, and General—**

- H.M. Trade Commissioner for South Africa—Reports.
- Transvaal Chamber of Mines—Reports.
- South African Mining and Engineering Journal.
- South African Mining Review.
- Directory of South African Manufactures, 1916 (*South African National Union*).
- Chamber of Commerce—Reports and Journals.
- Industrial South Africa (*Monthly*).
- Journal of the Department of Agriculture (*Official*).
- Journal of Industries (*Official*).
- South African Irrigation Department Magazine.
- South African Fruitgrower, Exporter, and Distributor.
- South African Gardening.
- South African Stationery and Trades Journal.
- South African Sugar Journal.
- South African Dairyman and Livestock Journal.
- South African Storekeepers' and Shipping Journal.
- South African Railways and Harbours Magazine.
- Crop Reports.
- Agricultural Societies—Reports.
- Natal Farmers' and Agricultural Gazette.
- The Farmer's Weekly (Bloemfontein).
- The Farmer's Advocate (Bloemfontein).
- Die Landbou Weekblad (Bloemfontein).
- South African Master Builders' Federation Journal.
- Engineers and Electricians.
- South African Who's Who (*Annual*) (*Ken. Donaldson*).
- Hortor's Diary and Law List for South Africa.
- The South African Federationist.
- National Bank of South Africa—Monthly Trade Reports.
- Standard Bank of South Africa—Monthly Review.
- The South and East African Year Book and Guide.

**Libraries and Museums—**

- Annals of the South African Museum.
- Annals of the Transvaal, Natal, and other Museums.
- Annual Reports of Libraries.

**Journals and Proceedings of Societies and Public Bodies—**

- Royal Observatory—Publications.
- South African Journal of Science.
- Journals of South African National Union (1908–11).
- Medical Journal of South Africa.
- South African Medical Record.
- South African Law Journal.
- Journal of the Institute of Bankers.
- Geological Society of South Africa—Transactions.
- Transvaal Chamber of Mines.
- Chemical, Metallurgical, and Mining Society of South Africa.
- South African Institute of Electrical Engineers—Transactions and Journal.
- Journal of the South African Institute of Electrical Engineers.
- Journal of the South African Institute of Engineers.
- Journal of the Institute of Land Surveyors of Transvaal.
- Engineering in South Africa.
- The South African Institute for Medical Research—Publications.
- Child Welfare Association—Report.
- Union Observatory—Circulars.

**§ 2. Records and Bibliography.**

1. **Archives.**—For many years prior to the constitution of the Union the Government of the Cape of Good Hope maintained a keeper of the archives, whose time was entirely employed in examining, indexing, and supervising the binding of the records relating to the Dutch occupation up till 1806. The later records were not in his charge. In the

Transvaal an Archives Branch of the Colonial Secretary's Department was constituted soon after the establishment of Crown Colony Government in 1902, to take custody of and examine that portion of the South African Republic records which was preserved in the late State Secretary's Department, and such other records as might be collected. The records referred to were in a fairly complete condition and in a good state of preservation. An important work which was carried out subsequently was the translation into English of the Executive Council Resolutions, and the preparation of an English index. The English translation and index were printed. Neither in Natal nor in the Orange Free State was there a specially constituted Archives Department. Since the constitution of the Union work in arranging and indexing the archives has been continued, partly in the ample accommodation provided in the Union Buildings in Pretoria, and partly in the Parliament Buildings and the new Supreme Court Buildings in Cape Town. There are also archives retained in Pietermaritzburg and Bloemfontein.

In 1918 the Government appointed an Archives Commission to supervise the publication of a portion of the archives and to recommend from time to time the steps considered desirable for the collection, preservation, and distribution of all written matter bearing on the past history and records of South Africa.

Act No. 9 of 1922 gave statutory authority to this Commission and made provision generally for the custody and control of the public archives of the Union. A chief archivist was appointed and archives depôts were created.

[Previous issues (Nos. 1, 2, and 3) of this Year Book contain notes on the Archives in each of the four Provinces of the Union, and on other similar records.]

**2. Select Bibliography.**—The subjoined list gives the names of a few of the more important works published in relation to South Africa up to 1919, and indicates some of the sources of information available. Works published since 1919 are enumerated in the next paragraph.

#### SELECT BIBLIOGRAPHY ON SOUTH AFRICA.

##### WORKS PUBLISHED TO 1919.

##### *Antiquities, Philology, and Folklore—*

- Peringuey (L.)—Stone Age of South Africa. Cape Town: 1911.  
 Bleek and Lloyd.—Specimens of Bushman Folklore. London: 1911.  
 Pettman (C.)—Africanderisms. London: 1913.  
 Meinhof (C.)—Introduction to the Study of African Languages. London: 1915.  
 Bosman (D. B.)—Afrikaans en Maleis-Portugees. 1916.

##### *Bibliography—*

- Hollway (N. C. S.)—Bibliography of Books relating to South Africa. In *Transactions of the South African Philosophical Society*; Vol. X, Part 2. Cape Town: 1898.  
 Mendelssohn (S.)—South African Bibliography; 2 vols. London: 1910.  
 Theal (G. McC.)—Catalogue of Books and Pamphlets relating to Africa south of the Zambesi. Cape Town: 1912.  
 Bolus and Macowan.—Bibliography of South African Botany.  
 Wilman (M.)—Bibliography of South African Geology.

##### *Natural Sciences—*

- Harvey and Sonder.—Flora Capensis, 1859 (*continuing*). Ed. by Sir Wm. T. Thistleton-Dyer.  
 Bolus (H.)—Icones Orchidearum, 1893–1915.  
 Haagner and Ivy.—Sketches of South African Birdlife. London: 1908.  
 Gilchrist (J. D. F.)—South African Zoology. Cape Town: 1911.  
 Fitzsimons (F. W.)—Snakes of South Africa. Cape Town: 1912.  
 Horsburgh (Boyd)—The Game Birds and Water Fowls of South Africa. 4 Parts.  
 Marloth (R.)—The Flora of South Africa; Vols. I to IV. Cape Town: 1913–15.  
 Marloth (R.)—Dictionary of the Common Names of Plants. Cape Town: 1917.  
 Bews (J. W.)—The Grasses and Grasslands of South Africa. Pietermaritzburg: 1918.

##### *History—*

- Theal (G. McC.)—History and Ethnography; 8 vols. London: 1907–10.  
 Cory (G. E.)—Rise of South Africa; Vols. I, II and III. London: 1910 (*continuing*).  
 Worsfold (W. B.)—Union of South Africa. London: 1912.  
 Worsfold (W. B.)—Reconstruction of New Colonies under Lord Milner; 2 vols. London: 1913.  
 Tilby (A. Wyatt)—South Africa; 1486–1913. London: 1914.  
 Fouché (Leo)—Dagboek van Adam Tas. London: 1914.  
 Lucas (Sir C. P.)—Historical Geography of the British Colonies: South Africa. Part I, History, revised by Sir C. P. Lucas, and Part II, Geographical, revised by A. B. Keith. Oxford: 1915.

- Lucas (Sir C. P.)—*Historical Geography of the British Dominions; Part IV.* London: 1915.  
 Calvert (A. F.)—*South-West Africa.* London: 1915.  
 Botha (C. Graham)—*Guide to Documents in Cape Archives,* Cape Town: 1918.  
 Eybers (G. W.)—*Select Constitutional Documents Illustrating South African History, 1795-1910.* London: 1918.  
 Fairbridge (D.)—*History of South Africa.* Oxford: 1918.  
 Ritchie (Professor W.)—*History of the South African College; 2 vols.* Cape Town: 1918.  
 Botha (C. Graham)—*The French Refugees at the Cape.* Cape Town: 1919.

*Biographies.—*

- Moltano (Sir J. C.)—by P. A. Moltano, 2 vols. London: 1900.  
 Gray (Sir G.)—by G. C. Henderson. London: 1907.  
 Rhodes (C. J.)—by Sir L. Mitchell; 2 vols. 1910.  
 Rhodes (C. J.)—by Sir T. E. Fuller. London: 1910.  
 Hofmeyr (J. H.) (Onze Jan)—by J. H. Hofmeyr and F. W. Reitz. Cape Town: 1913.  
 Gill (Sir D.)—by G. Forbes. London: 1916.  
 Botha (General L.)—by H. Spender. London: 1916.  
 Levi (N.)—Jan Smuts. London: 1917.

*Descriptive, Political, and Social—*

- Bryce (Viscount)—*Impressions of South Africa.* London: 1899.  
 Buchan (J.)—*The African Colony.* London: 1903.  
 Fife (H. H.)—*South Africa of To-day.* London: 1911.  
 Markham (V. R.)—*The South African Scene.* London: 1913.  
 Hofmeyr (J. H.)—*History and Control of National Debts.* Cape Town: 1918.  
 Kilpin (R.)—*The Old Cape House.* Cape Town: 1918.  
 Nathan (M.)—*The South African Commonwealth.* 1919.

*Labour Questions, Immigration, etc.—*

- Roper (E. R.)—*Land Banks for South Africa.* Cape Town: 1912.  
 Macdonald (A. J.)—*Trade, Politics, and Christianity in Africa and the East.* London: 1916.  
 Transvaal Indigency Commission Report. Cape Town: 1912.  
 Report of Select Committee on White Labour. Cape Town: 1913.

*\* Mines—*

- Williams (Gardner F.)—*The Diamond Mines of South Africa.* New York: 1902.  
 Wagner (P. A.)—*Diamond Fields of Southern Africa.* Johannesburg: 1914.  
 Wagner (P. A.)—*Geology and Mineral Industry of South-West Africa.* Pretoria: 1916.  
 Mines of Africa.—London: Annually.  
 L. Healdt (R. A.)—*Gold Prices and the Witwatersrand.* London: 1919.

*Native Questions and Native Races—*

- Fritsch (G.)—*Die Eingeborenen Süd Afrikas.* Breslau: 1872.  
 South African Native Races Committee—*Natives of South Africa: Their Economic and Social Condition.* London: 1901.  
 Stow (G. W.)—*Native Races of South Africa.* London: 1905.  
 South African Native Races Committee—*South African Natives: Their Progress and Present Condition.* London: 1909.  
 Evans (M. S.)—*Black and White in South-East Africa.*  
 Theal (G. McC.)—*Yellow and Dark Skinned People of Africa south of the Zambesi.* London: 1910.  
 Gibson (J. Y.)—*The Story of the Zulus.* London: 1910.  
 Plaatje (S. T.)—*Native Life in South Africa.* London: 1910.  
 Junod (H. A.)—*Life of a South African Tribe; 2 vols.* Neuchâtel: 1912-13.  
 Stevens (E. J. C.)—*White and Black.* London: 1914.  
 Wimmer (A. S.)—*The Bantu Languages.* London: 1919.

*Geography—*

- Stanford (Ed.)—*Compendium of Geography—Africa.* (A. H. Keane.) London: 1895.  
 Lucas (Sir C. P.)—*Geography of South and East Africa.* London: 1913.

*Handbooks—*

- Brown (A. S.) and Brown (G. G.), Editors—*The Guide to South and East Africa.* London.

\* For a full bibliography of the mineral resources of South Africa reference may be made to Chapter XVI of this Year Book.

*Union—*

Brand (R. H.)—*The Union of South Africa*. Oxford: 1909.

South African National Convention—*Minutes of Proceedings, etc.* Cape Town: 1911.

Walton (Sir E. H.)—*Inner History of the National Convention*. Cape Town: 1912.

**3. Recent Publications in Relation to South Africa.**—The subjoined list gives the names of works selected from the more important publications in relation to South Africa from the year 1920.

The first four numbers of this Year Book contain fuller bibliographies, giving names of works issued from 1910 to 1919. For more detailed records reference may be made to the South African Public Library at Cape Town (probably the most comprehensive), the State Library at Pretoria, and other similar institutions.

**PUBLICATIONS IN RELATION TO SOUTH AFRICA ISSUED SINCE 1920.**

Dawbarn (Charles)—*My South African Year*. London: 1921.

Fairbridge (D.)—*Historic Houses of South Africa*. Cape Town: 1922.

Lehfeldt (Prof. R. A.)—*The Natural Resources of South Africa*. Johannesburg: 1922.

Lloyd (A. C. G.)—*A list of the serial Publications available for consultation in the Libraries and Scientific Institutions of the Union of South Africa*. Cape Town: 1921.

Pröller (G. S.)—*Voortrekkersmens*. Cape Town: Vol. I, 1918; Vol. II, 1920.

Rhodes (C. J.)—*By Basil Williams*. London: 1921.

Van Riebeeck Society. *De Mist* (J. A.)—*Memorandum on the Cape*. Cape Town: 1920.

Van Riebeeck Society. Mentzel (O. F.)—*Description of the Cape*. Cape Town: 1921.

Walker (Prof. E. A.)—*Historical Atlas of South Africa*. Cape Town: 1922.

## CHAPTER I. HISTORY AND DESCRIPTION.

### § 1. Discovery, Colonization, and Development of South Africa.

**1. Discovery and Early Settlement.**—"The story of South Africa is unique in the chronicles of European colonization. For a century and a half it is the barren record of a landmark—the Cape. For another century and a half it is little more than the story of a port of call, round which a small settlement gathered. It is now the unfinished tale of a wide dominion."<sup>\*</sup>

The Cape of Good Hope was discovered in 1487 by the Portuguese navigator, Bartholomew Diaz, who at the time was seeking an ocean passage to the East, for the purpose of direct trade with the Indies. Ten years later Vasco da Gama, following the same course, actually reached India and secured to Portugal for nearly a century a practical monopoly of the Eastern Trade by this route. The only Portuguese settlements and possessions in Africa, however, were those on the East Coast—Delagoa Bay being the southernmost. Various landings at Table Bay were effected by passing ships other than those of Portugal, mostly British and Dutch, but including also some French and Danish vessels. Table Bay was first actually occupied in 1652, by Johan van Riebeeck, sent out for the purpose by the Netherlands East India Company. A naval station was thus established as an outpost of the Company to furnish supplies for outward and homeward bound fleets, and also to prevent occupation by the "public enemies" of the Netherlands, the Spanish and Portuguese. A few years later a small number of the Company's employees were established on the land and formed the first Colonists, the first Boers and the first Burghers of South Africa. In 1672 the population of the settlement was given as 600 Europeans, 300 of whom belonged to the garrison. From time to time small parties of immigrants arrived from Holland, and in 1679 the settlement was pushed further inland and Stellenbosch was founded. Farmers began to take up ground and development followed; so that by 1684 a little grain was exported, and by 1688 a little wine. Between 1688 and 1690 a notable addition to the small European population was effected by the introduction of some 180 Huguenot refugees, driven from France by the Revocation of the Edict of Nantes. These formed a not inconsiderable portion of the stock from which the Dutch population in South Africa at the present day is descended.

**2. Colonization under the Netherlands East India Company.**—During the century which followed, the Colonists, as their number increased, steadily extended their settlements further afield. They passed the Tulbagh Kloof in 1700. Following the Breede River towards the coast they pressed eastwards, the village of Swellendam being established in 1745. By 1770 there were nearly 10,000 Europeans in the Colony. Owing to conflict with the Kaffir tribes the eastern boundary was altered from time to time as the natives were pushed back; until in 1778 the Governor, van Plettenberg, fixed the boundary at the Great Fish River. The disregard of this boundary by the natives was the cause of a long sequence of Kaffir wars. In 1786 the appointment of a Landdrost was authorized at Graaff-Reinet, then the north-eastern corner of the Colony. The northern boundary, or at least the northern limit of exploration, remained the Orange River, named after the Stadtholder of the United Provinces. Towards the end of the eighteenth century, owing to the practical breakdown of the Company's administration both at the Cape and in the East Indies, the States General Government of Holland intervened, and a Commission of Inquiry arrived at Cape Town and took over the Government, which they in turn entrusted to Sluysken on their return to Europe in 1793. At this time there were more than 14,000 European settlers scattered over the south-western part of the country. Cape Town had grown considerably, while Stellenbosch, Swellendam, and Graaff-Reinet were important posts. Claims to political or commercial privileges were, however, received by the Company with disfavour; and as the result of this policy the community was on the whole unprogressive.

**3. British Occupation.**—The two years 1793-5 were eventful ones in the history of the Netherlands and of the Cape. The armies of France overthrew the Government of the United Provinces, whose Stadtholder fled to England for refuge, and set up in its stead the Batavian Republic under French protection. Early in 1795 a British expedition under Admiral Elphinstone set sail from Europe with authority from the exiled William of Orange to occupy the Cape for its protection against France. Commissary Sluysken at first resolved

<sup>\*</sup> Sir C. P. Lucas.

to act upon his last orders from the Company which were that he should be on his guard against all foreigners; but, opposed, as he found himself, to a superior force, and with the Burghers of Graaff-Reinet and Swellendam in actual revolt, he had no alternative but to effect the surrender. In 1803 the Cape was restored to Dutch rule, the Batavian Republic succeeding to the rights of the old Company, and was administered wisely by de Mist and Janssens until it was again surrendered to a British force under General Sir David Baird on the 10th January, 1806. From this date the Cape has remained uninterruptedly a British possession. Formal cession to Great Britain was effected voluntarily by the Netherlands Government (now once more under William of Orange), by a convention signed on the 13th August, 1814, in return for financial assistance, as a part of the general settlement following on the Peace of Paris.

**4. British Administration.**—At the date of the permanent British occupation the population of the Colony consisted of about 26,000 Europeans, together with some 17,000 Hottentots and 29,000 slaves. The Hottentots, apart from thieving expeditions in the early days of the Dutch Company's administration, had ceased to cause the Colonists anxiety. As was the case also with the Bushmen, they had retired into the deserts, or their tribes had dwindled down to a status little different from that of slaves. But surrounding the Colony and in particular on its eastern borders were the warlike tribes of the Bantu race. For the greater part of the nineteenth century the Colonists were faced with this danger, a circumstance which provided a constant element of difficulty in the government of the territory and gave rise to a long series of wars. Another difficulty was due to the inherent distaste of the Dutch Colonists for those traditional features of British Colonial rule which were applied in the Colony, though in a modified form. In particular there was a fundamental conflict of ideas as to the treatment of the natives. A series of unfortunate events arising from this cause created friction and even rebellion, the suppression of which gave birth to ill-feeling which did not readily subside, and was indeed to a great extent responsible for many of the subsequent difficulties between the British Government and the Dutch Colonists.

**5. Further Colonization.**—During the years 1820 and 1821 some 5,000 British settlers arrived as the result of representations made by Lord Charles Somerset. These were established in the eastern district of the Colony, and a considerable portion of the European community in this part still consists of their descendants. In the early days these settlers were faced with serious hardships, the number being too large to be absorbed by the country at one time; and it was long before they were well established. Their position was made worse by their contiguity to the frontier, and by constant conflicts with the Kaffirs. The Kafir wars indeed formed the most serious problem with which the Government of the Cape Colony had to deal, and the frontier policy especially at certain stages has been severely criticized. The experiment was eventually made under Governor Cathcart of bringing out soldier settlers and establishing them as a border militia; and at a later stage a number of German soldiers in British employ were brought from Europe and settled in the Eastern Border Districts.

**6. Foundation of the Republics.**—In 1836 began the movement known as the Great Trek, resulting eventually in a large number of Boers leaving the Cape Colony and pushing their way into what are now the Orange Free State, Transvaal, and Natal (where in 1824 a handful of English settlers had established themselves). Faced with many difficulties the Boers persisted in their settlement, and, after serious trouble with the natives, succeeded at length under Andries W. J. Pretorius in defeating 10,000 Zulus on the 16th December, 1838, a day thenceforward celebrated annually in South Africa as "Dingaan's Day." Following upon this event came some years of further strife with the natives and dispute with the British authorities. Eventually on the 17th January, 1852, the Sand River Convention was signed recognizing the independence of the Boers north of the Vaal. On the 23rd February, 1854, the Republican Government of the Orange Free State also was established by the Convention of Bloemfontein.

**7. Development of the Cape and Natal.**—In the meantime there was a steady development of agriculture and farming in the Cape Colony and in Natal, where the first settlers, though deprived almost entirely of support from the British Government, had gradually established themselves and made steady progress. In 1852, the export of copper from O'okiep in Namaqualand started the first mining industry, and in 1867 the first diamond was discovered, near the Orange River in the Hope Town District. There followed a rush of men to the river diggings. Railways came into being; men and money flowed into the Cape Colony and the public revenue rose rapidly. In 1855 colonial produce exported amounted to £971,000; in 1875 it was over four millions sterling. In the latter year the population of the Cape Colony was returned at 721,000, of whom 237,000 were Europeans. In 1872 responsible government was introduced in that Colony, and John Molteno (afterwards Sir John Molteno) formed the first Ministry.

**8. Movements towards Unification.**—Disputes between the Cape Government and the Governments of the two Republics arose from time to time and eventually the conditions were felt to be so unsatisfactory that the idea of federation which was mooted twenty years

earlier was revived, and a permissive South Africa Act was passed by the British Parliament in 1877. The plan, however, failed. In the same year, following on disagreement between the Transvaal Volksraad and President Burgers, the South African Republic was formally annexed by Sir Theophilus Shepstone, thus bringing a large territory and a European population of some 10,000 under British rule. The annexation was peacefully effected; but the Boers were unwilling subjects. It was immediately after this event that Sir Bartle Frere arrived at the Cape as Governor. Notwithstanding serious trouble with the Kaffirs he found time consistently to press forward the cause of the unification of the South African States at least so far as to enable them to present a common front to the native menace. In 1880 the Sprigg Ministry definitely formulated proposals for Union to be considered by delegates of the various States. But the proposals fell through, the Governor was recalled, and events marched with startling rapidity to the battle of Majuba in 1881, and the subsequent abandonment of the Transvaal by the British Government.

**9. The South African War and Final Union.**—From this date the various States of South Africa pursued each its own course, the Cape steadily developing under a series of able ministries; similarly Natal, where responsible government was introduced in 1893, and similarly also, but in a more leisurely way, the Orange Free State under Presidents Brand, Reitz and Steyn. In the Transvaal, however, under President Kruger, as the inevitable result of the opening up of the gold fields in 1886, the expansion which followed, and the entry and presence of the large *uitlander* population of Johannesburg, elements of trouble were provided which at length culminated in the war of 1899, in which the Orange Free State joined. The Peace of Vereeniging was signed on the 31st May, 1902; and the two Republics became Crown Colonies. In 1906 responsible government was introduced in the Transvaal and the Orange River Colony. In 1907 Lord Selborne, then High Commissioner, prepared a memorandum on the Closer Union of the South African Colonies. In 1909 the National Convention met, first in Durban and then in Cape Town, containing representatives of all the South African Colonies. The *South Africa Act* passed by the Parliament of the United Kingdom in 1909 was the result; and on the 31st May, 1910, that is, on the eighth anniversary of the Peace of Vereeniging, and thirty-three years after the Permissive Federation Act of 1877, the four Colonies of the Cape of Good Hope, Natal, Transvaal, and the Orange River Colony, the latter assuming again the name of the Orange Free State, finally entered upon the complete legislative and administrative union of the present day.

A more detailed account of the constitutional development of South Africa is given in Chapter II.

**10. British Governors and Ministries Prior to 1910.**—Lists were given in the first four issues of the Official Year Book of British Governors and Ministries in the Cape of Good Hope, Natal, Transvaal, and Orange River Colony. These have not been repeated owing to considerations of space.

## § 2. Table of Notable Events.

The following table gives in chronological order the chief events in South Africa from the date of discovery :—

- 1487 Discovery of the Cape of Good Hope by Bartholomew Diaz.
- 1497 Landing of Vasco da Gama at St. Helena Bay and at Mossel Bay.
- 1503 Discovery of Table Bay by Saldanha.
- 1610 D'Almeida, Viceroy of Portuguese East Indies, killed in skirmish with Hottentots near Table Bay.
- 1680 Sir Francis Drake's voyage round the Cape.
- 1691 English ships in Table Bay.
- 1695 Dutch ships at Mossel Bay.
- 1601 First British East India Fleet at Table Bay.
- 1602 Netherlands East India Company formed.
- 1652 Landing of van Riebeck. First Settlement.
- 1654 Introduction of Asiatic convicts.
- 1657 First free Burghers at Rondebosch.
- 1658 First importation of about 400 West African Slaves.
- 1666 Building of the Castle at Cape Town commenced.
- 1678 Settlement of Hottentots Holland.
- 1679 Stellenbosch founded under Simon v. d. Stel. Completion of the Castle at Cape Town.
- 1685 Discovery of copper in Namaqualand.
- 1688 Arrival of Huguenot settlers.
- 1699 Retirement of Simon v. d. Stel. Willem Adriaan v. d. Stel made Governor.
- 1700 Occupation of land at Tulbagh.
- 1707 Recall of Governor W. A. v. d. Stel.
- 1713 Devastation by *Smallpox* outbreak introduced from India.
- 1737 First Moravian Mission (abandoned 1744).



- 1746 Swellendam founded.
- 1751 Ryk van Tulbagh, Governor.
- 1755 Foundation Stone of Old Town House, Cape Town, laid.
- 1760 Orange River crossed by Coetzee.
- 1778 Fish River made the eastern boundary by Governor van Plettenberg.
- 1779 First Kaffir War.
- 1781 An English fleet sent to seize the Cape.
- 1786 Foundation of Graaff-Reinet.
- 1789 Second Kaffir War.
- 1792 Foundation of Moravian Mission at Genadendal.
- 1794 Sluysken appointed Commissioner-General.
- 1795 Revolt at Swellendam and Graaff-Reinet. British occupation. General Craig, Governor.
- 1796 Surrender of Admiral Lucas's fleet to Admiral Elphinstone in Saldanha Bay. Constitution of Burgher Senate in Cape Town.
- 1797 Earl Macartney, Governor.
- 1798 First Post Office.
- 1799 Rebellion on eastern frontier. Third Kaffir War. Beginnings of London Missionary Society in South Africa. Sir George Yonge, Governor.
- 1800 First printing press at Cape Town. *Government Gazette* started.
- 1803 Cape restored to the Batavian Republic. Uitenhage de Mist, Commissioner. General Janasens, Governor.
- 1804 Uitenhage founded.
- 1805 Arrival of three Roman Catholic Priests at the Cape.
- 1806 First regular inland postal service. Battle of Blaauwberg and surrender of Cape to Sir David Baird. Expulsion of Roman Catholic Priests.
- 1807 Lord Caledon, Governor. Act prohibiting Slave Trade.
- 1808 Clanwilliam founded.
- 1811 Caledon and George founded. First Circuit Court. Sir John Cradock, Governor.
- 1812 Fourth Kaffir War. Campaign to drive Kaffirs across Fish River. Grahamstown and Cradock founded.
- 1814 The Cape ceded in perpetuity to England. Lord Charles Somerset, Governor. Mail packet service started between Britain and the Cape.
- 1815 Slachter's Nek incident.
- 1816 Wesleyan Missionary Society's first work in South Africa.
- 1818 Fifth Kaffir War. Occupation by settlers of land beyond the Orange River. Foundation of Beaufort West. Foundation of South African Public Library. Formation of Vicariate of the Cape of Good Hope by Pope Pius VII.
- 1819 Cape boundary extended to Keiskama River.
- 1820 Arrival of 5,000 British immigrants at Port Elizabeth, the "1820 Settlers," who settled chiefly in Albany and Bathurst. Foundation of Worcester.
- 1822 South African Public Library opened. Government teachers appointed to Stellenbosch, Caledon, Graaff-Reinet, Tulbagh, Uitenhage, George, etc.
- 1824 Publication of *Commercial Advertiser*, the first newspaper. Construction of road through French Hoek Pass. First Synod of Dutch Reformed Church. Mission Station at Lovedale. British traders at Port Natal. First lighthouse opened.
- 1825 First steamship in Table Bay.
- 1826 Retirement of Lord Charles Somerset.
- 1828 Death of Tshaka who had been responsible for internecine wars amongst the Bantu tribes. Accession of Dingaan as Chief of the Zulus. Sir Lowry Cole, Governor. Administrative changes. Old High Court superseded by Supreme Court, independent of Governor. Landdrosts and Heemraden replaced by Civil Commissioners and Resident Magistrates. English becomes the official language. All free coloured people in the Cape Colony placed on a political level with Europeans. Ordinance abrogating laws against Hottentot vagrancy. Ordinance issued securing freedom of the Press.
- 1829 Foundation of South African College, Cape Town.
- 1830 Colesberg founded. Road over Sir Lowry's Pass opened. Kafraria opened to traders. Treaty recognizing Andries Waterboer as Chief of Griquas.
- 1831 First publication of *De Zuid Afrikaan* (Ons Land). First issue of *Grahamstown Journal*.
- 1834 King William's Town founded. Sir Benjamin D'Urban, Governor. Creation of executive and legislative councils, latter including nominated colonists. Second Charter of Justice. Liberation of the slaves. Kaffir unrest culminates in serious invasion of Eastern Province (December). Sixth Kaffir War.
- 1835 *Province of Queen Adelaide* formed, but abandoned by order of British Government. Durban founded.
- 1836 Great Boer Trek from Cape under Trichardt, Potgieter, Maritz and Pieter Retief. Ordinance permitting formation of municipalities (Cape).

- 1837 Winburg founded. Matabele under Moslekkatze driven north of Limpopo. Separate administrative districts for Port Elizabeth, Cradock, and Colesberg. Sir B. D'Urban dismissed. Accession of Queen Victoria.
- 1838 Sir George Napier, Governor. Massacres of Boers under Retief by Dingaan (February). Overthrow of Dingaan by Andries Pretorius at Blood River (16th December). Boers founded the republic of Natal. Pietermaritzburg founded.
- 1839 Potchefstroom founded. Constitution of Cape Town Municipality by special Ordinance. Reorganization of educational system in Cape Colony. J. Rose-Innes, Superintendent-General. Local school boards established.
- 1840-5 Establishment of churches and villages at Piquetberg, Riversdale, Bredasdorp, Wellington, Prince Albert, Riebeeck East.
- 1842 British forces besieged in Durban. Dick King's ride from Port Natal to Grahams-town to seek assistance for the British.
- 1843 Natal proclaimed a British possession. Recognition by treaties of Moshesh as head of Basutos, and of Adam Kok of Griquas. Ordinance for "spiritual" self-government of Dutch Reformed Church. Ordinance establishing Board of Commissioners of public roads and divisional road boards (elective) with rating powers.
- 1844 Sir Peregrine Maitland, Governor. Incorporation of Natal in Cape Colony decided upon. Majority of emigrant Boers retire across the Drakensberg. Pondoland a treaty state.
- 1846 Lydenburg founded. Bloemfontein founded. Postal improvements. Institution of bi-weekly postal service between principal seats of magistracy. Seventh Kaffir War.
- 1847 Sir H. Pottinger, Governor and High Commissioner, followed by Sir Harry Smith. Opening of Montagu Pass. Creation of *Province of British Kaffraria* as result of "War of the Axe." Commencement of sugar plantations in Natal. East London founded.
- 1848 British Sovereignty proclaimed between Orange and Vaal Rivers. Battle of Boomplaats. Successful anti-convict agitation against plans of Earl Grey for making Cape a penal settlement. Mitchell's Pass opened. First Anglican Bishop (of Cape, Natal, and St. Helena). Introduction of a nominated Legislative Council in Natal.
- 1849 Arrival of ship *Neptune* at Simon's Bay with convicts. Livingstone discovered Lake Ngami. Establishment of Diocesan College at Rondebosch.
- 1850 Outbreak of Great Kaffir Rebellion. Eighth Kaffir War.
- 1851 Trouble with Basuto. Fight at Viervoet and defeat of Major Donovan.
- 1852 Sir George Cathcart, Governor, in succession to Sir Harry Smith. Copper mining begun at Springbokfontein. First export of copper. Sand River Convention, recognizing independence of Transvaal Boers. Further fighting with the Basutos. Defeat of Sir George Cathcart by Moshesh at the Battle of Berea. Wreck of the *Birkenhead*.
- 1853 End of Eighth Kaffir War. Order established in Amatolas (made a "Crown Reserve"). Europeans settled at Queenstown and Seymour. Death of Andries Pretorius.
- 1854 Sir George Grey, Governor. Convention of Bloemfontein. Orange Free State formed, with Josias P. Hoffman as President. Representative Government at the Cape with elected Legislative Council and House of Assembly. First Cape Parliament. Appointment of British magistrates for Kaffraria. State subsidies to native industrial schools.
- 1855 Act establishing elective Divisional Councils in Cape Colony (replacing older road and school boards). Pretoria founded. H. J. Boshoff, President of Orange Free State. South African Museum founded.
- 1856 South African Republic Constitution (Grondwet) established. M. W. Pretorius, first President. Natal made a separate Colony. Self-destruction of Xosa tribes by slaughter of all cattle.
- 1857 First publication of *Cape Argus*. First legislative council in Natal. Commencement of Union-Castle steamship service between England and South Africa.
- 1858 Settlement of "German Legion" round King William's Town. *Grey Hospital* opened at King William's Town. Cattle killing. Orange Free State war with the Basuto under Moshesh. Creation of Board of Public Examiners (precursor of University).
- 1859 Convention of Lydenburg. Pretorius elected President both of Transvaal Republic and Orange Free State. First railway in South Africa commenced. Sir George Grey's abortive scheme of South African federation. Second Parliament (Cape).
- 1860 First telegraph (Cape Town to Simonstown). Initiation of a penny post in Cape Town. Work begun on Table Bay docks. Union of the Republic of Lydenburg with

- the South African Republic. Pretoria established as the seat of government in Transvaal. First importation of labourers from India into Natal.
- 1861 Sir Philip Wodehouse, Governor. Purchase of Griqua territory by Orange Free State and removal of Adam Kok and his people.
- 1863 Railway opened to Wellington.
- 1864 J. H. Brand, President of Orange Free State. Paul Kruger elected Commandant-General of the Transvaal. Third Parliament (Cape). Establishment of Eastern Districts Court (Cape). Completion of telegraph line between Cape Town and East London.
- 1865 Kaffraria annexed to Cape. Census of population in Cape Colony.
- 1867 Orange Free State war with Basuto. First diamond discovered near Hope Town.
- 1868 Basutoland adopted as British territory. Report of gold near Oliphants River.
- 1869 British intervention in Basutoland. Under Convention of Aliwal conquered territory ceded to Orange Free State. Fourth Parliament (Cape). Opening of Suez Canal.
- 1870 Sir Henry Barkly, Governor. Opening of Cape Town docks. Gold discovered in Murchison Range. Death of Moshesh.
- 1871 Diamond Fields annexed to Cape. First mail from Cape Town to the Diamond Fields. Constitution of High Court of Griqualand. The Keate Award in favour of Waterboer and Griquas as to boundary with Transvaal. Annexation of Basutoland. T. F. Burgers elected President of the South African Republic.
- 1872 Responsible Government introduced in the Cape. Sir J. Molteno, first Prime Minister.
- 1873 Act incorporating University of Cape of Good Hope. Rising of Langalibaleli, resulting in mission of Sir Garnet Wolseley (1875). Establishment of Griqualand West as a Crown Colony. Acquisition by Cape Government of existing railways and telegraphs (1873-4). Gold discovered in Lydenburg District of Transvaal.
- 1874 Victoria College founded at Stellenbosch. Fifth Parliament (Cape). Railway opened from Port Elizabeth to Uitenhage.
- 1875 Act abolishing grants-in-aid of salary of clergy of any denomination. Mission of Sir Garnet Wolseley. Lord Carnarvon's scheme of South African federation put forward. Reorganization of Natal administration. Census of population in Cape Colony. Delagoa Bay awarded to Portugal by MacMahon's award.
- 1876 Failure of J. A. Froude's mission in support of scheme of South African federation. First railway commenced in Natal. Outbreak of war between Boers and Sekukuni. Disaster to Boer levies.
- 1877 Sir Bartle Frere, Governor. Permissive South Africa Act in British Parliament. Transvaal proclaimed British territory by Sir Theophilus Shepstone. Visit of Paul Kruger with Jorissen to England. Rising of Kaffirs under Kreli. Ninth Kaffir War. First Sprigg Ministry.
- 1878 Walvis Bay proclaimed British territory. Telegraph between Natal and Transvaal. First Sprigg Ministry (Cape). Visit of Paul Kruger with P. Joubert to England. First tea plantation laid out in Natal.
- 1879 Zulu Rebellion under Cetewayo. Defence of Rorke's Drift. Defeat of Zulus at battle of Ulundi. Capture of Cetewayo. General Sir Garnet Wolseley, Governor of Natal. Sixth Parliament (Cape).
- 1880 Transvaal Boers resist British annexation. Battle of Bronkhorst Spruit. Sir George Colley, Governor of Natal. War with Basuto. Griqualand West annexed to the Cape Colony. Formation of De Beers Company. Opening of marine cable to Cape Town. Final rejection by Cape Parliament of Lord Carnarvon's scheme of South African federation. Formation of the Afrikaner Bond.
- 1881 Laing's Nek (28th January). Majuba (26th February). Death of Sir George Colley. Convention of Pretoria. Recognition of Transvaal independence. A. Pretorius, President of South African Republic. Sir Hercules Robinson, Governor of the Cape. Scanlen Ministry (Cape).
- 1882 Paul Kruger, President of South African Republic. Use of Dutch language recognized in Cape Parliament. Sir Henry Bulwer, Governor of Natal.
- 1883 Postal Conventions between South African States. German trader, Luderitz, at Angra Pequena.
- 1884 Consolidation of the Afrikaner Bond. Barberton gold fields opened. Basutoland a Crown Protectorate. Seventh Parliament (Cape). Convention of London with South African Republic. Upington Ministry. German Protectorate of South-West Africa. *New Republic* at Vryheid. British at St. Lucia Bay.

- 1885 Cape railway opened to Kimberley. Sir C. Warren's expedition. Abolition of republics of Stellaland and Goshen and creation of province of British Bechuanaland. Sir Arthur Havelock, Governor of Natal.
- 1886 Second Sprigg Ministry (Cape). Opening of gold fields on Witwatersrand. Johannesburg founded.
- 1887 Zululand finally proclaimed British territory. Sir T. Upington, Mr. J. H. Hofmeyr, and Sir J. Robinson (Natal) at first Imperial Conference. Coal first opened up in Transvaal (near Boksburg). Establishment of State Library at Pretoria.
- 1888 Death of President Brand. F. W. Reitz elected President, Orange Free State. First mining concession granted by Lobengula. British South Africa Company founded.
- 1889 Customs Union between Cape and Orange Free State Governments. Eighth Parliament (Cape). Sir Henry Loch, Governor of the Cape. Sir Charles Mitchell, Governor of Natal. Formation of Chamber of Mines.
- 1890 Railway opened from Cape Town to Bloemfontein. Failure of Cape of Good Hope Bank. First Rhodes Ministry (Cape). Census of white population in Transvaal and Census of population in Orange Free State. First railway in Transvaal (Johannesburg to Boksburg) opened. Anglo-German Convention defining boundaries of Cape Colony with those of German South-West Africa.
- 1891 Census of population in Cape Colony and Natal.
- 1892 Railway to Johannesburg completed with connections from Cape Town, Port Elizabeth, and East London.
- 1893 Responsible Government granted to Natal. Robinson Ministry (Natal). Sir Walter Hely-Hutchinson, Governor of Natal. Sir Hercules Robinson (Lord Rosmead), Governor of Cape. Second Rhodes Ministry (Cape). Matabele War. Death of Major Allan Wilson. Record voyage from England to Cape Town (R.M.S. *Scot*, 14 days 11 hours). Railway opened between Lourenco Marques and Johannesburg. Bechuanaland postal services placed under administration of the Cape Colony.
- 1894 Pondoland annexed to Cape Colony. Glen Grey Act for separate administration of Transkei. Ninth Parliament (Cape).
- 1895 Railway opened between Durban and Johannesburg. Closing of the drifts. Sir Hercules Robinson, Governor. Annexation of British Bechuanaland to Cape Colony. Entry of Cape Colony into Universal Postal Union.
- 1896 The Jameson Raid. Arrest of members of the Reform Committee in Transvaal. Trial of Dr. Jameson. M. T. Steyn elected President of Orange Free State, on retirement of President Reitz, owing to ill-health. Third Sprigg Ministry (Cape). Rising of Matabele in Rhodesia. Meeting of Cecil Rhodes with Matabele Chiefs. Heavy loss of cattle by *rinderpest*. Sir Hercules Robinson created Lord Rosmead. Loss of *s.s. Drummond Castle* off Ushant.
- 1897 Sir Alfred Milner, Governor. Railway opened from Cape Town to Bulawayo. Natal joins Customs Union. Escombe Ministry (Natal). Second Parliament (Natal). Binnis Ministry (Natal). Zululand annexed to Natal. Native Rebellion in Griqualand West.
- 1898 Schreiner Ministry (Cape). Tenth Parliament (Cape). South African Postal Union Convention.
- 1899 Conference at Bloemfontein between Sir A. Milner and President Kruger. Hime Ministry (Natal). War declared (11th October). Sieges of Ladysmith and Kimberley. Battles of Magersfontein and Colenso. Imperial *Penny Postage* adopted by Cape Colony.
- 1900 Occupation of Bloemfontein, Johannesburg, and Pretoria. Retirement of President Kruger to Holland. Fourth Sprigg Ministry (Cape).
- 1901 Death of Queen Victoria. Duke and Duchess of Cornwall at the Cape. Sir Walter Hely-Hutchinson, Governor of the Cape. Lord Milner, Governor of the Transvaal and High Commissioner. *Bubonic plague* in Cape Town. Sir Henry McCallum, Governor of Natal. Third Parliament (Natal). Wreck of R.M.S. *Tantallon Castle* off Cape Town.
- 1902 Peace of Vereeniging (31st May). Death of C. J. Rhodes. Sir Arthur Lawley, Lieutenant-Governor of Transvaal. Visit of Right Hon. Joseph Chamberlain to South Africa. Discovery of Premier Diamond Mine in Transvaal.
- 1903 Vryheid and Utrecht annexed to Natal. Sutton Ministry (Natal). Fourth Parliament (Natal).
- 1904 Death of ex-President Kruger. Jameson Ministry (Cape). Eleventh Parliament (Cape). Introduction of Chinese labour for Transvaal mines. Census of population in Cape Colony, Natal, Transvaal, and Orange Free State.
- 1905 Lord Selborne, High Commissioner for South Africa and Governor of Transvaal on retirement of Lord Milner. British Association meetings in South Africa. Opening of Victoria Falls Bridge. Smythe Ministry (Natal). Passing of School Board Act (Cape).

- 1906 Constitutions given to Transvaal and Orange Free State. Botha Ministry (Transvaal). Visit of the Duke and Duchess of Connaught. Rising under Bambata in Natal. Moor Ministry (Natal). Fifth Parliament (Natal).
- 1907 Congo Free State annexed to Belgium. Sir Matthew Nathan, Governor of Natal. Passing of Asiatic Registration Act in Transvaal; opposition of Asiatics to the measure. Sir Hamilton Goold-Adams, Governor of Orange River Colony. Fischer Ministry (Orange River Colony). Memorandum by Lord Selborne (High Commissioner) on Closer Union of South African Colonies. Resolution of Mr. F. S. Malan in Cape House of Assembly as to advisability of promoting a Union of South Africa. Conference of Colonial Premiers in England.
- 1908 Meeting of Inter-Colonial Conference in Pretoria. Resolutions moved by General J. C. Smuts as to calling of the *National Convention*. Meeting of the *National Convention* at Durban under the Presidency of the Right Hon. Sir J. H. (Lord) de Villiers, P.C. Merriman Ministry (Cape). Passive resistance movement amongst Indians and passing of Second Asiatic Registration Act in Transvaal.
- 1909 Meetings of the *National Convention* in Cape Town and Bloemfontein. Passing of the South Africa Act by Imperial Parliament. Death of Hon. J. H. Hofmeyr. Loss of the a.s. *Waraluk* between Durban and Cape Town. Lord Methuen, Governor of Natal. Death of Sir Donald Currie, founder of the Castle Steamship Company.
- 1910 Death of King Edward VII. **Constitution of the Union of South Africa** (May 31st). Lord Gladstone, Governor-General. Return of Lord Selborne to England. General Louis Botha, Prime Minister of the Union. (October), arrival at Cape Town of T.R.H. the Duke and Duchess of Connaught and the Princess Patricia. Pageant and Union festivities at Cape Town. Opening of Selborne Dock at Simonstown and laying of foundation stone of University Hall by H.R.H. the Duke of Connaught. (November), opening of Parliament by H.R.H. the Duke of Connaught. Laying of foundation stone of Union Buildings, Pretoria. Donation of £500,000 towards a *Teaching University of South Africa* announced by Trustees of the Beit Fund and Sir Julius Wernher. Mr. Fisher, Premier of Australia, and Mr. Fowlds, Minister of Education of New Zealand, in South Africa. (December), return to England of T.R.H. the Duke and Duchess of Connaught and the Princess Patricia. Wireless telegraphy station established at Durban. Sir Richard Solomon appointed High Commissioner for Union in London.
- 1911 Census of population (7th May). Europeans, 1,276,242; natives and coloured, 4,697,152. Wireless telegraph station opened at Slangkop (Cape Peninsula). Strike of printers in Cape Town and Johannesburg. South African representatives at Coronation festivities in London. Lichtenburg railway opened. Serious railway accident at Cathcart. Official visit to Union of General Sir Ian Hamilton, Inspector-General of Oversea Forces. Great storm in Cape Peninsula. General Botha, Sir David Graaff, and Hon. F. S. Malan visited England to attend Imperial Conference. Visit of Lord Methuen to South Africa. Death of Senator O'Grady Gubbins, Minister without Portfolio. Indian agitation in Transvaal. New law courts opened at Johannesburg. S.S. *Lusitania* lost off Cape Point. Railway disaster at Blaauwkrantz Bridge in Eastern Province of the Cape. Strike of tramwaymen in Johannesburg.
- 1912 Reorganization of Union Public Service. Defence system of Union laid down in Defence Act. Resignation of Sir George Leuchars, Minister of Commerce and Industries. Resignation of General Botha and formation by him of new Ministry. Railway to Ceres opened. Establishment of Union Land and Agricultural Bank. Visit of Governor-General and Viscountess Gladstone to England. Arrival in South Africa of Earl Grey, and unveiling of Rhodes Memorial on Grootte-Schuur Estate, Cape Peninsula. Sir Starr Jameson resigned leadership of Unionist Party. Resignation of Hon. H. C. Hull, Minister of Finance. Death of Sir Julius Wernher. General Botha appointed Honorary General of British Army. Death of Field-Marshal Sir George White, defender of Ladysmith. Visit to South Africa of Sir Owen Philipps, Chairman of Union-Castle Steamship Company.
- 1913 Miners' strikes and riots on Witwatersrand. Loss of life and considerable damage to property. Death of Hon. J. W. Sauer, Minister of Justice and Native Affairs. Establishment of National Botanical Gardens at Kirstenbosch (Cape Peninsula). Indian riots and disturbances in Natal, and march of Natal Indians into Transvaal. Death of Sir Gordon Sprigg, four times Prime Minister of Cape Colony. Celebration of Livingstone Centenary. Statue of President Kruger unveiled at Pretoria. New harbour works at East London commenced. Violent storms at Durban. Death in England of Rt. Hon. Sir Walter Hely-Hutchinson, formerly

- Governor of Natal and the Cape Colony. H.M.S. *Good Hope* visited Cape Town. Death of Rt. Hon. A. Fischer, Minister of Lands, previously Prime Minister of the Orange River Colony. Death of Sir Richard Solomon, High Commissioner for the Union of South Africa in London. Sir Starr Jameson assumed chairmanship of Chartered Company.
- 1914 Grave industrial disturbances on Witwatersrand and elsewhere. Twenty thousand men on strike, including nine thousand miners and six thousand railwaymen. Proclamation of martial law. Deportation of strike leaders on s.s. *Umgeni*. Rt. Hon. W. P. Schreiner appointed High Commissioner for the Union of South Africa in London. Departure of the Indian leader, Mr. M. K. Gandhi, for India. Visit of representative South African farmers to Europe at invitation of Union-Castle Steamship Company. Return of Viscount Gladstone to England. Outbreak of European War. Defence of South Africa undertaken by Union Government, and Imperial troops released for service in Europe. Death of Lord De Villiers, Chief Justice of South Africa. Sir James Rose-Innes appointed Chief Justice of South Africa. Viscount Buxton assumed office as Governor-General. *Governor-General's Fund* inaugurated for purposes connected with the War. Death of General De la Rey. Resignation of General Beyers, Commandant-General of the Active Citizen Force of the Union. Outbreak of rebellion. Martial law proclaimed. Colonel Maritz, of Union Defence Forces, in rebellion. General Beyers, General De Wet, and others in rebellion. Death of General Beyers. Capture of General De Wet, and suppression of rebellion. Military expedition to German South-West Africa by Union Forces. Luderitzbucht (South-West Africa) occupied by Union Forces. Death of Sir David Gill, formerly H.M. Astronomer at the Cape.
- 1915 Surrender of German Forces in South-West Africa to General Botha (9th July). South-West Africa Protectorate and the Union linked up by rail. Death of Sir George Farrar, as result of railway accident in South-West Africa Protectorate. Reception of General Botha at Cape Town on return from South-West Africa. Honorary degrees conferred by University of Cape of Good Hope on General Botha, General Smuts, and Rt. Hon. John X. Merriman. First public function held in amphitheatre of Union Government Buildings, Pretoria, celebrating General Botha's conquest. Offer of Union Government to raise a volunteer contingent for service in Europe. Parliamentary general election. Second Parliament of the Union. Anti-German riots throughout the Union.
- 1916 Union Expeditionary Force in command of General Smuts dispatched to German East Africa. Death of Lord Kitchener. Memorial services throughout Union. Opening of South African General Hospital for soldiers in Richmond Park, London. Phenomenal rains in Cape Province. Great floods in Gamtoos River Valley. Honorary degree conferred by University of Cape of Good Hope on Viscount Buxton, Governor-General. Sir Rider Haggard visited the Union on behalf of Royal Colonial Institute relative to questions of land settlement for ex-soldiers. Serious drought in several parts of the Union. Outbreak of bubonic plague near Theunissen, Orange Free State. Death of ex-President Steyn. Troop train disaster with loss of life in Hex River Mountains, Cape Province. Departure of South African Parliamentary delegation to England. Australian Parliamentary delegation to England in South Africa. Mr. Hughes, Australian Prime Minister, in South Africa on his way from England to Australia. General Botha visited area of military operations in East Africa.
- 1917 General elections for Provincial Councils. Return of General Smuts from East Africa and official welcome at Pretoria. General J. L. van Deventer appointed to command of British Forces in East Africa. Departure of General Smuts for England to attend sittings of Imperial War Cabinet. Defeat of Chief Mandume in Ovamboland. Death of Sir Starr Jameson. First South African Trade Union Congress at Johannesburg. Floods in the Transvaal.
- 1918 Census of European population (5th May). Total, 1,421,781, exclusive of 29,208 persons absent from the Union on war service. Constitution of Universities of South Africa, Cape Town, and Stellenbosch. General Smuts and the Hon. H. Burton attend Imperial Conference in England. Special recruiting campaign for South African Brigade in Europe. Devastating floods in Natal. Abnormal rains and floods in Witwatersrand area. First occasion of joint sitting of Senate and House of Assembly under section 152 of *South Africa Act*. Death of Hon. C. J. Smythe, Administrator of Natal. Strike of South African Police at Cape Town. Strike of employees at municipal power station at Johannesburg. Ship disaster at Meyer and Charlton Gold Mine, Central Witwatersrand, resulting in death of twenty-one miners. Sinking of *Galway Castle* by enemy action; great loss of life, including many prominent South Africans. Signature of Armistice with

Germany (11th November). Epidemic of influenza (with pneumonia); estimated mortality:—11,726 white, 127,745 coloured. General Botha proceeds to Europe to participate in Peace Conference.

- 1919 Industrial unrest on the Witwatersrand and at Pretoria. Native disturbances at Bloemfontein, Johannesburg, and Pretoria. Lord Buxton's term of office as Governor-General extended to June, 1920. Ministry of Health created in the Union. The Union granted the mandate for the government of the South-West Africa Protectorate. Death of Senator the Hon. Sir J. Meiring Beck, Kt., Minister of Posts and Telegraphs. Closing of principal copper mines in Namaqualand. Scheme for establishment of Mint in the Union, approved by Parliament. Return of South African Contingents from Europe. Nationalist Party deputation to Europe in connection with the Peace discussions. Death of the Rt. Hon. W. P. Schreiner, High Commissioner of the Union in London. Renewed outbreak of epidemic influenza. Projected South African National Expedition to Antarctic regions during 1920-23. Conclusion of peace with Germany (Treaty of Versailles, 28th June), Generals Botha and Smuts signatories on behalf of the Union. Return of Generals Botha and Smuts from Europe. Acquisition by the Union Government of three cargo boats in the interests of the Union overseas trade. Death of Gen. the Rt. Hon. L. Botha, Prime Minister of the Union. Treaty of Peace and South-West Africa Mandate passed in special session of Parliament.
- 1920 General the Rt. Hon. J. C. Smuts appointed Prime Minister. Death of Sir Albert Hime, K.C.M.G. Industrial Conference of Employers and Employees held in Pretoria. Drought in Cape Midlands, Orange Free State, and Transvaal. Signing of Final Peace Treaty. Delimitation Commission. Drought broken: washaways in Orange Free State. Natal Mail disaster near Heidelberg, four passengers killed, eighteen injured. Suspension of Customs Duties on food stuffs. Death of Senators S. Marks and T. L. Schreiner. Native strike on the Rand. General Parliamentary Election, March 10th; Reconstitution of Ministry under Gen. Smuts. Flight from Cairo to Cape successfully accomplished by Colonel (now Sir) H. E. van Ryneveld and Major (now Sir) Quinton Brand. Death of Sir Henry McCallum, Governor of Ceylon and formerly Governor of Natal. International Labour Conference at Washington, U.S.A., South Africa represented. South African Exhibition in Albert Hall, London, opened by Sir Riler Haggard. Gift by Mr. Davis of Durban of £20,000 for training ship to train boys for mercantile marine. Centenary of 1820 Settlers; public holiday in Port Elizabeth in commemoration. Death at Sea Point of Sir Hamilton Gould Adams, Governor of Queensland, formerly Administrator of Orange River Colony, and Governor of Orange River Colony until Union. The *Grahamstown Journal*, founded 1831, pioneer journal of South Africa, ceased publication. Water famine in Cape Town. 1st May, Labour Day, generally recognized as public holiday throughout Union. Provision for free education up to sixth standard in the Cape Province. Princess Estate Mine closed down, and commencement of gradual closing down of low grade mines. Riot of native students at Lovedale and much damage caused to buildings of the Institution. Death of Mr. Henry Cloete, C.M.G., who succeeded Sir Jacobus de Wet as British Agent at Pretoria in 1896. Death of General Ravenshaw, General Officer Commanding in South Africa, while hunting elephants in the Addo Bush. Funeral of Sir Starr Jameson in the Matoppos. Free education up to and including matriculation introduced in public schools in Orange Free State. Conference of entomologists, British and Dominions Forest Conference, and First Conference of Empire Statisticians in London. Lord Buxton, Governor-General of the Union retires. H.R.H. Prince Arthur of Connaught appointed Governor-General. Treaty of Peace and South-West Africa Mandate Act extended to 1st July, 1921. Native riot at Port Elizabeth, 25 persons killed. Death of Olive Schreiner (Mrs. Cronwright-Schreiner), South African authoress.
- 1921 Air disaster in the Cape Peninsula; pilot and three passengers killed. Johannesburg aeroplane fatality; three casualties. Amalgamation of South African and Unionist Parties and General Election on that basis (February); third Cabinet formed by General Smuts. Sir Edgar Walton, K.C.M.G., appointed High Commissioner for the Union in London. Visit of Earl Haig to South Africa. Death of Sir Maitland Park, editor of the *Cape Times*. Customs Tariff Board established. Successful South African Exhibition held in Amsterdam, with a view to the extension of South African trade relations on the Continent of Europe. Death of Dr. A. E. W. Ramsbottom, former Administrator of the Orange Free State. Second complete Census of the Union (3rd May); preliminary results:—Total white population in the Union, 1,522,412; total

coloured population, 5,404,550. Defiance of authority by native religious sect ("Israelites") at Bullhoek Location, near Queenstown, culminating in armed conflict with Police; nearly 200 natives killed and over 100 prisoners. Leader ("Prophet Enoch") and principal followers tried for sedition. Death of Mr. G. R. Hughes, Secretary for Lands. Imperial Conference held in London; General Smuts, Colonel Mentz, and Sir Thomas Smarrt, South African representatives. South African Reserve Bank brought into operation (30th June). Board of Trade and Industries formed. Widespread industrial and agricultural depression in the Union; acute unemployment in principal centres. Death of Sir Bernard Oppenheimer, South African financier and industrialist. Royal Proclamation of end of the War (31st August). British war assets to the value of £2,000,000 in South Africa acquired by Union Government. Defence of South Africa completely taken over by the Union Government; Cape Town Castle handed over to the South African nation and Imperial command withdrawn. Death of Senator John Ware. South African Training Ship "General Botha" placed in commission at Cape Town. Three ships of the Imperial Navy transferred to the Union Government as nucleus of South African Fleet. Tramway strike at Durban. Severe floods in Hex River Valley, Cape—the worst for forty years. Mine disaster at Ferreira Deep. Diamond mines completely closed down in Kimberley; economic depression accentuated. Union Trade Commissioner appointed on the Continent of Europe, stationed at Rotterdam.

1922\* Prolonged industrial struggle in the Transvaal. Strike on coal mines, in steel industry, and at the Victoria Falls Power works on the Witwatersrand. Gold-mining industry brought to a complete standstill by strike of 20,000 European miners. Repatriation of native employees on a large scale. Acts of violence in different parts of the Reef area. Death of General Christian de Wet. Commence-ent made with erection of grain elevators in the Union and electrification of Glencoe-Maritzburg railway. University of the Witwatersrand established (1st March). Fishing-boat disaster in False Bay; twelve persons drowned.

### § 3. Honours held in connection with the Union.

Lists were given in the fourth issue of the Year Book of honours held in connection with the Union, and honours conferred for military service during the European War. These lists are not repeated owing to considerations of space. The honours enumerated below were conferred during the years 1921 and 1922\*. Military honours for the same period are recorded in Chapter XI.

#### PRIVY COUNCILLOR (P.C.).

SMARTT, The Right Hon. Sir THOMAS, K.C.M.G.

#### BARONET (BART.).

COTTS, Sir WILLIAM DINGWALL MITCHELL, K.B.E.

#### KNIGHT OF THE (MOST NOBLE ORDER OF THE) GARTER (K.G.).

MILNER, The Right Hon. Viscount, P.C., G.C.B., G.C.M.G.

#### COMPANION OF (THE MOST DISTINGUISHED ORDER OF) ST. MICHAEL AND ST. GEORGE (C.M.G.).

GLOUGH, E. M. O.  
FARRER, EDMUND HUGH.  
LOSO, EDWARD CHARLES.

MURRAY, CHARLES.  
POLE EVANS, LUTYD B.  
PRETORIUS, Major P. J., D.S.O.

#### KNIGHT BACHELOR (Kt.).

CHAPPELL, Sir ERNEST, C.B.E.  
MASON, The Hon. Sir ARTHUR WRIB.

OPPENHEIMER, Sir ERNEST.  
STRAKOSCH, Sir HENRY.

#### KNIGHT COMMANDER OF THE (MOST EXCELLENT ORDER OF THE) BRITISH EMPIRE (K.B.E.).

RICHARDSON, Sir LEWIS.

#### COMMANDER OF THE (MOST EXCELLENT ORDER OF THE) BRITISH EMPIRE (C.B.E.).

LAWN, J.G.  
WEAVER, JOHN HENRY.

#### OFFICER OF THE (MOST EXCELLENT ORDER OF THE) BRITISH EMPIRE (O.B.E.).

ANDERSON, Col. C. I.  
BATEMAN, W. S.  
CARTER, J. G.  
CURRY, W. F.  
DUNCAN, Major P. MILNE,  
FACRE, P. J.

FITZPATRICK, G. C.  
HOLMES, W.  
KIRKNESS, J. J.  
LANGLEY, C. E. H.  
PIENSAAR, Major F. F.  
PRIOR, B.

\* Later information in this connection is given in the Appendix.



## MEMBER OF THE (MOST EXCELLENT ORDER OF THE) BRITISH EMPIRE (M.B.E.).

BAINES, Mr. F. G.	GREATOREK, R. H.	PENFOLD, W. C.
BART, J. O. S.	HEAD, A. E.	POTTS, Mrs. D. F.
BATHO, C. P. A.	IRVING, H. E.	RUSELY, J. W.
CAMPBELL, Mrs. I. E.	KENNEDY, J. M.	SHAW, Mrs. M. C.
CAMPBELL, W.	LEA, Miss DORIS.	SISSON, D.
CORKE, E. STANTON.	MATTHEW, Mrs. G. M.	SMITH, H. P.
COMMINS, Mrs. P. E.	MCALISTER, W. D.	TILNEY, Miss M. F.
DYASON, J.	MONTGOMERY, S.	TREGARRIS, Mrs. N. B.
FERNIE, J.	MORGAN, W. LLEWELLYN.	WILTSHIRE, W. S.
FRASER, H. P.	MORRELL, P. A.	WILSON, Mrs. E. F.
FYNN, Mrs. E. M.	MURRAY, Major E.	YOUNGSTRAND, J. G.
CODWIN, G. R.	NOTTINGHAM, W.	

## § 4. The Capital Cities of the Union.

1. **General.**—Under the *South Africa Act*, 1909, the terms of which give effect to the agreement arrived at in the National Convention which negotiated, on behalf of the British States of South Africa, the preliminaries to the constitution of Union, it is laid down (Section 18) that Pretoria shall be the seat of Government and (Section 23) Cape Town the seat of the Legislature of the Union, thus practically establishing a system of two capitals, though the Act does not describe either city under that term. Under this arrangement the headquarters of the various Departments of State with their staffs are placed in Pretoria; while the Houses of Parliament and the Parliamentary Establishment are situated in Cape Town. In terms of Section 94 of the *South Africa Act*, the seats of the Provincial Governments are fixed respectively at Cape Town, Pietermaritzburg, Pretoria, and Bloemfontein.

2. **Pretoria.**—Pretoria, the Administrative Capital of the Union and the headquarters of the Provincial Administration of the Transvaal, was founded in 1855, and is named after A. W. J. Pretorius, father of President M. W. Pretorius. Following the Convention of Lydenburg in 1859, it became in 1860 the seat of Government for the unified Republic of the Transvaal, and thereby marked the close of the long period of uncertainty and divided rule which followed the Great Trek of 1836 from the Cape Colony and the migration of the first Dutch settlers north of the Vaal. Its history is thus intimately associated both with the first political union in South Africa as well as with that larger union which consummated the work of the National Convention fifty years later.

*History and Development.*—The two farms which formed the original site of the city were bought by President M. W. Pretorius for £600, and the laying out of the town was formally approved by a Resolution of the Volksraad, sitting at Potchefstroom, in 1855. Growth in the early days was slow, and in 1865 the town had only eighty-five houses and a population of about 300 persons. In 1871, when President Burgers assumed office, the population numbered about 500 Europeans. In 1877—after a period of trouble with the Kaffirs and other difficulties encountered in the administration of the Republic—the British flag was hoisted by Sir Theophilus Shepstone, and the British continued to garrison the town until 1881, when the independence of the Transvaal was restored. Paul Kruger was thereupon elected President, with General Joubert as Commandant-General, offices which they held without interruption until the war of 1899. The Volksraad was re-established and the Republican Government constituted afresh. A period of great financial depression ensued until the discovery and opening up of the Witwatersrand gold fields, which not only improved the financial position of the country, but introduced wide and far-reaching changes. In the years which followed—the last years of the Republican Government—Pretoria had no small share in the general prosperity, and expanded considerably in size and importance. Nearly half a million sterling was spent upon school buildings alone; and other important buildings, including the Artillery Barracks, the Government Buildings, and the Palace of Justice, were erected.

The British occupation in 1900 gave a further impetus to the development of the city, and though after the war Pretoria was not unaffected by the depression which was felt throughout South Africa, it has never ceased to expand. The population in 1904 was given as 36,839, of whom 21,114 were Europeans, and in 1911 was returned as 57,674, of whom 35,942 were Europeans. The European population in 1918, including suburbs, was 41,690.\* The coloured population was estimated at 25,000. In 1921 † the population amounted to 73,776 ‡, including suburbs, the Europeans numbering 45,163 and the natives, Indians, and coloured 28,607.

Tree planting—a characteristic feature in the days of the early Dutch settlers of South Africa—has not been overlooked in Pretoria, and the city has now been planted with many thousands of trees. The parks and the National Zoological Gardens of South Africa, as well as the private gardens of the inhabitants, help to give a special character to the city.

\* European Census, 5th May, 1918.

† Census, 3rd May, 1921.

‡ Preliminary figures.

From the date of its selection as the seat of the Government of the Union, Pretoria has made progress in providing the necessary appointments of a modern town. The nominated Town Council, constituted in 1902 under the Crown Colony Government, took over the companies which supplied the various town services at that time and municipalized them. Sanitary, water, electric and tramway services were thus acquired, and further development was at once proceeded with. The storm-water drainage system was completed at a cost of £175,000; a sewerage system was initiated and has already been carried out over a large area at a cost of over £300,000. The electric tram service has cost £240,000, and the electric lighting works, mains and street lighting £220,000. An extension of these works at a cost of £300,000 is now being proceeded with by the Municipal Council. The water supply, naturally abundant, has been greatly improved. It is obtained from a series of springs rising in dolomite three miles from the town, and has cost the town £250,000. New abattoirs and cattle markets have been provided at a cost of £65,000, and in numerous other ways considerable improvements have taken place. The sum of £350,000 has been spent on street improvements, £20,000 on recreation grounds, £20,000 on a swimming bath and £35,000 on a fire station and equipment.

The educational development of the city has been considerable, and fine buildings house the Transvaal University College and its Agricultural Faculty, the Boys' and Girls' High Schools, and other educational institutions.

Within the past year or two the large deposits of iron ore on the Town Lands have been satisfactorily tested, with the result that a large area of ground has been leased by the municipality with a view to industrial development.

The valuation of property within municipal limits is about £11,000,000. The number of properties is 7,950 and the municipal revenue is £523,000. The assessment rates on land and buildings amount to £136,000.

At the time of the unification of the four States which now form the Union of South Africa, and the selection of Pretoria as the seat of the Administration, steps were taken at once to arrange for suitable accommodation for the various Departments of State and their staffs. Existing Government buildings in Pretoria, important though they were and sufficient for the housing of the Public Service of the Transvaal, were obviously quite inadequate for the very much more important standing of the city as the Administrative Capital of the Union. In order to meet the requirements of the Union, Government Buildings were erected on Meintjes Kop at a cost of £1,180,000. The work on the lay out and planting of the grounds was not finally completed until 1919. (A description of the buildings is contained in issues Nos. 1 to 3 of the Year Book.)

**3. Cape Town.**—Cape Town since the establishment of the Union has retained its position as the official capital of the Province of the Cape of Good Hope, and was further designated as the seat of the Legislature of the Union. The oldest and, next to Johannesburg, the largest city in the Union, it thus retains a premier position, and is further important not only because of its natural advantages, but also because of its position as a port and the very considerable extent of its industries and trade.

The landing of van Riebeeck at Table Bay in 1652, and the small settlement which followed, may be said to have constituted the beginnings of Cape Town. For a long period this settlement comprised the whole white population of the country, and it was not until the days of Simon van der Stel that the colony was pushed further afield. From the town into which the settlement developed, comprised as it was in the early days within the area between the face of Table Mountain and the sea, has expanded eventually the present city, occupying not only some miles of the sea front, but broadening out across the Cape Flats and extending along the further slopes of the mountain through Wynberg to the suburbs of Muizenberg and St. James on the shores of False Bay. From Cape Town, in the early period of the occupation of the Cape, passed out the settlers who, by the end of the eighteenth century, had spread themselves throughout the Cape Colony; and from and through Cape Town in the century which followed have passed the greater number of those who, not only in the Cape Colony, but in the states and territories to the north, have taken their share in the colonization of South Africa. Cape Town saw the first efforts towards an educational system in South Africa, was the seat of the first Parliament, became the first organized municipality, and has in a large number of ways seen and fostered the beginnings of movements and institutions which have profoundly influenced the development of the country.

In the early days of the rule of the Netherlands East India Company the control of the town was in the hands of the chief resident officer of the Company, assisted by a council and a court of justice, in both of which the people were represented. In 1796, the year following the first British occupation, the Burgher Senate was introduced, exercising all functions necessary to the ordering and government of the town. In 1827 this body was dissolved on the ground that the increase of the population had so added to the responsibilities of local government that the Senate could no longer be trusted to continue the control of the affairs of the town. The administration was therefore undertaken by the Government itself. In 1840 the passing of a Municipal Ordinance placed the town under

the care of a municipal board. Increased powers were granted by an Act of Parliament in 1861, and by another Act in 1867 a town council was established. In this form, with further powers granted from time to time, the municipality has continued to the present day. The first Mayor of Cape Town was elected in 1867.

In 1913 a Unification Ordinance was passed by the Provincial Council uniting the city with the neighbouring municipalities of Green Point and Sea Point, Woodstock, Maitland, Mowbray, Rondebosch, Claremont, Muizenberg, and Kalk Bay, with other contiguous areas. The city now extends from Camp's Bay, beyond Sea Point, in a south-westerly direction, to Kalk Bay on the far side of the Mountain in an easterly direction; and forms a continuous area, with the exception of the Municipality of Wynberg, which has elected to remain outside the unified city. Details regarding the municipal activities of the city are given in Chapter XXIV. The population in 1921\* was 182,937, of whom 101,303 were Europeans and 81,634 coloured. The number of Europeans, according to the Population Census of 1918, was 89,174.

Reference to notable buildings and other interesting links with the past which are extant in Cape Town will be found in the first and second numbers of the Official Year Book.

**4. Pietermaritzburg.**—The city was founded in 1838 by a party of the Voortrekkers from the Cape, being then little more than a camp. In the year following it received its name in honour of two of the leaders, Piet Retief and Gert Maritz. The territory on which Pietermaritzburg was founded had, in fact, been ceded to the British by the Zulu King Tabaka in 1828; but the emigrant farmers firmly established themselves and organized a government, to which the early British settlers also rendered submission. Troops were sent to Port Natal from Cape Town to assert the British authority, but scarcely had they been withdrawn in 1839 when the republican flag was hoisted at Pietermaritzburg and an independent Government again set up, under a Volksraad. Hostilities broke out in 1842, and eventually, after a period of serious disturbance, the British authority was finally recognized. In 1844 the city contained only about 120 houses, but a gradual influx of population followed. In 1855 it received its Seal, and in the natural order of events became the settled capital of the Natal Colony, as it continues to be the seat of the Natal Provincial Administration.

The situation of Pietermaritzburg at an altitude of 2,218 feet above sea-level—a rapid rise from Durban, only fifty-four miles distant by road—ensures a cool and equable climate, while the picturesque surroundings provide a natural setting, of which full advantage is being taken. Progress has been made in all directions of municipal activity; there are fine public buildings and numerous important educational establishments, including the Natal University College, which was erected at a cost of £75,000. At the Census of 3rd May, 1921,† the population was returned as 35,077—17,472 being Europeans and 17,605 coloured (native, Asiatic, and other).

**5. Bloemfontein.**—No clear record exists as to the founding of the city, and even the origin of the name is in doubt. The first settlement, however, followed the movement of the Voortrekkers from the Cape in 1836. As the result of a skirmish at Zwartkopjes in 1845 British sovereignty was established, with Major Warden as Resident at Bloemfontein. Troubled times intervened, and in 1854, by the Convention of Bloemfontein, the British Government relinquished its sovereignty and the Orange Free State came into existence with Bloemfontein from that time onwards as its capital. The Republic was faced with serious trouble in a series of wars with the Basutos; but the settlement of the country proceeded steadily, and the importance of Bloemfontein correspondingly increased. With the election to the Presidency of Sir John Brand, who for twenty-four years held that office, the Orange Free State and its capital entered upon a term of increasing prosperity. In 1890 Bloemfontein was connected by rail with Cape Town and Johannesburg, and with the extension of railway lines in various directions, and also as the result of its central position in the Union, the city has gradually developed into a railway centre of importance, seven lines meeting at this point.

The city is advantageously situated on a watershed and is surrounded by a network of tributaries of two great rivers, the Modder and the Riet. These were formerly huge storm-water courses, but to-day large storage dams are under consideration which will ultimately irrigate nearly 100,000 acres of land, and will cost over £2,000,000. The result expected is the growth of closer settlement within a radius of fifty miles of Bloemfontein, with a consequent increase in the population of the town.

The affairs of the town were originally in the hands of a Board of Commissioners, and are now conducted by a municipal council, under the control of which great advances have been made in securing the necessary equipment for a rapidly growing city. The water supply is derived from the Modder River, where two pumping stations have been erected at a cost of £480,000, with a capacity of 1,500,000 gallons a day, while extensive storage

\* Preliminary figures, Census of 3rd May.

† Preliminary figures.

capacity exists, through the association of the council with certain large irrigation schemes, securing an independent water supply for two years. There is a complete sewerage system, which has been installed at a cost of £180,000. Lighting and power are provided by municipal electric works. A system of trackless trams serves every part of the town. Parks, gardens, and nurseries to provide for the extensive planting of trees are under municipal management; and in a large variety of ways progress is being achieved.

Apart from its present status as the capital of the Province, Bloemfontein is the seat of the Appellate Court of the Union. It is the headquarters of System "B" of the South African Railways, with a complete range of repair and constructional workshops, offices, etc. Bloemfontein is also an important educational centre, containing the Grey University College and Schools and numerous other educational institutions.

The preliminary population returns at the Census of 1921 show that there were 17,663 Europeans in Bloemfontein, exclusive of 1,670 in the settlements or rural suburbs adjoining the town lands. The native and coloured population is 18,674, exclusive of suburbs. The figure for the latter is 858.

## § 5. Geological Structure of the Union.\*

### A.—PHYSICAL GEOGRAPHY.

The Union of South Africa extends from the Limpopo in lat. 22° 10' S. to Cape Agulhas in lat. 34° 50' S. Its area is 473,089 square miles, and only narrow belts near the coast are under 1,000 feet above the sea. It is thus a high-lying country, but though more than 40 per cent. of it lies over 4,000 feet above sea-level, there are no great mountain ranges. The highest point in the Union is about 10,600 feet, on the summit of the Quathlamba or Drakensberg, between Natal and Basutoland.

The interior plateau, which includes the drainage basin of the Orange River and most of that of the southern affluents of the Limpopo, is limited on the east, south, and west by a curved line of escarpment known as the Drakensberg, Quathlamba, Stormberg, the Sneeuwbergen, Nieuweveld, Roggeveld, and Bokkeveld in its different parts, followed south from the Limpopo valley, and then west and north into Namaqualand. North of the Bokkeveld, in Van Rhynsdorp, the escarpment has no name in common use, though it is an important feature, and is continued in the country north of the Orange River. On the outer side of the great escarpment lie the Low Veld of the northern Transvaal, Swaziland, Natal, the Native Territories, and Eastern District of the Cape Province, the Great Karroo and the region of the Folded Belt, and the western coast belt of the Cape. From places outside, but within 100 miles of the escarpment, it appears as a generally flat-topped rampart, more or less broken by steep kloofs descending to the lower country, and it is, with the exception of a few stretches, made of flat or gently inclined rocks, which offer great resistance to the weather.

The belt of country between the great escarpment and the coast is widest in the north-east, where the inclined rocks of the Lebombo Range separate the Transvaal Low Veld from the low-lying Portuguese territory; in the Cape Province the escarpment is over 100 miles from the coast—from the Stormberg round to the Roggeveld, a region where the Great Karroo and the Folded Belt, which contains the most striking mountains made of highly inclined strata in the country, intervene.

The rivers of the Union are as a whole steeply graded, or divided up into flat sections by rapids, so that they are of no use for inland navigation. The mouths of all the rivers are obstructed by sand bars, and it is only by dredging that they can be kept open for ocean steamers, as at East London. There is a considerable depth of water above the mouths of all the rivers of the south-east coast.

The Orange River is fed from the mountainous country of Basutoland and by the Vaal River, which drains the Orange Free State and the Southern Transvaal. Below the confluence of the Vaal the Orange River only occasionally receives water from the tributaries (Brak, Hartbeest, Molopo, and Fish Rivers) which drain an area of over 180,000 square miles. In the lower 800 miles or so of its course, the Orange River loses more water by evaporation than it receives from the country it passes through. After leaving the steep slopes of the eastern Orange Free State and Basutoland, the rivers have long reaches between rapids in their course over the flat-lying Karroo beds, which are comparatively soft rocks with occasional hard sandstones and intrusions of dolerite, but on reaching the hard pre-Karoo rocks the valleys become narrow and more steeply graded. Below Prieska the Orange River valley has almost the character of a gorge where it passes through Doornbergen and Ezel Rand, and at the Oughrabies Falls, below Upington, it drops 400 feet into a gorge several miles in length, with precipitous walls. From this gorge to within 50 miles of the sea the valley is narrow, and for the most part rough stony mountains rise steeply on each side of the river bed; the river is fordable in the winter months at Arris

\* Contributed by A. W. Rogers, Sc.D., F.R.S., Director of Geological Survey.

Drift, only 28 miles from the mouth, which is completely closed by a sandbar for various periods up to nine months in the year.

The tributaries of the Limpopo, from the northern and eastern Transvaal and the Komati River, are perennial streams with steep slopes. They make their way from the interior plateau through the great escarpment, the watershed common to them and the affluents of the Vaal River being the Witwatersrand.

The rivers south of the Komati all rise on the slopes of the great escarpment, and they are perennial as far south as the Buffalo and Kowie in the Albany Division, but further west, where the rainfall decreases, the rivers which rise on the escarpment only have water throughout their length after heavy rains. West of the Buffalo all the rivers rising on the escarpment (Fish, Gamtoos, Gamka, and Dwyka) traverse the Folded Belt on their way to the sea, and have pronounced gorges in the harder groups of rock which form the mountain ranges in that belt.

The rivers of the south-west of the Cape Province, the Breede, Olifants, Berg, and Olifants (Clanwilliam) Rivers, rise in the Folded Belt, and are perennial.

North of the Olifants River, in Van Rhynsdorp, the rivers (Green and Buffels) are dry for the greater part of the year, often for years together.

The Funduzi, in Zoutpansberg, is the only body of water in the Union that can properly be called a lake. According to Mr. T. G. Trevor, who visited this little-known spot in 1917, Funduzi Lake is 3,000 yards long, and is the result of the damming up of a valley by a landslip. The other closed depressions are shallow pans, which are most abundant in those parts of the plateau region where the Karroo formation lies nearly flat, and is being stripped from the older rocks by denudation; but they occur in many other parts of the plateau region, and also on the coast-belt. They owe their existence to various circumstances, but the action of the wind under favourable conditions of rock-structure and weathering, is doubtless the most potent factor in their production. The largest pans are more than 100 square miles in area.

The coast-line of South Africa is generally straight, or makes smooth curves. The regular form of the coast is illustrated by the fact that its length (from the Orange River to Oro Point) is only 1,854 miles. The few promontories, such as the Cape Peninsula and the smaller capes of the south and south-west coast, afford imperfect protection to shipping. Saldanha Bay, on the south-west coast, is the only first-rate natural harbour in the Union, but it lacks a good water supply. The lagoon-like harbour of Durban has to be kept open for large ships by dredging, and the similar harbours further north have still shallower bars.

## B.—GEOLOGY.

The stratified rocks which build up the territory of the Union have been divided up into the systems, and subordinate groups, tabulated on page 39, and in this table there is a statement of the chief earth movements and phases of igneous activity so far recognized as having affected this country during the period represented by the succession of sedimentary rocks.

There is still much uncertainty on some of the main points in the geological record in South Africa, especially in the correlation and determination of the relative age of the more ancient sediments and of the great intrusions of granitic rocks in them. Up to the present time no fossils older than those of Devonian age have been determined from South Africa, and therefore it is from the structure and characters of the rocks themselves that the history of the greater part of the South African strata has to be deciphered.

Beds of proved marine origin are restricted to the margin of the sub-continent, and they are thin compared with the great deposits lacking fossils of marine habit, and, in the case of the Karroo system, abounding in evidence of deposition under fresh-water or continental conditions.

Owing to the want of fossils in the rocks older than the Bokkoveid (Devonian), there is no means of determining the base of the Palaeozoic in South Africa, and that horizon known as the Cambrian, and recognized in the other continents as one of the most important geological benchmarks, has therefore not been recognized here. This circumstance makes a local nomenclature of the older rocks necessary, because the use of such terms as Archaean or Algonkian, which are widely used elsewhere, is not strictly correct for any South African rocks, and the well-known lower Palaeozoic systems of other continents cannot be identified at all.

The *Swaziland system* comprises all sedimentary and volcanic rocks older than (or supposed to be older than) the Witwatersrand beds. According to some authors, all rocks in the country older than that formation should be grouped in this system, but the inclusion of granite and orthogneiss is not in harmony with the rest of the stratigraphical nomenclature used in South Africa. Proved intrusive rocks are therefore excluded from the Swaziland system as from the others. There are highly altered rocks of which the original characters are not known, such as certain granulites and schists in the Kheis series, and these will be placed in the system for convenience. Owing to the restricted range of beds generally acknowledged to belong to the Witwatersrand system, the proper test of age

is in fact rarely applicable. Some geologists, such as Dr. Molengraaff, to whose work Transvaal geology owes much, recognize altered Witwatersrand strata in rocks here classed in the older system; while others regard the intrusive relation of microcline-granites and gneiss, which in the Witwatersrand area are older than the Witwatersrand system, as decisive in showing that the beds invaded are of pre-Witwatersrand age. This evidence of age can only be accepted in the immediate neighbourhood of recognized Witwatersrand strata, and it does not carry weight in distant areas such as Barberton or Prieska. Thus it becomes clear that the Swaziland system is a convenient class into which very old strata can be placed till satisfactory evidence of their age is found. The system is not comparable with any of the others adopted in South Africa, and the correlation of the various series described below is uncertain.

In the Barberton district a group of quartzites, conglomerates, banded ferruginous cherty rocks, and shales is known as *Moodies series*. These rocks have been extensively altered by the intrusion of acid and basic igneous rocks, and by shearing, and auriferous belts are associated with the contacts with the acid intrusions. The metamorphism due to the granite is strongly marked, the abundance of andalusite and ottrelite schists being the chief feature. Garnet, sillimanite, and corundum are also among the new minerals in this contact zone.

At Mount Maré, in the Pietersburg district, there is a varied group of conglomerates, banded ironstones, quartzites, and slates assigned to the *Moodies series*. Andalusite and ottrelite are profusely developed in the argillaceous beds, and tourmaline is distributed through a great vertical range in the sedimentary rocks. The *Jamestown series* in the Barberton district is described as a group of basic schists, chiefly intrusive, with which are associated belts of sedimentary beds. The Onverwacht volcanic series of the same neighbourhood consists of basic amygdaloidal lavas and tuffs with some quartz-porphyrics, and is perhaps younger than *Moodies series*.

In Vryheid, Utrecht, Piet Retief, and the Nondweni district of Natal, there are sedimentary rocks which have been invaded by granite older than the Transvaal system. They contain gold-bearing conglomerates and beds which resemble some of those in the Witwatersrand system, and it has been suggested that they are part of that system. They have also been placed in the Swaziland system, and at present their correlation is a matter of doubt. The best known of these rocks is the *Pongola series*, divided by Dr. Humphrey into a lower group of quartzites, phyllites, and amygdaloidal lavas, and an upper group of shales, quartzites, and conglomerates.

In the divisions of Prieska, Kenhardt and Gordonia, there is a great group of sediments and extrusive rocks known as the *Kheis series*. It is divided into three sub-groups, the Marydale, Kaaien, and Wilgenhout Drift beds, which apparently follow each other conformably upwards in the order named. Gneiss is in intrusive contact with all three sub-groups, and large bodies of the Marydale and Kaaien beds lie entirely surrounded by granite and gneiss. The Marydale beds consist of arkose, lavas of acid and basic composition, tuffs, quartzites of various kinds including some with very much magnetite in them, limestones and various schists and granulites. The original nature of some of the granulites is proved by the presence of amygdaloidal structure, but others are of doubtful character. The variety of new minerals developed in these beds is great. Amongst them are pyroxenes, amphiboles, garnet, sillimanite, cyanite, staurolite, and various lime silicates. The Kaaien beds are quartzites and quartz-schists chiefly, and they form the prominent range of hills on the Prieska-Kenhardt boundary, as well as Scheurberg in the Kalahari. The Wilgenhout Drift beds include slates, acid and basic lavas and tuffs, quartzites and limestones.

The *Kraaipan series* of Bechuanaland is older than the Ventersdorp system, but it has not been found to be penetrated by granite or gneiss. It is composed of banded magnetic quartzites, jaspers, various schists, limestones, and altered acid and basic lavas. The very similar beds of Abel's Kop and Goudplaats described by Dr. Jorissen are traversed by offshoots from the neighbouring granite.

In Gordonia and Namaqualand there are many lenticular masses of schists and quartzites in the gneiss. Sillimanite and garnet are often conspicuous in these rocks, and biotite and cordierite are usually present.

Granite and gneiss posterior in age to the *Kheis series* and to the rocks which are represented by the fragments of schists in the Namaqualand and Bechuanaland granites cover an area of many thousand square miles in the north of the Cape Province and the adjoining part of the Transvaal. They are quartz-microcline-orthoclase-biotite rocks as a rule. Amphiboles and pyroxenes are rare. Porphyritic granites are not often seen; pegmatites are abundant. The granites and gneiss of the northern and north-eastern Transvaal, as well as those of the country immediately north of the Witwatersrand, are quartz-microcline-plagioclase-biotite rocks generally, and are distinguishable from the much younger granite of the Bushveld.

A later, but probably pre-Transvaal, group of intrusive rocks is the Palabora Complex of granite, syenite and pyroxenite, which invaded the older gneiss and Swaziland beds of the Murchison range.

An important and interesting feature in the granitic areas north of Pietersburg and in the Low Veld is the abundance of corundum in pigmatites intrusive in ultra-basic magnesian rocks.

In Namaqualand, a group of small intrusions of rocks, varying from quartz-rocks to nearly pure magnetite, and including pyroxenite, norite, diorite, and anorthosite, is of later age than the gneiss and schists, and probably older than the Nama formation. They are of importance on account of the apparently syngenetic copper ores in them.

The *Witwatersrand system* is found in the southern Transvaal and the adjoining part of the Orange Free State, and it is probably represented by certain beds (Pongola series and others) in Natal, though the question is at present unsettled. In the chief area, the Witwatersrand itself, the system is divided by Dr. Mellor, who has recently mapped it in detail, into lower and upper groups, and these again into five series.

The *Lower Witwatersrand* beds comprise:—

The *Hospital Hill series*, commencing with the Orange Grove beds, quartzites and shales, which form the conspicuous northern escarpment of the Rand overlooking lower ground towards Pretoria. They rest upon a denuded surface of granite and schists, and are followed by thinly laminated siliceous and ferruginous rocks locally called slates or shales. With these beds are two thin but remarkably persistent bands of quartzites, the ripple-marked quartzite and the feldspathic speckled bed. Towards the top of the series are the thick Hospital Hill quartzites, sometimes coloured green, and in parts having large well-rounded quartz grains set in a finer grained quartzite matrix (sago structure). These quartzites, with the shales interbedded with them, form the ridges immediately north of Johannesburg.

The *Government Reef series* lies conformably on the Hospital Hill series, but along the Central Rand they are for the most part eliminated by strike-faults, a fact which was brought out by Dr. Mellor's mapping, and which was responsible for many misunderstandings of the succession of the rocks below the Main Reef series before the map appeared. The series consists of quartzites and shales, some of which are very ferruginous rocks, and thin conglomerate beds which have not been found to be worth mining on a large scale.

The *Jeppeston series*, red-weathering argillaceous rocks with subordinate sandstones or quartzites, rarely forms good outcrops; it varies in apparent thickness from place to place owing to faulting.

The *Upper Witwatersrand group* follows the lower conformably, and differs from it chiefly in being more arenaceous and in having a greater development of conglomerates. At its base is the *Main-Bird series*, some 3,000 feet of quartzites with subordinate argillaceous beds and persistent bands of conglomerate, notably the Main Reef group of conglomerates in the lower part of the series, which are the important beds from an economic point of view because they yield almost all the gold won on the Witwatersrand gold field. In the Central Rand there are three reefs of banket—the local name for a gold-bearing conglomerate of quartz pebbles set in a matrix of pyritic quartzite. These are known as the Main Reef, Main Reef Leader, and South Reef. The Main and South Reefs thin out eastwards, leaving the Main Reef Leader as the productive reef there, and the Leader disappears westwards. The beds of conglomerate are not uniformly auriferous, and it has been found in certain areas that rich patches, several thousand feet in length, extend in a south-easterly direction, and are bordered by poorer conglomerate or even by rock formed by the hanging and foot walls coming together to the exclusion of pebble beds. The origin of the gold in the rock was probably detrital, as in placers, but it has been recrystallized subsequently. Evidence of the great molecular changes which have taken place in the Main-Bird series since their consolidation is seen in the abundance of chloritoid in the sediments, and in many of the older dykes of intrusive rocks which traverse them. Detailed study of the petrography of the conglomerates has been made by Prof. R. B. Young. The conglomerates above the Main Reef group, the Livingstone and Bird Reefs, are thin individually, though numerous, and are non-persistent. A band of andesitic lava often crops out a short distance above the Bird Reefs. The *Kimberley-Elsburg series* lies conformably on the beds just described, and at their base is a thick band of argillaceous beds, the Kimberley shales. The Kimberley conglomerates are usually separated from the shales by quartzites, and grits and quartzites some 3,000 feet thick separate the Kimberley from the Elsburg conglomerates. These latter are often large-pebble conglomerates, and in the main area of their occurrence north of the amygdaloids of Klipriversberg no discordance below them has been detected. The occurrence, however, of very similar conglomerates lying unconformably on Lower Witwatersrand beds at Langermann's Kop and the north side of Bezuidenhout Valley points to the unconformable overlap of the Elsburg beds northwards.

Witwatersrand beds form considerable areas in the Heidelberg and Klerksdorp districts, and also in Vredefort, where they are invaded by a younger granite.

The *Ventersdorp system* lies on the Elsburg beds conformably in the Klipriversberg and Heidelberg, and overlaps the Witwatersrand beds unconformably on the Witwatersrand; in the Cape Province it lies on older rocks. It is mainly a volcanic group, and three sub-divisions, the *Zoetlief*, *Kuip*, and the *Pniel series* have been distinguished, by Dr. du Toit, separated from each other by unconformities. The *Zoetlief* beds are acid lavas, tuffs, quartzites, shales, limestones, conglomerates, and flagstones found in Bechuanaland, Prieska, and in the Kimberley rock-shafts. Acid lavas resembling those of the *Zoetlief* beds occur at Klerksdorp and other places in the Transvaal. The *Kuip series* has only been recognized near Omdraaislei; it consists of basic lavas, arkose, flagstones, limestones, and chert. The *Pniel series* covers a much wider area than the two lower groups in the Cape Province. The lavas of the *Pniel series* are usually blue or green amygdaloidal diabase or andesite, though quartz-porphyrries also occur, and tuffs and breccias accompany them. Conglomerates, quartzites, and other sedimentary rocks often underlie the volcanic beds in the Cape Province. In the Transvaal the *Ventersdorp system* covers wide areas south and west of the Witwatersrand; amygdaloidal diabase, such as that in the Klipriversberg, plays a very important part in the formation, but there are conglomerates and quartzites as well as fragmental volcanic rocks in it. The *Ventersdorp* beds are not found under the Black Reef in the eastern Transvaal or the Pietersburg district; in the western and southern Transvaal and the neighbouring part of the Cape there is a close connection between them in their distribution, though there is a marked unconformity separating them.

In the valley of the Orange River, from 12 to 36 miles above Upington, there are several areas of volcanic and sedimentary rocks known as the *Koras series*. They rest unconformably on, or are faulted against, the *Kheis* beds, but they have suffered little from shearing, and in this respect they offer a great contrast to all the other pre-Karoo rocks of the district. The series consists of two groups; the lower, and mainly volcanic, group is overlain unconformably by the upper group, which is composed of conglomerates and sandstones. The volcanic beds are composed of andesitic and basaltic lavas and tuffs, and there are intercalations of a red quartz-porphyr, probably intrusive, in them. The upper group contains much material derived from both the lavas and the porphyry. The correlation of the *Koras series* is uncertain, but it is probably part of the *Ventersdorp system*.

The *Transvaal system* is the most widely distributed of the pre-Karoo sedimentary rocks in the Union, and it also forms very large areas in South-West Africa. At its base is the *Black Reef series*, a group of quartzites and conglomerates with intercalations of shales. In Vryburg there are also volcanic rocks interbedded with the *Black Reef*, which, on account of their close resemblance to the underlying *Ventersdorp* lavas, emphasize the connection between the two formations. The *Black Reef series* forms the great escarpment of the eastern Transvaal, where it is thicker than elsewhere, giving rise to some of the finest scenery in the Province. It received its name from the occurrence of black carbonaceous matter in the conglomerates mined for their gold content in the southern Transvaal. In the west of the Union these beds are very probably represented by the *Nieuwerust series*, which underlies the *Malmesbury* beds in Namaqualand and Van Rhyndorp, and by the *Kuibis* beds in South-West Africa. The *Black Reef series* is conformably overlain by the *Dolomite* in the Transvaal, the neighbouring part of the Cape Province (*Campbell Rand series*), and in South-West Africa (*Schwarzalk* and *Otavi series*). In Little Namaqualand thick dolomitic limestones lie on the *Nieuwerust* beds; but here there is a change becoming more marked southwards, the beds become an argillaceous and arenaceous group, the *Malmesbury* beds of the Cape Province. East of the Cape Peninsula, however, in Oudtshoorn and Humansdorp, there are again limestones (*Cango* and *Hankey limestones*) which may prove to be part of this series. In the Transvaal, Bechuanaland, and Griqualand West, the *Dolomite* has a most important influence on the water supply owing to its taking up large volumes in fissures and cavities, and giving the water out again from large springs. It is, in fact, the only formation in the Union which can be said to be water-bearing on a large scale. The rock is compact and usually crystalline, and the water is not held by the rock itself but is in the widened joints and other spaces. In Little Namaqualand there is a thick series of crystalline limestones, the *Kaigas series*, overlying the quartzitic *Stinkfontein series*. These two series are separated from the *Nieuwerust* and *Malmesbury* beds of Neint Nababeep by a few miles of older granite, and they are much folded and sheared in contrast to the rocks of Neint Nababeep. There are, however, strong reasons for regarding the *Stinkfontein* and *Kaigas* beds as the folded western equivalents of the Neint Nababeep rocks. The *Stinkfontein series* includes some lavas and breccias, and such rocks are not known in the *Nieuwerust* beds. The *Dolomite* is succeeded conformably by the *Pretoria series* (*Griquatown series* of the Cape Province), which consists of quartzites, shales, highly ferruginous beds and volcanic rocks, chiefly an'esitic (*Ongeluk* beds). In the Cape Province and in parts of the Transvaal, asbestos (crocidolite and amosite) is strongly developed in the strata below the volcanic horizon, apparently by the re-arrangement of material in the sediments in cross-fibred veins of amphiboles strictly parallel to the bedding. Important deposits of



iron ore exist in the Pretoria beds in the Transvaal and Griqualand West. In the Cape Province there is a well-developed tillite with striated boulders just below Ongeluk lavas, and in Namaqualand the very remarkable *Numees series* lying above the Kaigas beds has many of the features of a tillite. The Numees beds are succeeded by green slates and a thick volcanic group, the Groot Derm beds, which are as yet little known. In Van Rhynsdorp and the districts to the south there is an unconformity above the Malmesbury beds, and the younger group of pre-Cape sediments have thick conglomerates at their base in the Ibiqwas and French Hoek beds. Whether the Congo conglomerates include beds overlying the limestones of that area is as yet uncertain, but some thick quartzites and conglomerates of that region apparently underlie the limestones.

A very important feature in the Transvaal is the mass of intrusive rocks which occupies an area some 280 miles long from east to west, and 160 miles wide in the central part of the country, and which is known as the Bushveld Igneous Complex. The rocks are in part covered by fragments of their original roof and partly also by much younger beds belonging to the Karroo system. The mass as a whole behaves as a laccolite, with a floor made of the Transvaal formation and a roof of the Waterberg system. It is composed of various rocks, differentiates of a common magma, soda-rich granite (the Red Granite of Transvaal geologists) in the central parts and more basic rocks, diabase, norite, gabbro and pyroxenite in the peripheral and lower portions. Intrusions of the granite in the basic rocks prove that the latter solidified first in part, but at other localities there is a gradual passage between the two. These intrusions probably took place during a long period of time, for while the upper Waterberg beds are penetrated by the granite, those beds contain pebbles of the same type of granite, proving that the earlier intrusions were exposed to denudation before the latest intrusions had taken place. The mineral and structural changes produced by the Bushveld laccolite on the surrounding rocks are extensive, and have been made the subject of special studies by Mr. Hall. The numerous sheets of diabase intruded amongst the Transvaal beds in the southern and central Transvaal are regarded as belonging to the Bushveld Complex, as are also the long dykes of syenitic rocks in the Transvaal. The scattered intrusions of nepheline-syenites and related rocks, of which the most important group is that of the Pilandsberg, where there are also phonolites and other lavas (described by Drs. Brouwer and Humphrey), are generally considered to be the latest products of this great phase of igneous activity. The date, however, of this volcanic episode and the intrusion of the peculiar rocks associated with it is not known, but boulders of the peculiar rocks have been identified in the Karroo beds, and related dykes in Heidelberg are older than that formation. Prof. Shand has lately made careful studies of some of the intrusive rocks. There is nothing quite analogous to the Bushveld Complex in other parts of the Union, but in Namaqualand there is a large intrusion of hornblende-granite rich in lime-soda feldspar penetrating the Nama (Transvaal) formation, and there are dykes of bostonite and camptonite associated with it. The date of this intrusion has not been fixed more closely, but the large granite masses of the south-west of the Cape Province (Cape Peninsula and its neighbourhood, Robertson, George, and Van Rhynsdorp) are normal granites and are post-Malmesbury (Transvaal) and pre-Cape in age.

The tin deposits of the Transvaal are connected with the Bushveld granite, and the less important tin ores of the Cape district with the granite there.

The *Waterberg system* forms large tracts of country in the northern Transvaal (Waterberg and Zoutpansberg districts), and in the Pretoria and Middelburg districts. In the latter it rests unconformably on the Pretoria beds. It consists of a lower group of volcanic beds, with which are associated sandstones and shales, and an upper group of conglomerates and quartzitic sandstones. The colour of the sediments is predominantly red or purplish, and the conglomerates are often coarse. There is at least one unconformity of importance within the system. The volcanic rocks are felsites and andesites, with tuffs and agglomerates.

The *Matsap series* of Bechuanaland, Griqualand West, and Prieska is regarded as the correlative of the Waterberg system on account of its stratigraphical position and lithological characters. It lies unconformably on beds belonging to the Ventersdorp and Transvaal systems, and is unconformably covered by the Dwyka. It consists of a great thickness of purplish quartzites with conglomerates and shales; but the arenaceous types predominate. In the middle of the series there is, on the eastern side of the Langebergen, a thick volcanic group, andesitic lavas and tuffs. The Matsap and Waterberg beds have not been connected by mapping between the north end of the Langebergen and the Transvaal, through Bechuanaland, but they may well be parts of one system.

The *Cape system* is developed in the south and west of the Cape Province, and it appears again on the south-east coast near Port St. Johns, and continues through the coast belt of Natal. Only the lowest series is found in the east.

One of the great questions of correlation in South Africa is whether the Waterberg system of the Transvaal is a part of the Cape system; but if, as is generally held, the Waterberg and the Matsap are parts of one system, there are great difficulties in regarding

the Cape system as being their southern representative. In the south there is a conformable succession from the Cape beds upwards into the Karroo formation; while in the north a great unconformity, which represents a period of mountain building as well as a very long period of denudation, separates the Matsap and Waterberg formations from the Karroo beds.

The lowest member of the Cape system is the *Table Mountain series*, a group of sandstones and shales, the former predominating, which builds up the mountains of the Cape Peninsula and the long ranges flanking the Karroo on the south and west. In the Cederberg there is a thick band of mudstone, containing scattered pebbles and boulders of various kinds of rocks, some of which are striated after the fashion of glaciated stones. This tillite lies about a thousand feet below the top of the series. The sandstones are often quartzitic, and have a characteristic appearance. They are occasionally conglomeratic, but the pebbles are usually scattered or form layers only one pebble thick.

The second series in the system is the *Bokkeveld* group, consisting of shales and sandstones, in the lower part of which there is a fairly abundant marine fauna closely related to that of the Lower and Middle Devonian of South and North America, and less closely to the Lower Devonian of Europe. Some of the Cape species have also been found in the Sahara. The Bokkeveld beds form the greater part of the cultivated portions of the Coles District and the valleys between the Zwarteberg and the south coast, as well as the valleys immediately north of the Zwarteberg.

The third and youngest series is the *Witteberg* group of shales, sandstones, and quartzites, which are well seen along the western line of railway between Touwa River and Matjesfontein. These beds have yielded few fossils, only badly preserved plants and a fragment of an eurypterid.

The Cape system is fully developed between Karroo Poort and the region where it is cut off diagonally by the coast near Port Elizabeth. North of Karroo Poort it becomes thinner and thinner owing to denudation in pre-Karroo times, and north-west of Calvinia the Karroo beds rest directly on the older Nama rocks or on granite.

The *Karroo system* occupies the whole of the central part of the Cape Province, almost the whole of the Orange Free State, the western side of Natal, and a large area in the south-eastern Transvaal. No evidence has yet been found that marine conditions occurred in this large area of deposition during Karroo times, but in a part of South-West Africa two kinds of marine fossils have been found in the lower beds of the system. In the southern Karroo the Witteberg series passes up conformably into shales, which are taken to be the base of the Karroo system, and which in their turn pass up into a hard boulder-clay or tillite without any precise line of division. To the north of Karroo Poort the shales are wanting and there is an unconformity below the tillite. The tillite is now regarded as of glacial origin by almost all geologists, for on no other hypothesis have the peculiarities of the rock been explained. It has a matrix of mudstone or slightly laminated and sandy, often calcareous, hardened clay, containing pebbles and boulders of many varieties of rocks occurring in places to the north of the spots where they are found in the tillite, and many of them are flattened and striated after the fashion of the stones in glacial deposits of regions which are now, or have within recent times been, covered by sheets of ice. In many districts north of the Karroo the tillite rests upon striated surfaces, or characteristically shaped hummocks of rock called *roches moutonnées*, which is very strong evidence of the glacial origin of the formation. The thickness of the tillite varies from a foot or so, or it may even be absent altogether, as in parts of the Transvaal, up to 1,400 feet in the southern Karroo. The general direction of movement of the ice was from the north. The tillite is followed conformably by shales in the west, south, and east, but in the Transvaal there is almost certainly a break of unknown but not great extent at the top of the *Dwyka series*, as the lowest group of Karroo rocks is called.

The *Ecca series* follows the Dwyka conformably in the Cape Province and Natal. It consists of shales and sandstones, and in Natal and the Transvaal the Middle Ecca beds are the main source of coal in the Union, and they also contain oil-shales. In the south of the Cape Province the Ecca beds reach their greatest thickness—over 6,000 feet. The series decreases in thickness northwards, and in the Transvaal it is probably only a few hundred feet thick. The Ecca beds contain a flora characterized by the genera *Glossopteris* and *Gangamopteris*, which, with their fellows, are found also in the Gondwana beds of India, and in Australia and South America. In these four regions of the globe the *Glossopteris* flora occurs in beds overlying tillite like the Dwyka tillite, and it is this fact which leads to the belief that an Arctic climate prevailed over a great region in the southern hemisphere at the remote period when the coal-measures of the northern hemisphere were being formed, or soon afterwards. The evidence as to the age of the beds as compared with the European rocks is obtained from Australia and India, for the marine fauna on which it rests does not occur in South Africa.

The *Beaufort series* lies conformably on the Ecca in the Karroo region, Natal, and the southern part of the Orange Free State, and it has been definitely recognized in the south-eastern Transvaal. Its most striking feature is the abundance and variety of its reptilian

fossils, which are of exceptional interest because they include forms with mammalian relationships and the habit of walking with the body raised clear of the ground as proved by the structure of their legs. With the reptiles are amphibians, fish, lamellibranchs of fresh-water habit, and some plants belonging to the same genera as those in the Ecca below, as well as, in the uppermost beds, a few which are found in the Molteno beds above. Sandstones, shales, and mudstones, with a small amount of limestone, chiefly in the form of nodules, make up the Beaufort beds. In the south-eastern Transvaal Dr. du Toit has found that the upper coal beds of Volkarust are in the Beaufort series.

The *Stormberg series* follows the uppermost Beaufort beds conformably in the east of the Cape Province, and the neighbouring part of Natal and Basutoland, and it is ushered in by the shales and sandstones known as the Molteno beds, which are coal-bearing and include some oil-shales.

The Molteno beds contain a flora with Triassic affinities, but none of the reptiles known from the Beaufort series has been found in them. The Molteno beds occur in the east of the Orange Free State, but they have not been found in the north of that Province nor in the Transvaal.

The Molteno beds are succeeded in the Cape, Natal, Basutoland, and the south-east of the Orange Free State by the Red beds, which are red weathering sandstones and shales containing a few dinosaurs and other reptiles, fish, and perhaps the supposed mammal *Tritylodon*.

The Cave sandstone, a rather remarkable formation of thick bedded sandstone, succeeds the Red beds conformably in the Cape, Natal, Basutoland, and the Orange Free State, and it also occurs in the Transvaal, where it is known as the Bushveld sandstone. It contains a few dinosaurs, a crocodile, fish, and some small crustacea. The Cave sandstone makes bold outcrops along the slopes of the Drakensberg in East Griqualand, Natal, and Basutoland; it is very closely associated with the volcanic rocks of the *Drakensberg series* at the top of the Karroo system, which form the precipitous portion of the Drakensberg or Quathlamba range, the Maluti Mountains, and also much of the flat country (Springbok Flats) of the Transvaal Bushveld. The lowest volcanic beds are interbedded with the Cave sandstone, and the series consists of andesitic and basaltic lavas and tuffs. A large number of the vents or necks from which outbursts took place are known, but it is probable that much of the lava came from long fissures now represented by dykes of dolerite. In the Lebombo the basaltic lavas are succeeded by rhyolites.

To the latest part of the Karroo period belong the *intrusions of dolerite*, which are found traversing nearly all the rocks in the Union older than the *Drakensberg series*, as well as that group. The only large tract in the Cape Province which is free from dykes and sheets of this dolerite is the Folded Belt. The dolerite sheets give rise to the long lines of cliffs capping the escarpment of the Nieuwveld and its continuations to east and west, and both sheets and dykes form conspicuous features in the Orange Free State, Natal, and the Cape Province. Only in Griqualand East have picrites and other ultra-basic differentiates of the basaltic magma been discovered, and in the Insizwa, Tonti, and Ingeli masses they form important bodies of rock which may yield metallic ores of value. The acid differentiates are much more widely distributed. They are small bodies of diorite and granophyre, which rarely give rise to any conspicuous feature.

The *Cretaceous system* in the Union comprises beds of marine and continental origin found on or near the south and east coasts. The chief areas of these beds are in the Uitenhage and Alexandria Districts (where Dr. W. G. Atherstone first made out their sequence), Oudtshoorn, Riversdale, and Mossel Bay, where the older beds, called the *Uitenhage series*, occur. Narrow strips along the coast of Pondoland, and a wider area on the northern coast of Natal, are made of younger Cretaceous beds.

The lowest beds of the Uitenhage series are conglomerates and sandstones, which are followed by plant-bearing shales. In the Sunday's River valley these are succeeded by shales and limestones containing marine fossils of Neocomian age. West of the Uitenhage Division marine fossils have only been found in a small outlier of the series near Knysna. All these areas of Uitenhage beds are faulted down against older rocks to the north.

On the Pondoland coast conglomerates and sandstones have been faulted down against older rocks near the Embotyi River, and the few fossils found in them are like some of those in the larger area of marine shallow-water beds of the *Umzamba series* further north-east. Many fossils have been collected from these beds, and show that they are of Campanian or Senonian age. At the Umzamba the beds lie unconformably on the Table Mountain series. In Natal the Senonian beds are underlain by Cenomanian strata on the Umfolosi.

Near East London and in Alexandria there are some marine limestones of Danian age, but little is known of them yet.

In Bushmanland a remarkable deposit of granite wash containing bones of dinosaurs fills an old valley leading to the Orange River. This may be a remnant of the continental deposits formed when South Africa began to have the type of climate which has led to the

formation of the Kalahari, the semi-arid region from which Bushmanland is separated by the valley of the Orange River.

At some time after the Uitenhage beds were laid down, perhaps at a much later date, the peculiar phase of volcanic activity began, which is represented by the contents of many pipes and fissures distributed through the central portion of the Union, and found also in the Drakensberg, Riversdale, Van Rhynsdorp, Namaqualand, Gordonia, and outside the borders of the Union in Rhodesia and South-West Africa. Natal seems to be without them. The age of each occurrence can, of course, only be determined by the surrounding rocks, but there are certain features common to them and connecting links between diverse types of material filling the channels, so that it is probable that they were all related in origin. There can be no doubt that some explosive force produced the channels, or took advantage of pre-existing paths of weakness, and that the channels were filled with fragmentary or molten rock derived from various depths between the lower parts of the earth's crust and the superficial strata. As Dr. Wagner suggests, the explosions seem to have been connected with the marked rise in level of the sub-continent in late geological times. The most striking instance of a large pipe filled with fragments of the rocks traversed, but apparently devoid of minerals derived from contemporaneous rock-magma, is Gcital Gubib in South-West Africa; but similar pipes and fissures exist in Van Rhynsdorp and Ceres. In the Sutherland Division there are many vents clustered round Saltpetre Kop filled with material derived from the rocks passed through mixed with minerals belonging to volcanic rocks, and in the neighbouring country there are pipes filled with breccia resembling blue-ground in containing minerals derived from great depths, accompanied by masses of melilite-basalt. The pipes and fissures filled with the rocks commonly known as blue-ground have been more thoroughly explored than any other of these channels, because some of them contain diamond in sufficient amount to repay mining, as at Kimberley, also near Pretoria, and at several places in the Orange Free State. Dr. Wagner has shown that these ultra-basic rocks, kimberlites, comprise basaltic and micaceous varieties, both of which may contain diamond, and that this mineral was almost certainly a component of the magma from which they were derived by differentiation at great depths. Xenoliths of eclogite in kimberlites and kimberlite tuffs and breccias have been found with diamond in them, and they have been regarded as the source of the diamond and accidentally associated with kimberlite; but the evidence is now very strongly in favour of these being cognate xenoliths formed at depth in the magma which also gave rise to kimberlite. The opinion of Carvill Lewis, that kimberlite may have been a melilite-basalt has not been substantiated, but the occurrence of that rock in several pipes in Sutherland, at Spiegel River, and in Namaqualand, where it also contains nepheline, points to some connection between them.

The basalt and tuffs along the post-Uitenhage fault south of the Zuurberg are of pre-Uitenhage age, for pebbles from them occur in the Wood beds, but their structural relations to the Zuurberg rocks has not been made out. They resemble the Drakensberg volcanic rocks.

Beds of Tertiary age are known in the Union, but little information concerning them is at present available. The best known are those belonging to the *Alexandria* formation of Prof. Schwarz, and there are inshore marine beds occurring at various heights up to some 1,300 feet above sea-level on the south and east coasts. The fossils, according to Mr. R. B. Newton, are of Mio-Pliocene age. None of the early Miocene species described by Böhm and Weisfermel from near Bogenfels north of the Orange River have been found in the Union, though the fossil cephalopod, *Aturia*, a genus which occurs at Bogenfels, has been dredged off the Cape Province. Mr. Wm. Anderson discovered late Tertiary or early Pleistocene deposits on the coast of Zululand, containing the remains of extinct kinds of hippopotamus, buffalo, buck, and elephant. Inland deposits of Tertiary age are indicated by the occurrence of mastodont remains in the high-level gravels of the Vaal River near Barkly West. Extinct species of buck and buffalo from the Modder River, and a horse from the south-west coast, are probably Pleistocene.

In the Knysna district some valleys in the Table Mountain series are filled in with sands and lignites loosely consolidated. The age of these beds has not been ascertained, but they are perhaps as old as the Tertiary. Gravels far above the level of the modern rivers, and the superficial deposits cemented by lime or silica, which are widely spread within the Union, perhaps date back to Tertiary times, but proof of age is lacking. The calcareous tufas are extensively developed in the Kalahari region, the Transvaal, and Griqualand West, and less widely in the Karroo and the coast belt. The siliceous deposits which are closely connected with those cemented by hydrated iron oxides in the Folded Belt of the Cape, are most conspicuous in the country below the great escarpment, though they have not been noticed in the central part of the Great Karroo. They also occur in the Kalahari, Bechuanaland, and Griqualand West.

The gravels which are the site of the diamond-diggings in the Transvaal, Griqualand West, and Aliwal North lie at various levels from that of the modern river beds, to 400

feet above them, and many miles from their banks. The chief diggings are in the Vaal and Hart's River gravels. In a few instances diamond gravels have been found far from the rivers, on the top of the Kaap Plateau. The deposition of these gravels probably dates back to Tertiary or even late Cretaceous times.

The great deposits of sand in the Kalahari and Bushmanland are of great age, though they are being formed to-day. The evidence from Bushmanland that dinosaurs lived there at the time when the valleys cut in the granite began to be filled with wash from the neighbourhood, and that since then the climate has allowed the steady levelling up and down of the inequalities of the surface, affords an indication that the development of the features characteristic of that region began in pre-Tertiary time.

### C.—GEOLOGICAL STRUCTURE.

The dominating feature in the structure of South Africa is the great syncline of Karroo beds stretching 820 miles from Karroo Poort in the Ceres Division north-eastwards to Carolina in the Transvaal, with a width of 340 miles between Kimberley and the Transkei coast. On the north-western side of this irregularly oval area the base of the Karroo rocks maintains an altitude of between 2,500 and 5,500 feet above the sea, and the beds dip at very low angles towards the basin. On the south, between the Tanqua Karroo and the Keiskama, they are folded in a general east-west direction, and their dip carries them deep under the Karroo region. The shore cuts the edge of the syncline from the Gualana to the St. Johns River, and where the base of the system emerges near the latter, it is no longer markedly folded, but, striking through Natal, is affected by faults. The belt of pre-Karoo rocks trending north-north-east through Natal is on the axis of a low, broad anticline much faulted in its eastern limb, which in Swaziland merges in the easterly dipping beds of the Lebombo. Outliers of Karroo beds north of the syncline prove that they once stretched far beyond the borders of the Union, and that over the northern region there has been no earth-movement of the mountain-building kind since the commencement of Karroo times. The arc-shaped ranges of Griqualand West and Bechuanaland, the Langebergen and Kuruman hills, were undergoing denudation then, and the same statement holds good for much of the Transvaal, where the east-north-easterly trend of the structural lines in the Low Veld of the north, and the east-west syncline of the Witwatersrand are of pre-Transvaal date. The broad anticline trending east-north-east from the south-west of the Province to the West Rand is of pre-Karoo and post-Transvaal age, but it is superimposed upon older and more pronounced disturbances along approximately the same lines; and the marked arrangement of the hills about the great Bushveld intrusion, of which the longer axis is directed a little north of east, is a feature of pre-Karoo times. In the Transvaal the trend-lines of pre-Karoo age are chiefly in an east-north-east direction, and this strike, due to forces acting perpendicularly to that direction, was repeated at long intervals. In the north and west of the Cape Province the pre-Karoo movements were nearly at right angles to this, and produced north or north-north-west trends, and they were followed by the late or post-Karoo movements of the Cederberg region. In the south the east-west trend of the pre-Cape folds was repeated in the late or post-Karoo movements, which gave rise to the southern mountain ranges. South and west of the Karroo the ranges with northerly trend in the west, and easterly trend in the south, are made of the Cape formation, and are due to the folding of the crust in late or post-Karoo times by forces which tended to over-fold and thrust the strata towards the Karroo region, and the folds were produced where the Cape and lower Karroo sediments were very thick. The axes of the southern folds are inclined eastwards, so that the folded belt is traversed slantingly by the coast between Cape St. Francis and the Keiskama.

The whole form of the basin, as it is now seen, has been determined by earth movements which gave rise to the dip of the beds, and by denudation removing the folded or nearly flat beds from part of the area formerly covered by them. The thickest deposits of the Karroo system were probably much nearer the southern limit than the northern, but whether the southern limit is within 100 miles of the original limit of deposition is unknown. The outliers in Worcester, Robertson, and Uitenhage prove that the rocks once extended south of the mountain ranges, and there is no trace of an unconformity at the base of the Karroo beds till they reappear on the coast of Pondoland.

The outliers of Cretaceous beds within the folded belt, probably remnants of a formerly continuous cover of those beds stretching westwards from Algoa Bay at least as far as Worcester, are faulted down on the south side of fractures parallel to the trend of the pre-existent southern folds. The great Worcester fault, the first of these important features to be discovered by Prof. Schwarz, was for long thought to be of pre-Cretaceous date, but Dr. Rastall has shown that it, like the eastern faults of the same group, was of post-Uitenhage age.

The main lines of the structure of Namaqualand were determined in pre-Karoo times, when the Nama formation had been subjected to intense folding on the west along axes trending north; but post-Karoo faulting is proved by the outliers of Dwyka in the valley

of the Orange River, not far above sea-level. The flat country of the Kalahari and Bushmanland, now divided by the Orange River, is essentially a pre-Karoo plain, diversified by a few isolated hills, and being stripped of its cover of Karroo beds except in the large areas where the accumulating sand protects the underlying rocks from denudation.

The great escarpment which plays such an important part in the geography of the Union commences as a definite feature in the slope of the Woodbush, and from there southwards to the Carolina district the base of the Transvaal system forms the uppermost and steepest part; in that district the Karroo beds come in, and higher and higher beds of the system take part in the face of the escarpment as it is followed southwards into Natal, where the Quathlamba is a rampart of volcanic beds at the top of the Karroo formation; in the Native Territory of the Cape Province the same conditions hold, but the volcanic beds disappear in the Stormberg, and westwards of that region the escarpment is capped by lower and lower beds, until in Van Rhyndorp the Nama system and still older rocks alone take part in its structure. There is thus a broadly symmetrical character in the escarpment on the two sides of the continent, and the asymmetrical feature due to the presence of the volcanic beds in the east has some relation to the submergence of the south-eastern edge of the Karroo basin in the same quarter. Since the escarpment lies, broadly speaking, parallel to the coast, it is natural to look for a connecting link between the two features. The greatest departure from this correspondence is in the south, where the Cape ranges intervene and the coast-line projects in conformity with the curve of the ranges in the Ceres district (syntaxis of the Zwartberg and Cederberg folds), and does not follow closely the blunter sweep of the escarpment. In trying to find an explanation of the existence of the escarpment, it is most important to bear in mind the very great age of the interior of South Africa as a land-surface; from the Cape ranges northwards to Central Africa the country has probably been exposed to the air since Triassic times, and for a further period stretching back to Devonian times the sea is not known to have encroached upon it. How far the Devonian sea advanced north of the latitude of Calvinia is unknown. It appears from the present state of our knowledge that the escarpment marks the limit of headward erosion of the rivers draining the coast-belt and the Great Karroo, and that the prominence of the feature for long distances is due to the agents of erosion having encountered resistant horizontal or gently inclined strata or intrusive sheets of dolerite, one or other of which is a prominent feature of the greater part of the margin of the interior plateau. In Namaqualand these flat strata have in part been removed by denudation, but large remnants exist in the Steinkopf plateau, and again in the fragments near Nieuwerust. This view entails the great age of the coast-line as a whole, though it is often held that the straight or smooth shape of the coast indicates a recent origin through faulting. The fact, however, that inshore deposits of various dates from early Cretaceous to late Tertiary and recent age are preserved, on the south and east coast chiefly, is in harmony with the supposed great age of the coast as a whole, and no great faults parallel to the coast have yet been found. The great faults with downthrow on the ocean side, those flanking the southern ranges, are cut by the coast slantingwise. The enlargement of the area outside the escarpment in the Cape Province is evidently connected with the folding which took place in the region of the very thick deposits of the Cape and Karroo periods, and that in the north-east part of the Union is connected with the extensive rise in level of the sub-Continent in Cretaceous and post-Cretaceous times.

## D.—SYSTEMS OF GEOLOGICAL FORMATION.

		Stratified Formations.	Maximum Thickness.	Igneous Intrusions.	Earth Movements.			
Cainozoic.		Recent and sub-recent sands, gravels, tufas, ironstones, and surface quartzites; raised beaches.	Over 800 ft.	Volcanic pipes and fissures of Kimberlite and nephelinite - nepheline basalts	Depression of coast region, giving rise to lagoons.			
		Marine inshore beds of Alexandria, Addo, Bredasdorp, and Zululand; lignites of Knysna	Small			Uplift of whole of South Africa.		
Cretaceous System.		Need's Camp series (Danian).....	—		Uplifts.			
		Umzamba series (Senonian); Pondoland, Umkwelane Hill; shelly limestones and conglomerates	50 ft.		Encroachments of sea on south-east coast.			
		False Bay (Zululand) and Manuan Creek (Cenomanian), clayey limestones	50 ft.		Faults in region of southern ranges.			
		Ultenhage series (Neocomian)	Sunday's River beds; marine clays and limestones		Over 4,000 ft.	Encroachments of sea over part of area where southern ranges exist.		
			Wood beds; sands and clays Enon beds; sands, clays, and conglomerates					
Mesozoic.		Drakensberg or volcanic beds; basaltic and andesitic lavas and tuffs of Quathlamba, Springbok Flats and Lebombo rhyolites	4,000 ft.		Intrusion of basic rocks throughout the Union	Emergence of land over Karroo region, following the restriction of area of deposition during the rise of the southern ranges.		
		Stormberg series (Triassic and higher)	Cave sandstones of Quathlamba and Bushveld sandstones of Transvaal		800 ft.			
			Red beds; sandstones and shales		1,600 ft.			
			Molteno beds; sandstones, shales, and conglomerates with thin coals in Cape Province	2,000 ft.				
		Karoo System.	Beaufort series (Permian and Trias)	Burgersdorp beds; shales and sandstones	3,000 ft.	Mountain building in the south and west of Cape Province.		
				Middle Beaufort beds; sandstones and shales	1,000 ft.			
				Lower Beaufort beds; shales and sandstones	7,000 ft.			
		Palaeozoic		Ecca series; shales and sandstones; coal in Transvaal and Natal	6,200 ft.		Long period of depression and deposition in the south of the Union.	
				Dwyka series...	Upper shales....			800 ft.
					Tillite.....			1,400 ft.
Lower shales....	1,000 ft.							
Cape System.				Witteberg shales and quartzites series	2,500 ft.			
		Bokkeveld series; shales and sandstones; marine (Devonian) fossils in lower half	2,500 ft.					
		Table Mountain series; quartzitic sandstones and shales; tillite in Cederberg region	5,000 ft.	Mountain building in Griqualand West, etc.				

D.—SYSTEMS OF GEOLOGICAL FORMATION—*continued.*

Stratified Formations.		Maximum Thickness.	Igneous Intrusions.	Earth Movements.	
Waterberg System.	Upper Waterberg; sandstones, shales, and conglomerates	Matsap series of Griqualand West, etc.; quartzites, conglomerates, lavas, and tufts	5,000 ft.	Intrusion of Bushveld Complex	Mountain building in south and west of Cape Province. Long period of depression in the north, west, and south of the Union.
	Lower Waterberg; lavas and shales		2,000 ft. Over 7,000 ft.		
<i>In East.</i>		<i>In West.</i>		Intrusion of younger granites of the Cape Province	
Transvaal System.	Pretoria series; shales, lavas, quartzites, and a tillite, ferruginous beds	Ibiquas, Numees, and Groot Dorm beds	10,000 ft.		
	Campbell Rand series; dolomites, shales	Malmesbury and Kaigas beds	3,500 ft.		
	Black Reef series; quartzites, shales and conglomerates	Nieuwrust and Stinkfontein beds	2,550 ft.		
Venterdorp System.	Pniel series; lavas, tufts, conglomerates, shales, and quartzites	Koras series of Kenhardt and Gordonia; lavas, sandstones, conglomerates	5,000 ft.		Minor uplifts in Griqualand West, Bechuanaland, and Transvaal.
	Kulp series; lavas, limestones, cherts, sandstones, arkose				
	Zoetliel series; acid lavas, shales, quartzites, conglomerates				
Witwatersrand System.	Upper Witwatersrand beds	Kimberley-Elshburg series; quartzites, grits, conglomerates and shales Main-Bird series; quartzites, grits, conglomerates, shales, and lavas Jeppestown series, chiefly shales	24,000 ft.	Intrusion of basic dykes in S. Transvaal, and of the Vrededorf granite	Uplift over Witwatersrand.
	Lower Witwatersrand beds				
Swaziland System (Inter-correlation unknown).	Pongola series	Upper Pongola beds; shales, quartzites, and conglomerates Lower Pongola beds; quartzites, phyllites, lavas		Intrusion of Palabora Complex	Mountain building in north and west, followed by prolonged denudation.
	Abel's Kop beds	Schists, limestones, banded ironstones		Intrusion of gneisses, etc., of north and west of the Cape Province and the Transvaal and Natal	
	Khels series	Wilgenhout Drift beds; sedimentary and volcanic rocks Kaaien beds; quartzites and schists Marydale beds; sedimentary and volcanic beds			
	Kraaipan series; schists, ferruginous cherts, and volcanic rocks				
	Moodies series; ferruginous rocks, quartzites, schists, and conglomerates of Barberton and Pietersburg districts		25,000 ft.		
	Schists of sedimentary and volcanic origin in Namaqualand				

\* The Pongola series may belong to the Witwatersrand system.



### § 6. Area of the Union.

1. **Area.**—The total area of the Union is 473,089 sq. miles. The area of each Province<sup>e</sup> is given hereunder. The area of each magisterial district in the Union will be found in Chapter III.

#### AREA OF PROVINCES.

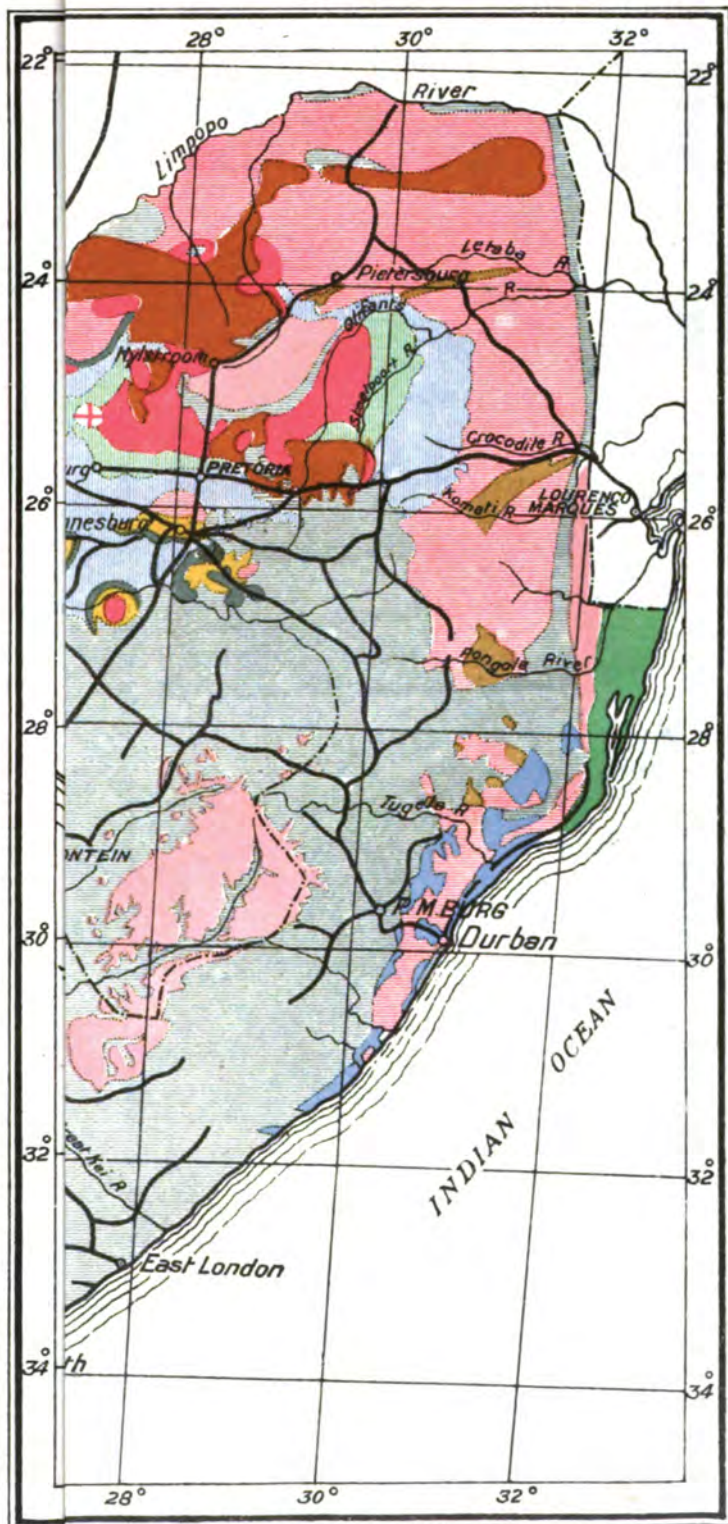
Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.	Sq. Miles.
276,966	35,284	110,450	50,389	473,089

2. **Comparison with other Countries.**—Particulars are given hereunder as to the total area of the Union in comparison with the area of each self-governing British Dominion, and the area of certain other countries in Europe, America, Asia, and Africa :—

#### AREA OF UNION AND VARIOUS COUNTRIES.

Area of Union..... 473,089 square miles.  
South-West Africa..... 322,450 square miles.

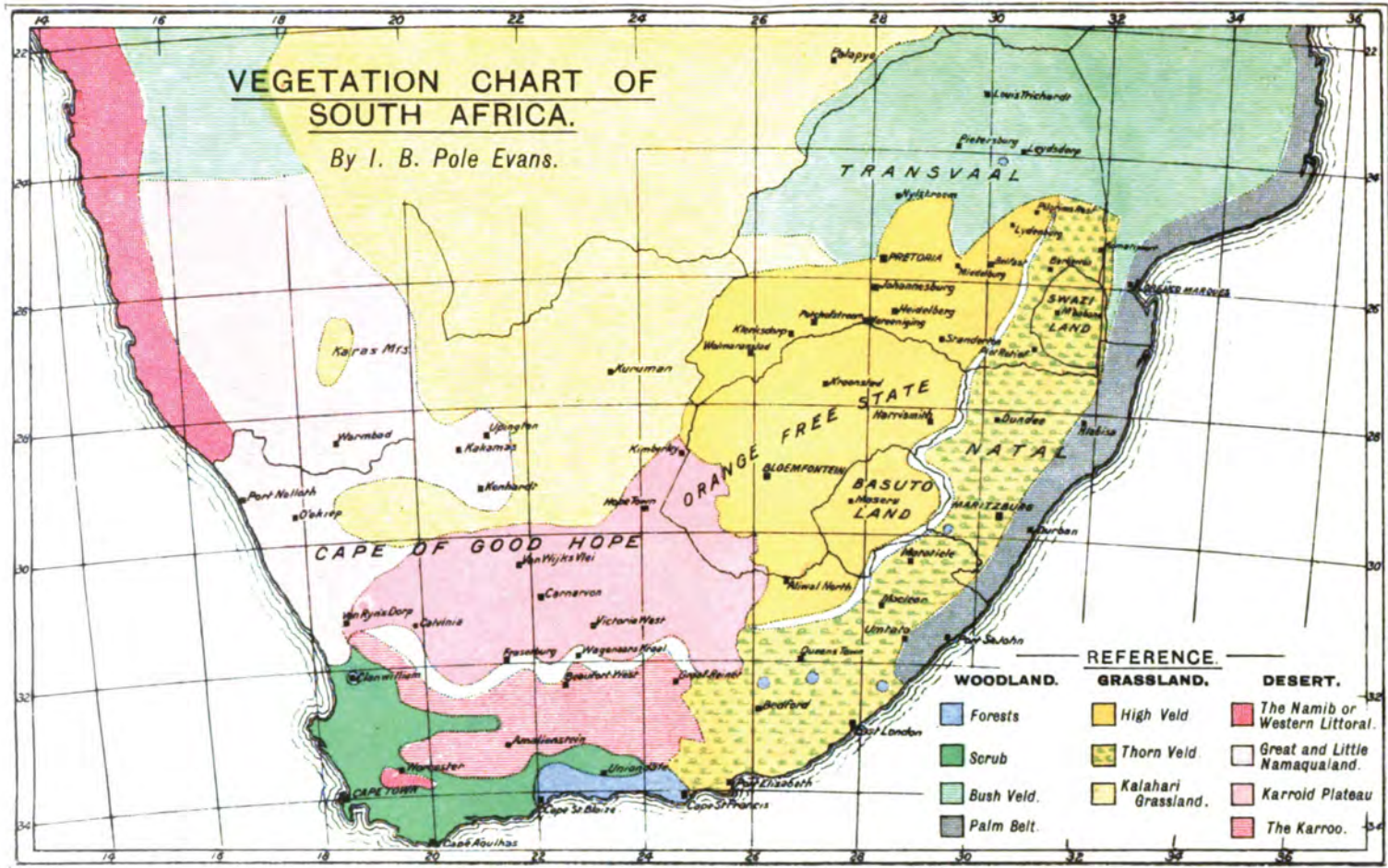
Country.	Sq. Miles.	Country.	Sq. Miles.
GREAT BRITAIN.....	89,047	EUROPE—(contd.)—	
IRELAND.....	32,586	Switzerland.....	15,976
BRITISH DOMINIONS—		Netherlands.....	12,648
Canada.....	3,729,665	Belgium.....	11,373
Australia.....	2,974,681	ASIA—	
British India.....	1,093,074	China (with dependencies)	4,277,170
Rhodesia.....	450,000	Japan (with Formosa)...	190,534
Kenya.....	200,000	NORTH AMERICA—	
Newfoundland (with Labrador).....	162,734	United States.....	2,970,230
New Zealand (with depen- dencies).....	104,761	Mexico.....	767,005
Tanganyika Territory... ..	384,000	SOUTH AMERICA—	
EUROPE—		Brazil.....	3,292,991
Germany.....	183,381	Argentine Republic.....	1,135,840
France.....	212,659	AFRICA—	
Spain.....	194,783	Egypt and Soudan.....	1,347,701
Sweden.....	173,035	Congo State.....	909,654
Norway.....	124,130	Angola.....	484,800
Italy.....	110,659	Tripoli.....	400,000
Denmark (with Iceland)..	55,348	Algeria.....	343,500
Portugal.....	35,490	Portuguese East Africa..	293,400
Greece.....	41,933	Madagascar.....	228,000
		Cameroons.....	191,130





# VEGETATION CHART OF SOUTH AFRICA.

By I. B. Pole Evans.



## REFERENCE.

- | WOODLAND.  | GRASSLAND.          | DESERT.                        |
|------------|---------------------|--------------------------------|
| Forests    | High Veld           | The Namib or Western Littoral. |
| Scrub      | Thorn Veld          | Great and Little Namaqualand.  |
| Bush Veld. | Kalahari Grassland. | Karroid Plateau                |
| Palm Belt. |                     | The Karroo.                    |





Fig. 1.--View of portion of the Pirie Forest, near King William's Town.



Fig. 2.--Forest growth on the Drakensberg, near Graskop, Transvaal.

FOREST.

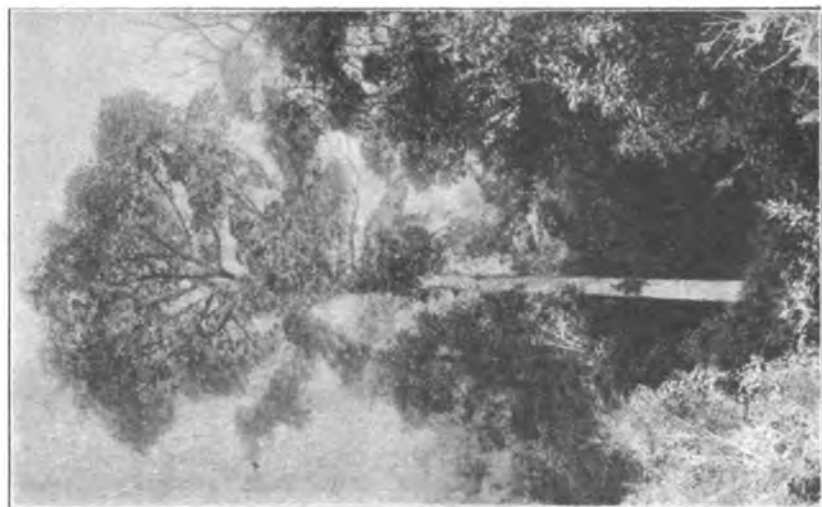


Fig. 4.—The kaffir plum (*Harpephyllum caffrum*),  
in the Pirie Forest.



Fig. 3.—*Rhus longifolia* with *Olea laurifolia*  
behind, in the Pirie Forest.

FOREST.



Fig. 5.—The wild banana (*Strelitzia augusta*), near Port St. John.



Fig. 6.—The wild date palm (*Phoenix reclinata*), with the buffels grass (*Setaria sulcata*), in the foreground, near Port St. John.

EAST COAST BUSH.





Fig. 7.—The baobab (*Adansonia digitata*) surrounded by bush composed of *Combretum porphyrolepis*, *C. apiculatum*, *Copaifera mopane*, *Acacia pallens*, *Sclerocarya caffra*, and *Terminalia pruinoides*.



Fig. 8.—*Acacia spirocarpoides* on the left, *Schotia transvaalensis* and *Loucheocarpus capissa*. Banks of Limpopo near Messina.

LIMPOPO BUSHVELD.



Fig. 9.—General view of bush from the northern slopes of the Magaliesberg.



Fig. 10.—*Burkea africana* (the wilde sering) on the left, with the vaalboom (*Terminalia sericea*) on the right and the rooibos (*Combretum Zeyheri*) in the foreground.

TRANSVAAL BUSHVELD.



Fig. 11.— The haakdoorn (*Acacia detinens*) in flower in foreground, with the haak-en-steek (*Acacia spiruaroides*) in the distance, near Kimberley.



Fig. 12.—The kameelthorn (*Acacia giraffae*) with scattered bush composed of vaalkameel (*Royena pallens*) and *Tarchonanthus camphoratus* (the vaalbos), on the Langeberg.

KALAHARI THORNVELD.



Fig. 13.—At the foot of the Twelve Apostles : *Leucospermum conocarpum* (krepelbont) and *Protea mellifera* (sugar-bush).

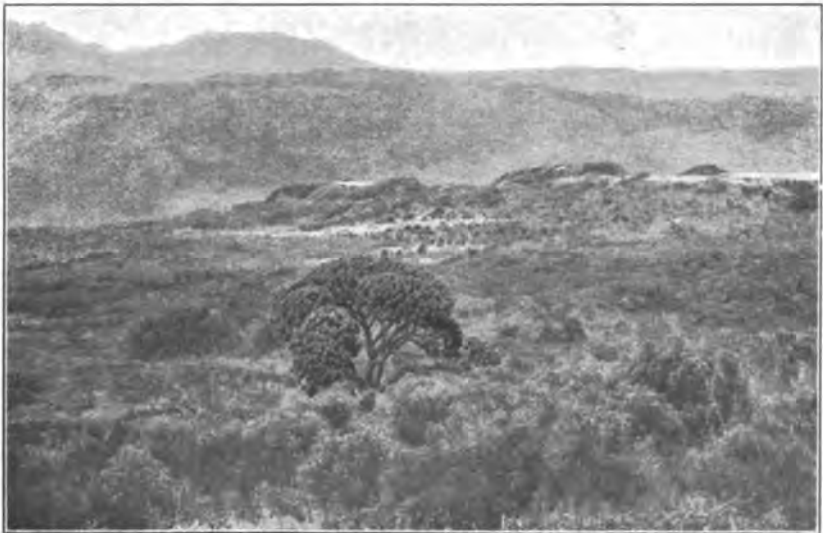


Fig. 14.—The rooistompie (*Mimetes lyrigera*) in *Leucadendron* scrub, near Glencairn.  
SCRUB.



Fig. 15. —Krenpelhout (*Leucospermum conocarpum*) association, below Little Lion's Head, Hout Bay.

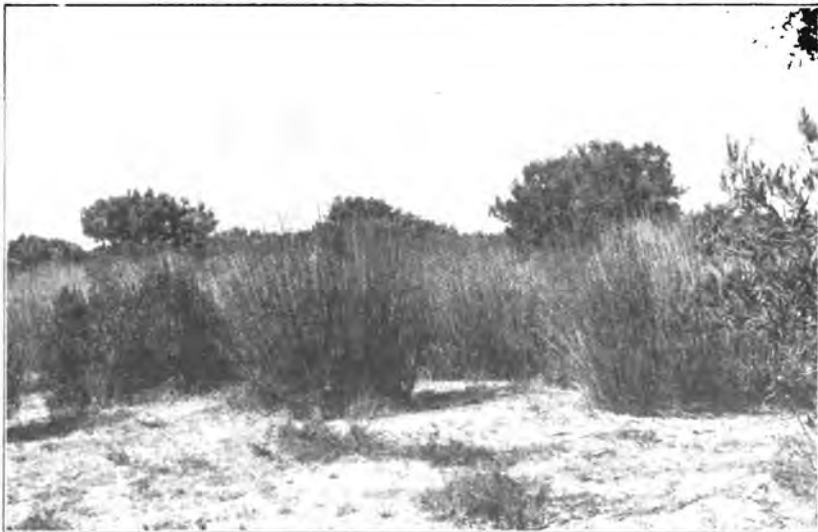


Fig. 16.—The olifants riet (*Themnochortus spicigerus*), on the Cape flats, with the introduced Port Jackson willow (*Acacia saligna*) behind.

SCRUB.



Fig. 17.—The wit melkhout (*Sideroxylon inerme*) in the strand veld, near Bredasdorp.



Fig. 18.—Palmiet (*Prionium serratum*) association, near Cape Town.

SCRUB.



Fig. 19.—The bracken (*Pteris aquilina*) amongst rooigras (*Themeda triandra*) with forest growth in kloof.



Fig. 20.—The ouchout (*Leucosidea sericea*) in *Themeda triandra* veld in Natal. *Digitaria eriantha* in the foreground.

EASTERN MOUNTAIN GRASSLAND.



Fig. 21.—The rooigras (*Themeda triandra*) with the wild scabious (*Scabiosa columbaria*) during summer, near Johannesburg.



Fig. 22.—Rooigras (*Themeda triandra*) in winter. The distant trees are the introduced black wattle (*Acacia decurrens*) near Johannesburg.

HIGH VELD.





Fig. 23.—Scattered bush composed of sweet-thorn (*Acacia Karroo*), the kiepersol (*Cussonia spicata*), and the blauwbos (*Hoyena pullens*), growing amongst the rooigras, near Kingwilliamstown.



Fig. 24. *Aloe ferox* and the sweet-thorn (*Acacia Karroo*) growing amongst the rooigras (*Themeda triandra*), near Somerset East.

EASTERN GRASSVELD.



Fig. 25.—Near Matjiesfontein. Shrublets are the harpuis bos (*Euryops multiflorus*), the bitterbos (*Chrysozoma tenuifolia*), and the rhenosterbos (*Elytropappus rhinocerotis*).



Fig. 26.—Shrubs composed of the kraalbos (*Galenia africana*), the ganna (*Salsola aphylla*), and *Mesembryanthemum* spp. The trees in the centre are the karee (*Rhus viminalis*), near Laingsburg.

KARROO.



Fig. 27.—Brak ganna (*Salsola aphylla*) association, near Prieska.



Fig. 28.—Grouseblom (*Arctotis stoechadifolia*) in flower, with driedoorn (*Rhigozum trichotomum*) on the hills, near Prieska.

UPPER KARROO.

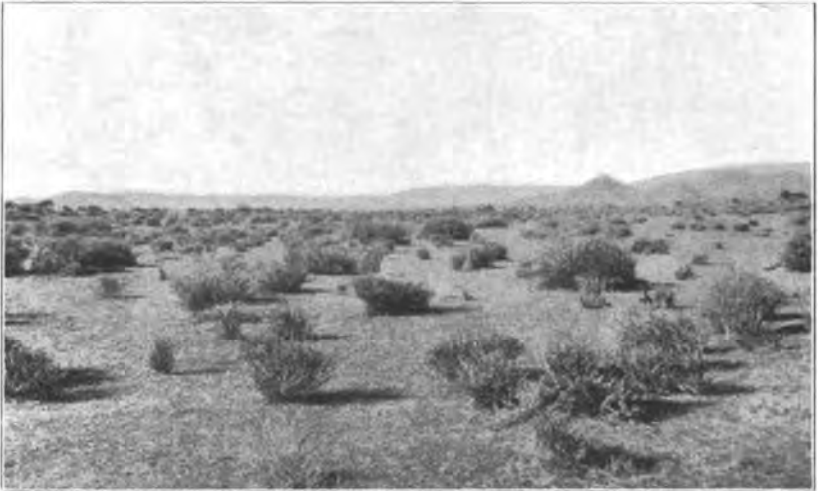


Fig. 29.—Driedboorn (*Rhigozum trichotomum*) and melkbos (*Euphorbia mauritanica*), near Uppington.



Fig. 30.—The kokerboom (*Aloe dichotoma*), near Uppington,  
NAMAQUALAND.

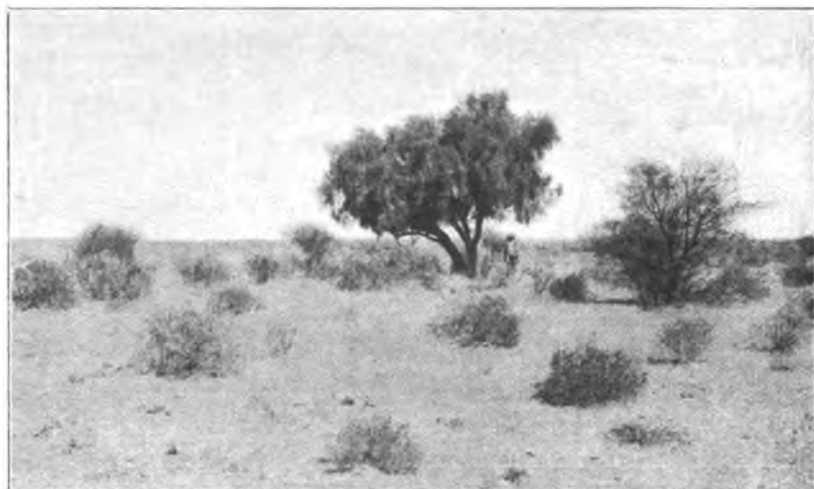


Fig. 31.—The schildpadbos (*Zygophyllum Morgsana*) in foreground, with the ebbehout (*Fuclea pseudobenus*) and the haakdoorn (*Acacia detinens*).

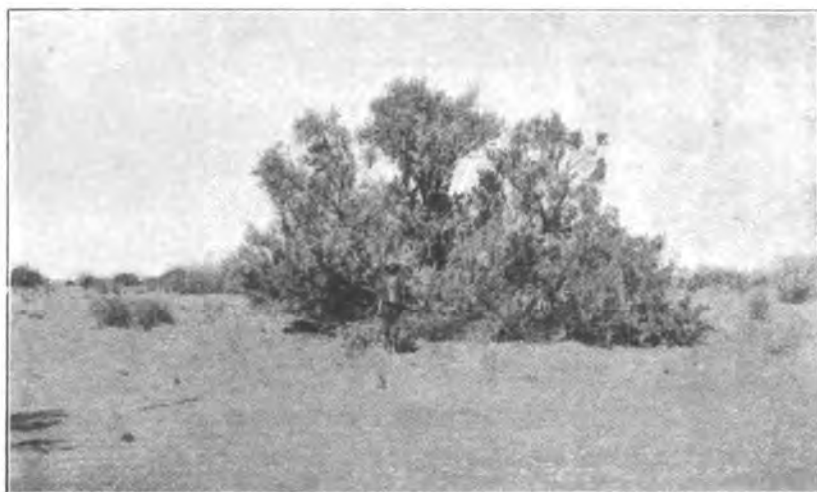


Fig. 32. The Tamarisk (*Tamarix articulata*).

NAMAQUALAND.



Fig. 33.--The vogelstruis gras (*Eragrostis spinosa*) on the sandy plains.



Fig. 34. -The aggennys Euphorbia (*Euphorbia gregaria*), in the valley of the Swakop.  
THE NAMIB.

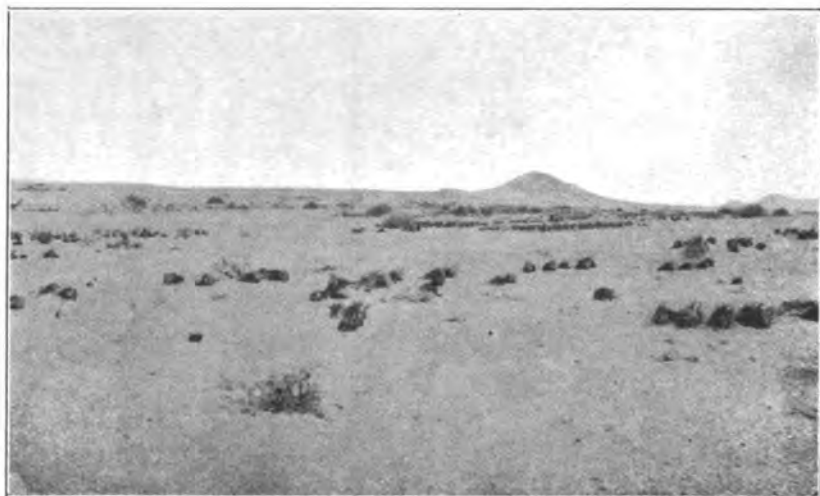


Fig. 35.—*Aloe asperifolia*, *Commiphora sasicola*, and *Euphorbia gregaria*, near Trekkoppies.



Fig. 36.—The sea-lavender (*Statice sabra*), on rocky dunes near Luderitzbucht.

THE NAMIB.

§ 7. The Plant Geography of South Africa.\*

1. **General.**—The object of the present sketch is to give a general picture of the natural vegetation of South Africa as it occurs to-day. The country in many parts is undergoing rapid development under the influence of man, and it is not unreasonable therefore to assume that the next few decades will witness considerable displacement in the character and distribution of the existing vegetation. The disturbing influence of man is, unfortunately, only too apparent in the diminution and even disappearance of some of our best timber and forest trees, and in the changed and changing character of the veld, wrought by overstocking and grass fires. Through settlement, cultivation, drainage, and irrigation, man can quickly alter the vegetation and even the original landscape of a country. In the present article only the main features of the vegetation can be dealt with, and the rough boundaries given will probably need considerable alteration and revision as soon as it has been possible to carry out a systematic botanical survey.

Since this article was first written† the Union Government has established a Botanical Survey of South Africa, and as a result of work already carried out mainly by Bews, Marloth, and Schönland it has been possible to obtain more exact information regarding the boundaries of the different botanical regions. Although it is not possible in the present article to go into the details of the information which has been obtained by these botanists, advantage has been taken of the knowledge gained by the Survey to revise both the letterpress and its accompanying vegetation chart.

Plant geographers recognize three main units of vegetation throughout the world—woodland, grassland, and desert. The chief factor responsible for this distribution is climate. On the African continent all three types are represented within the limits of the Union boundary, which for the purpose of this article may be taken to include the whole of the area lying south of latitude 22°, and embracing therefore the Tropic of Capricorn and the valley of the great Limpopo River. The greater portion thus lies within the south temperate zone, while the northern edge just reaches the tropics.

2. **Woodland Vegetation.**—Under this heading three main types may be recognized:—Forest, bush, and scrub.

(i) *Forest* (Plates I and II).—Forests cover a very small portion of South Africa. They occur mainly on the eastern side of the sub-continent, where the rainfall is greatest. Three types can be distinguished, viz., the *sub-tropical*, the *eastern mountain*, and the *Cape forests*. The *sub-tropical* forests occur along the narrow coastal strip of country which extends from Port Elizabeth northwards to beyond our boundary. They enjoy a summer rainfall of 30 to 40 inches, a fairly high and uniform temperature, and an absence of frost. Much of this forest in Natal and Zululand has now been cleared for sugar plantations, for building purposes, for firewood, etc.

The *eastern mountain* forests occur mainly on the south-eastern slopes of the Stormberg and Drakensberg ranges, at altitudes of 3,000 to 8,000 feet. They experience a summer rainfall of 30 to 60 inches, and a lower temperature range than the *sub-tropical* forests. The *Cape forests* occur on the southern slopes of the Outeniqua, Langkloof, and Zitzikamma mountains in the Knysna and Humansdorp districts of the Cape. They lie within a comparatively small zone of country which receives an annual rainfall of 25 to 50 inches fairly evenly distributed throughout the year.

Speaking of the South African forests in general, it may be said that they are usually confined to the kloofs, steep valleys, and flanks of the mountains facing the ocean. They are composed of high timber trees, which are mostly evergreen, and with the exception of the *yellowwoods*, which formed by far the greater part of the forests before the advent of man, they may be described as broad-leaved.

The principal constituents of these forests are:—

The yellowwoods.....	{ <i>Podocarpus latifolius</i> .
	{ <i>Podocarpus elongatus</i> .
The black ironwood.....	<i>Olea laurifolia</i> .
The assegai.....	<i>Curtisia faginea</i> .
The white pear.....	<i>Apodytes dimidiata</i> .
The lemon wood.....	<i>Xymalos monospora</i> .
The sneezewood.....	<i>Ptaeroxylon utile</i> .
The white stinkwood.....	<i>Celtis rhamnifolia</i> .
The saffraan.....	<i>Eleoedendron croceum</i> .
The black stinkwood.....	<i>Ocotea bullata</i> .
The white ironwood.....	<i>Toddalia lanceolata</i> .
The Cape beech.....	<i>Myrsine melanophloeos</i> .
The Kafir boom.....	<i>Erythrina caffra</i> .
The Kafir plum.....	<i>Harpephyllum caffrum</i> .

\* By I. R. Pole Evans, C.M.G., M.A. (Cantab), D.Sc., F.L.S., Chief, Division of Botany and Plant Pathology, Department of Agriculture.

† The original article will be found in previous issues of the Official Year Book (Nos. 1 to 4).



In addition to the above, the *sub-tropical* forests contain in the southern portion:—

The Cape box.....	<i>Buxus Macouani.</i>
The rooi essehout.....	<i>Trichilia emetica.</i>
The Cape ebony.....	<i>Heywoodia lucens.</i>
The box wattle.....	<i>Notobuxus natalensis.</i>

and in the northern portion—

The red Cape bæch.....	<i>Protorus longifolia.</i>
The umzimbiet.....	<i>Millettia caffra.</i>
The bastard umzimbiet....	<i>Millettia Sutherlandi.</i>
The red ivory.....	<i>Rhammus Zeyheri.</i>
The um-Quaqua.....	<i>Strychnos Gerrardi.</i>
The ebony.....	<i>Garcinia Gerrardi.</i>
The fongofongo.....	<i>Marcouranga capensis.</i>
The flat-crown.....	<i>Albizzia fastigiata.</i>

In the *eastern mountain* forests in East Griqualand, Natal and the Transvaal, the falcate yellowwood, *Podocarpus Henkelli*, occurs, and is often the dominant tree in some of those forests.

In the northern forests of the Drakensberg and Lebombo mountains, the cabbage-tree, *Antholeista zambeziaca*, which bears extraordinarily large leaves and belongs to a tropical African genus, is frequent.

The *Cape* forests also contain a large amount of the kamassi, *Gonioma kamassi*, and the wit els, *Platylophus trifoliatus*, which are almost absent from the *sub-tropical* and *eastern mountain* forests.

Lianes and epiphytes are plentiful in these forests, and consist chiefly of the wild grape, *Rhoicissus capensis*, the monkey ropes, *Secamone Thunbergii* and *Plectronia Gueinzii*, the thorny rope, *Dalbergia armata* and *Dalbergia obovata*, the davidjes, *Antizoma capensis*, and species of *Clematis*, *Senecio*, *Melothrea*, and others.

Amongst the epiphytes *Usnea barbata* occurs almost everywhere, while the orchids and ferns are composed of species of *Angraecum* and *Polypodium* respectively.

(ii) *Bush* (Plats III-VI).—Bush occupies a large portion of the South African veld. It occurs in the central, northern, and eastern parts of the country, and varies considerably both in aspect and composition. Along the coast where the rainfall is high and frost is absent, the bush is dense and sub-tropical in character; further inland, where the rainfall is lower, it is more open, while in the interior it becomes still more open and park-like. Three main types of bush may thus be recognized, viz., the *East Coast* bush, the *Limpopo* bush-veld, and the *Kalahari* thorn-veld.

The *East Coast* bush comprises a narrow littoral strip extending almost from East London to beyond the northern limits of our boundary. It has a summer rainfall of 30 to 40 inches, a fairly high uniform temperature, and seldom experiences frost. The most characteristic plants of this bush are the palms, *Hyphaene crinita* and *Phoenix reclinata*, and the wild banana, *Strelitzia augusta*. The bush is usually dense, and reaches an average height of 20-30 feet. It is composed mainly of:—

The red milkwood.....	<i>Mimusops caffra.</i>
The thorn pear.....	<i>Scolopia Zeyheri.</i>
The white pear.....	<i>Apodytes dimidiata.</i>
The wild coffee.....	<i>Kraussia lanceolata.</i>
The vaal-bos.....	<i>Parchonanthus camphoratus.</i>
The guarri.....	<i>Euclea natalensis.</i>
The Kaffir boom.....	<i>Erythrina caffra.</i>
The bitter blaar.....	<i>Brachybiena elliptica.</i>
The wild apricot.....	<i>Doryalis rotundifolia.</i>
The wild orange.....	<i>Strychnos spinosa.</i>
The dog-rose.....	<i>Oncoba Kraussiana.</i>
The amatungula.....	<i>Curissa grandiflora.</i>

and many others, and is also characterized by the great abundance of climbing plants. These include:—

The sword bean.....	<i>Entida scandens</i> and <i>Entida natalensis.</i>
The Natal grape.....	<i>Rhoicissus capensis.</i>
The Natal cherry.....	<i>Cassine natalensis.</i>
The soap plant.....	<i>Helinus ovatus.</i>
The knot grass.....	<i>Flugelliria guiniensis.</i>
The wild jasmine.....	<i>Jasminum multipartitum.</i>
The klimop.....	<i>Cynancium crassifolium.</i>

Typical plants growing in the shade of the bush are the Natal *Dracaena*, *Dracaena Hookeriana*, and the snake lily, *Haemanthus albomaculatus*.

Two other palms also occur in this bush, viz., the Pondoland coconut, *Jubacopsis caffra*, which is endemic to Pondoland and only found in a few isolated spots, and the raphia palm, *Raphia vinifera*, which is frequent in the northern portion.

Typical succulents in this bush are *Aloe saponaria*, *A. africana*, and *A. Thraskii*.

The Limpopo bushveld occupies the broad basin of the Limpopo river. It therefore covers a large part of Portuguese East Africa, the northern Transvaal, Southern Rhodesia, and the south-eastern part of Bechuanaland. For the most part it is a low-lying tract of country, the greater portion of which does not rise above 3,000 feet. The average rainfall varies in this region from 70 inches to 15 inches, and falls during the summer months. Frosts seldom occur except on the high-lying interior portion, which is over 3,000 feet.

The general aspect of the vegetation is park-like, the country being covered with trees which vary in height from 30 to 50 feet. Between the trees there is also considerable growth of bush and undershrubs. In the eastern portion a large number of the trees are evergreen, while towards the interior they become deciduous.

The most conspicuous and characteristic trees in this bush country are:—

The baobab.....	<i>Adansonia digitata</i> .
The knoppiesdoorn.....	<i>Acacia pallens</i> .
The mahogany.....	<i>Azelia quanzensis</i> .
The jakhalsbossie.....	<i>Diospyros mespiliformis</i> .
The rooi esschout.....	<i>Trichilia emetica</i> .
The maroola.....	<i>Sclerocarya caffra</i> .
The tambootie.....	<i>Ezcoecaria africana</i> .
The waterhout.....	<i>Syzygium cordatum</i> .
The hardekoel.....	<i>Combretum porphyrolepis</i> .
The huilbos.....	<i>Pelophorum africanum</i> .
The sausage-tree.....	<i>Kigelia pinnata</i> .
The kajatenhout.....	<i>Pterocarpus sericeus</i> .
The mopane.....	<i>Copaifera mopane</i> .
The fever tree.....	<i>Acacia xanthophloea</i> .
The sikkelbos.....	<i>Dichrostachys nutans</i> .
The haak-en-steek.....	<i>Acacia spirocarpoides</i> .

together with such trees as *Lonchocarpus mozambicensis*, *Croton Gabouga*, *Terminalia pruinoides*, *Combretum apiculatum*, *Balsamodendron africanum*, *Kirkia acuminata*, and *Commiphora Rehmanni*. The palms *Phoenix reclinata*, *Hyphaene crinita*, and *Hyphaene ventricosa* also occur along the rivers and vleis.

In the southern portion of this region, and merging into the high veld, is a narrow strip of country commonly referred to as the Transvaal bushveld. It lies at an altitude of 2,500 to 4,000 feet, and receives a rather erratic summer rainfall of 10-25 inches, while frosts occur regularly during the winter months. The bush is consequently not so high, and not so luxuriant. The most typical trees in this type of bush are:—

The wilde sering.....	<i>Burkea africana</i> .
The beukenhout.....	<i>Fuurea suligna</i> .
The suikerbos.....	<i>Protea abyssinica</i> .
The vaalboom.....	<i>Terminalia sericea</i> .
The maroola.....	<i>Sclerocarya caffra</i> .
The drolpeer.....	<i>Dombeya densiflora</i> .
The kipersol.....	<i>Cussonia paniculata</i> and <i>C. spicata</i> .
The respies.....	<i>Heeria paniculata</i> .
The vaalbos.....	<i>Tarchonanthus camphoratus</i> .
The kareebooms.....	<i>Rhus lancea</i> .
	<i>Rhus Gueinzii</i> .
	<i>Rhus incana</i> .
The rooibosch.....	<i>Combretum Zeyheri</i> .
The guarri.....	<i>Euclea lanceolata</i> .
The blinkblaar.....	<i>Rhammus prinoides</i> .
The moepel.....	<i>Mimusops Zeyheri</i> .
The mispel.....	<i>Vangueria infausta</i> .
The stamvrucht.....	<i>Chrysophyllum magaliskontanum</i> .
The oliepitte.....	<i>Pappia capensis</i> .
The haak-en-steek.....	<i>Acacia spirocarpoides</i> .
The kameeldoorn.....	<i>Acacia Giraffue</i> .
The haakdoorn.....	<i>Acacia delinens</i> .
The stinkpeul.....	<i>Acacia robusta</i> .
The doornboom.....	<i>Acacia karroo</i> .
The aape-sdoorn.....	<i>Acacia Burkei</i> .
The Kaffir wacht-ee-bietje.....	<i>Acacia caffra</i> .
The lekker ruikpeul.....	<i>Acacia Benthami</i> .
The sikkelbos.....	<i>Dichrostachys nutans</i> .
The blinkblaar wacht-ee-bietje.....	<i>Zizyphus mucronata</i> .

Common and typical succulents in this area are the Naabooms, *Euphorbia Cooperi* and *E. ingens*, and the Aloes, *Aloe Marlothii*, *Aloe castanea*, *Aloe Greatheadii*, *Aloe Wickensii*, *Aloe Pienaarii*, *Aloe globuligenma*, and *Aloe transvaalensis*.

Below the trees and bush throughout the whole of the Limpopo bushveld the soil is fairly uniformly covered with grasses which afford good grazing, and which belong mainly to the genera *Andropogon*, *Panicum*, *Setaria*, *Pennisetum*, *Sporobolus*, and *Eragrostis*.

The Kalahari thorn-veld extends over the central portion of South Africa. It covers the greater part of the Damaraland plateau and Bechuanaland, and spreads southwards as far as the valley of the Orange River in Griqualand West. It enjoys a summer rainfall of 10-20 inches, and is subject to great extremes of temperature. The general aspect of the country is that of scattered bush and isolated trees.

The dominant and characteristic tree throughout this area is the camelthorn, *Acacia Giraffae*, which reaches a considerable size along the dry river-beds, and which in the open country gives the veld a park-like appearance.

Other typical trees are:—

The haakdoorn.....	<i>Acacia detinens</i> .		
The haak-en-steek.....	<i>Acacia spirocarpoides</i> .		
The vaal kameeldoorn.....	<i>Acacia haematoxylon</i> .		
The doornboom.....	<i>Acacia karroo</i> .		
The thorns.....	<i>Acacia Maras</i> . <i>Acacia dulcis</i> . <i>Acacia heteracantha</i> .		
		The witgat.....	<i>Boscia Pechuellii</i> .
		The stinkbosch.....	<i>Boscia foetida</i> .
The sikkelbos.....	<i>Dichrostachys nutans</i> .		
The vaalbos.....	<i>Tarchonanthus camphoratus</i> .		
The blinkblaar-wacht een-bietje	<i>Zizyphus mucronata</i> .		
The olijvehout.....	<i>Olea verrucosa</i> .		
The zuurkaree.....	<i>Rhus tridactyla</i> .		
The kareeboom.....	<i>Rhus viminialis</i> .		
The ijstervarkbos.....	<i>Lebekia macracantha</i> .		
The rozijntjesbos.....	<i>Grewia flava</i> .		

Common shrublets are:—

The driedoorns.....	<i>Rhigozum trichotomum</i> . <i>Rhigozum obovatum</i> .
The brak ganna.....	<i>Salsola aphylla</i> .
The kapokbossie.....	<i>Erioccephalus umbellatus</i> .

and the harpuisbos, *Euryops multifidus*, while one of the most characteristic plants of the deep sandy soils is the tsamma (*Citrullus vulgaris*).

The chief grasses are *Eragrostis superba*, *E. denudata*, *E. pollens*, *Enneapogon mollis*, *Aristida uniplumis*, *A. stipiformis*, *A. mollissima*, *Pennisetum cenchroides*, *Schmidtia bulbosa*, and *Anthephora pubescens*.

(iii) *Scrub* (Plates VII—IX).—Woodland vegetation of a less pronounced type, and usually known as sclerophyllous bush, is a marked feature of the south-western coast region of the Cape.

It comprises the angular strip of country from the Olifants River on the west to the Van Staden's mountains on the east, and is bounded to the north by the Giftberg, Nardouw, Edarberg, Cold Bokkeveld, Hex River, Zwartberg, Bavarian's Kloof, and Elandsberg mountains. The country on the whole is mountainous. The mountains appear rugged and bare, but on closer inspection reveal a wealth of interesting plants. The annual rainfall varies from 20 to 40 inches, and it falls during the winter months. The summer is hot and dry. Over the greater portion of this area frosts are infrequent.

The vegetation assumes the form of shrubs and bushes, varying in height from 1 to 6 feet. Grass never forms a conspicuous feature of the veld in this area. The leaves of the plants are, as a rule, small, of a dull greyish-green colour, and leathery. The dominant shrubs and plants belong mostly to the—

Proteaceae.	Thymelaeaceae.	Rutaceae.
Ericaceae.	Penaeaceae.	Bruniaceae.
Restiaceae.	Grubbiaceae.	Ficoideae.

Large tracts of the country are covered by the rhinosterbush, *Elytropappus rhinocerotis*, which imparts to the vegetation a dull greyish-green appearance, while bulbous and tuberous plants belonging to the Iridaceae, Liliaceae, and Oxalidaceae are plentiful.

Common shrubs, bushes, and trees on the coastal dunes are:—

The waxberry.....	<i>Myrica cordifolia.</i>
The dronkbossie.....	<i>Chymococca empetroides</i>
The duinebossie.....	<i>Mundtia spinosa.</i>
The kraaibessie.....	<i>Rhus crenata.</i>
And the white milkwood...	<i>Sideroxylon inerme.</i>

The low bush and scrub on the sandy flats is comprised mainly of:—

The suikerbossies.....	{ <i>Protea mellifera.</i>
	{ <i>Protea scolymocephala.</i>
The kreupelhout.....	<i>Leucospermum conocarpum.</i>
The schaapboste.....	<i>Psoralea bracteata.</i>
The kersbos.....	<i>Euclia rucenosa.</i>
The blombos.....	<i>Metulasia muricata.</i>
And the rooi stompie.....	<i>Mimides lyrigera.</i>

On the inland valleys and plains associated with the rheenosterbush:—

The Cape sumach.....	<i>Colpoon compressum.</i>
The bosijserhout.....	<i>Dodonea Thunbergiana.</i>
The kapokbos.....	<i>Eriocephalus umbellatus.</i>
The harpuisbos.....	<i>Euryops tenuissimus.</i>

are common.

On the mountain slopes the scrub is made up chiefly of:—

The silver tree.....	<i>Leucadendron argenteum.</i>
The sugar bushes.....	{ <i>Protea mellifera.</i>
	{ <i>Protea lepidocarpodendron.</i>
	{ <i>Protea neriifolia.</i>
The waaboom.....	<i>Protea grandiflora.</i>
The olijvchout.....	<i>Olea verrucosa.</i>
The krentebos.....	<i>Rhus tomentosa.</i>
The mirting.....	<i>Myrsine africana.</i>
The kreupelhout.....	<i>Leucospermum conocarpum.</i>
The tolbos.....	<i>Leucadendron plumosum.</i>
The rooi stompie.....	<i>Mimides lyrigera.</i>
And the bakbos.....	<i>Passerina filiformis.</i>

The Palmiet, *Prionium serratum*, is peculiar to the rivers in this area, while the pig lily, *Zantedeschia aethiopica*, is characteristic of the vleis.

On the west coast, in the Cedarberg mountains, the remnants of a former forest still exist in the Clanwilliam cedars, *Widdringtonia juniperoides*.

Scrub vegetation occupies the floral region known as the south-western region (Bols), or the Cape region (Marloth).

**3. Grassland.**—Grassland vegetation covers the eastern portion of South Africa. As in woodland, so in grassland, every transition from the one type to the other is found, so that often it is difficult to define the boundaries between them. Some three main types may be recognized:—

- (i) The Eastern Mountain Grassveld.
- (ii) The High Veld.
- (iii) The Eastern Grassveld.

(i) *The Eastern Mountain Grassveld* (Plate X).— This type of vegetation occurs on the eastern slopes of the Stormberg and Drakensberg ranges at an altitude of 4,000–8,000 feet. The rainfall varies from 30 to 60 inches, while snow frequently covers the ground during the winter months. The characteristic feature of the grass is that it grows in tufts or tussocks, and it has been referred to by Bews, who has made a special study of this area, as the "mountain tussock grassveld."

Mixed with the grass, there is, as a rule, much bracken fern, *Pteris aquilina*, and composites such as *Berkheya platyptera*, *Athanasia acerosa*, *Artemisia afra*, and numerous species of *Nidorella* and *Helichrysum*.

Typical bushes scattered amongst the grass are:—

The oudhout.....	<i>Leucosidea sericea.</i>
The wit salie.....	<i>Buddleia salviaefolia.</i>
The suikerbossies.....	<i>Protea abyssinica</i> and <i>Protea Roupelliae.</i>
And the tree-fern.....	<i>Cyathia Dregei.</i>

Forests occur in the deep ravines and sheltered kloofs on the south-eastern slopes wherever there is an abundant supply of underground moisture. These have already been referred to.

The grassveld is composed of a large number of grasses which grow together in a very mixed fashion. The most characteristic are:—

<i>Hypogynium ceresiaeformis.</i>	<i>Festuca caprina.</i>
<i>Andropogon schirensis.</i>	<i>Festuca costata.</i>
<i>Andropogon amplexens.</i>	<i>Festuca longipes.</i>
<i>Heteropogon contortus.</i>	<i>Festuca scabra.</i>
<i>Andropogon filifolius.</i>	<i>Digitaria monodactyla.</i>
<i>Andropogon auctus.</i>	<i>Poa binata.</i>
<i>Hyparrhenia hirta.</i>	<i>Koeleria cristata.</i>
<i>Anthoxanthum Ecklonii.</i>	<i>Panicum natalense.</i>
<i>Avenastrum turgidulum.</i>	<i>Panicum Ecklonii.</i>
<i>Avenastrum caffrum.</i>	<i>Harpechloa capensis.</i>
<i>Agrostis suavis.</i>	and <i>Themeda triandra.</i>
<i>Axonopus semialatus</i> var. <i>Ecklonii.</i>	

(ii) *The High Veld* (Plate XI).—Typical grassland covers the greater portion of Basutoland, the Orange Free State, and the southern portion of the Transvaal. This tract of country lies at an average height of 4,000 to 5,000 feet, and is subject to a summer rainfall and dry cold winters with severe frosts. The rainfall varies from 20 to 35 inches per annum.

The high veld presents a most monotonous type of scenery, as it consists of vast rolling plains and table-lands covered with grass and devoid of indigenous trees, except in Basutoland, where the country is mountainous and hilly. Over the greater part of this area the rooi grass, *Themeda triandra*, is dominant. Other typical grasses associated with it are the besom grass, *Tristachya Rehmanni*, the turpentine grass, *Cymbopogon excavatus*, the wild oat grass, *Hypogynium ceresiaeformis*, the blauwzaad grass, *Eragrostis curvata*, the steekgrass, *Heteropogon contortus*, the zuurpol grass, *Elionurus argenteus*, and the grasses *Andropogon amplexens*, *A. schirensis*, *Schizachyrium semiberbe*, *Hyparrhenia hirta*, *Digitaria eriantha*, *D. tricholaenoides*, *Panicum natalense*, *P. serratum*, *Axonopus semialatus*, *Setaria nigrirostris*, *Tricholaena rosea*, *Eragrostis brizoides*, *Harpechloa capensis*, and *Cynodon dactylon*.

Growing amongst the grass is a large number of herbaceous plants. These seldom rise above the grass-level, and are mostly perennials which die down during the winter, and renew their growth again in spring, either before or with the first rains. Many of these are provided with large underground stems or tubers, in which they are able to store reserve water or food supplies. The best known of these are the elandsboontje, *Elephantorrhiza Burchellii*, the wild verbena, *Pentanisia variabilis*, the wild vingerpol, *Euphorbia truncata*, the wild sweetpea, *Vigna angustifolia*, *Rhus discolor*, *Acalypha depressinervis*, *Vangueria pygmaea*, *Ipomoea Greenstockii*, *Clerodendron triphyllum*, *Puchystigma Zeyheri*, and *Buphane tozicaria*.

Where the country is broken and rock outcrops occur, trees and shrubs often appear. Amongst the more typical of these may be mentioned:—

The sweet thorn.....	<i>Acacia karroo.</i>
The cat thorn.....	<i>Acacia caffra.</i>
The wit-stinkhout.....	<i>Celtis rhannifolia.</i>
The stamvruchte.....	<i>Chrysophyllum magalismsontanum.</i>
The kiepersol.....	<i>Cussonia spicata.</i>
The guarri.....	<i>Euclea lanceolata.</i>
The suikerbos.....	<i>Protea abyssinica.</i>
The mispel.....	<i>Vangueria infausta.</i>
The klapper.....	<i>Strychnos pungens.</i>
The knoppiesdoorn.....	<i>Fagura capensis</i> ; and
The blinkblaar wacht-een-bietje.	<i>Zizyphus mucronata.</i>

(iii) *The Eastern Grassveld* (Plate XII).—A somewhat different type of grassland covers the narrow strip of country which stretches from Port Elizabeth in the south to the northern portion of Natal, and which is bounded on the east by the south-east coast belt or sub-tropical forest area, and on the west by the Drakensberg range. Its average height is from 1,000 to 4,000 feet, and it rises from the coast by a series of terraces. The average rainfall is from 25 to 40 inches. The general aspect of the country is that of grassland, with scattered thorn-bush and succulents. The thorn bush is mostly sweet-thorn, *Acacia karroo*, whilst tall arborescent aloes figure prominently amongst the succulents. In the southern portion the grassland is often invaded by the karroo bush *Pentzia incana*. Vast stretches are covered by *Aloe ferox*, while *Aloe Marlothii* and *A. candelabrum* characterize the northern portion.

The arborescent *Aloe Bainsii* is peculiar to the Eastern grassveld, and extends from the southernmost limits as far north as Barberton in the Transvaal.

The dominant grasses are the rooi grass, *Themeda triandra*, the blue grass, *Andropogon hirtus*, and *Eragrostis plana*, *Sporobolus indicus*, *Andropogon amplexens*, *A. schoenanthus*, while the thorn trees consist mainly of the sweet-thorn, *Acacia karroo*, the cat-thorn, *A. caffra*, the ruikpeul, *A. Benthani*, the sikkelbos, *Dichrostachys nutans*, the cape lilac, *Ehretia hottentotica*, and the blinkblaar wacht-een-bietje, *Zizyphus mucronata*.

The arborescent Euphorbias, *E. grandidens*, *E. Coopers*, and *E. ingens*, are typical of this area, as are the Cycads *Encephalartos villosus*, *E. Lehmannii*, *E. horridus*, and *E. Friderici-guilielmi*, in the southern portion, and *Encephalartos Allensteinii*, *E. Woodii*, and *E. brachyphyllus* in the northern portion.

**4. Desert.**—Desert vegetation is well represented on the west coast and in the central portion of the Cape Province. Four well marked types can be distinguished:—

- (i) The Karroo.
- (ii) The Upper Karroo.
- (iii) Namaqualand.
- (iv) The Namib.

(i) *The Karroo* (Plate XIII).—The Karroo vegetation covers the greater part of the country which lies at an altitude of 1,000 to 3,000 feet, and which is situated between the Cape Ranges or the Folded Belt on the south, and the mountain ranges which form part of the Great Escarpment on the north. On the West it extends as far as the Olifant's River valley, while in the east the Sundays River valley may be taken as the boundary, although isolated patches of typical Karroo vegetation occur in the valleys of the Great Fish and Great Kei Rivers.

The rainfall over this area varies from 5 inches in the western portion, to 15 inches in the central and eastern portions. The soils are shallow, hard, and compact, consequently when rain does occur the run-off is, as a rule, great.

The vegetation is composed mainly of shrublets, succulents, tuberous and bulbous plants. Trees are usually absent except along the dry river-courses and the mountain slopes in the eastern portion, where the rainfall is highest.

The succulents belong chiefly to the genera *Mesembryanthemum*, *Crassula*, *Cotyledon*, *Euphorbia*, *Aloe*, *Stapelia*, *Pelargonium*, *Senecio*, and *Othonna*.

In the western Karroo the kraalbos, *Galenia africana*, and the geel melkbos, *Euphorbia mauritanica*, largely compose the vegetation.

In the central Karroo, succulent *Mesembryanthemums*, shrubby *Mesembryanthemums*, and shrublets of Karroo-bush, *Pentzia incana*, cover large tracts of veld, while the eastern Karroo supports a very pronounced type of succulent vegetation which is represented by different species of *Euphorbia*, and where *Aloe ferox* is very characteristic.

Some of the more typical plants on the hill slopes are the boterboom, *Cotyledon fascicularis*, the spekboom, *Portulacaria afra*, the plakkie, *Crassula portulaca*, *C. perfoliata*, and the aloes, *Aloe mitriformis*, *A. striata*, and *A. microstigma*.

Common trees and bushes in the south-eastern portion of the Karroo are the boerboom, *Schotia speciosa*, the guarri, *Euclea undulata*, the bosijzerhout, *Dodonea Thunbergiana*, and the num-num, *Carissa arduina*.

To the ordinary traveller the Karroo generally appears a most wearisome and uninteresting desert, whereas in fact it contains a wealth of plants of extraordinary interest. After rain, the whole vegetation suddenly bursts into life, and the country is often a blaze of colour due to numerous species of *Mesembryanthemum*, and to the blossoming of many plants belonging to different genera of the Compositae.

(ii) *The Upper Karroo* (Plate XIV).—The Upper Karroo is the high lying tract of country which rises immediately north of the Karroo. Its eastern boundary lies approximately along a line drawn between Queenstown and Pauresmith, while its western and northern limits extend as far as Bushmanland and the valley of the Orange River.

The country consists of vast treeless plains, which are only broken here and there by table-topped hills and "spitz-kops." The region is exposed to great extremes of temperature, and the soils are shallow and rock-strewn.

The vegetation is made up chiefly of shrublets and small bushes, most of which belong to the family Compositae.

The commonest of these are:—

- The bitterbossie..... *Chrysocoma tenuifolia*.
- The karroobush..... *Pentzia incana*.
- The bietouw-bos..... *Tripteris spinescens*; and
- The witbossie..... *Pteronia pullens*.

The harpuibossies, *Euryops lateriflorus* and *E. oligoglossus* are prevalent in the west, while in the north, where the grassveld appears, the besombos, *Arthrosolea polycephalus*, is often conspicuous. The yellow-flowered driedoorn, *Rhigozum trichotomum*, also occurs in dense patches, and the dark blue flowering kankerblaren, *Aptosimum depressum*, is widely distributed.

The most conspicuous succulent which composes the vegetation is the doornviig, *Mesembryanthemum spinosum*, which, when in flower, gives a deep magenta colour to the veld. Other typical succulents are the aloes, *Aloe Broomii*, *A. Schlechteri*, and *A. variegata*.

Common grasses are *Danthonia elephantina*, *Aristida scabrialvis*, *Eragrostis truncata*, *Eragrostis obtusa*, and *Enneapogon scoparius*.

(iii) *Namaqualand* (Plates XV and XVI).—The Namaqualand type of desert vegetation covers the greater part of Bushmanland, Little Namaqualand, the broad valley of the Orange River as far east as the Asbestos Mountains, and the greater part of Great Namaqualand, which lies above 2,000 feet.

The country consists of table landscapes, vast plateaux, and arid plains. The river-beds are mostly dry throughout the greater part of the year. The soil is usually bare, stony, or sandy, while the annual rainfall varies from 5 to 10 inches, and increases gradually from the west eastwards.

The general aspect of the vegetation is that of widely separated xerophytic shrubs and bushes, with a fair proportion of succulent plants in the low-lying valleys and on the rocky outcrops. Grasses do not form a conspicuous feature of the vegetation, but they occur on the high plateaux and sandy plains, where the vegetative period is short, and where they always assume a tufted habit.

The Namaqualand vegetation is characterized by the presence of the kokerboom, *Aloe dichotoma*, the giftbooms, *Euphorbia virosa* and *E. Dinteri*, *Sterculia Gurichii*, *Cissus Cramerianus* and *Pachypodium giganteum* on the hills; *Parkinsonia africana*, *Acacia hebecladi*, *A. tenax*, *A. hereroensis*, *Boscia foetida*, *Rhigozum trichotomum*, *Calophractes Alexandri*, *Sarcocaulon Burmanni*, *S. rigidum*, and *Hoodia Gordoni* on the plains; *Euphorbia gregaria* in the low-lying valleys, and along the dry river-beds the camelthorn, *Acacia Giraffae*, the anaboom, *Acacia albidia*, *Combretum primigenum*, *Euclea pseudebenum*, *Tamarix articulata*, and *Sisymbrium sparteum*.

(iv) *The Namib* (Plates XVII and XVIII).—The Namib is a low-lying tract of country on the west coast, composed largely of drifting and shifting sand dunes. It is a narrow coastal belt which stretches from the Olifants River in the south to beyond the limits of our northern boundary, and varies in width from 18–85 miles. It is subjected to the most severe desert conditions that occur in South Africa, consequently the few plants that do occur there, are highly specialized for life under such adverse circumstances. The annual rainfall varies from under 1 inch to 5 inches. Some five distinct zones can usually be distinguished in the Namib vegetation, viz., those of the *seashore*, the *rocky hills*, the *sand dunes*, the *gravel plains*, and the *rocky mountains*.

The common plants along the *seashore* are *Salsola Zeyheri*, *Chenolea diffusa*, and *Salicornia natalensis*.

On the *rocky hills* which sometimes fringe the seashore, the vegetation is more varied, and is composed of many interesting forms, such as *Mesembryanthemum opticum*, *M. suzetanum*, *M. rhopalophyllum*, *Trichocaulon cactiforme*, and *Euphorbia lignosa*. Other common plants frequently found on these hills are *Ecladium virgatum*, *Eremothamnus Marlothianus*, *Dicoma tomentosa*, *Pituranthus aphyllus*, *Augaea capensis*, and *Lebekia multiflora*.

The vegetation on the *sand dunes* is extremely scanty. Here and there tufts of vogerstruis grass, *Eragrostis spinosa* and *E. cyparoides*, are seen, while the other plants are chiefly the gannabush, *Salsola Zeyheri*, *Statice scabra*, and *Mesembryanthemum Marlothii*. Whenever underground water exists, such as occurs when the rivers are buried by the dunes, the naras, *Acanthosicyos horrida*, and the tamarisk, *Tamarix articulata*, often cover large areas of these dunes.

The *gravel plains* are the most barren and desert tracts of country in South Africa. In some places the only plant is an annual *Mesembryanthemum*; in others, nothing but a lichen growth can be seen on the small pebbles. Towards the north, isolated plants of *Aerua desertorum* occur over vast stretches, while *Welwitschia mirabilis* is found in a few localities, and is usually associated with *Zygophyllum Stapfii*. The chief grass found on these plains—when such does occur—is the vogerstruis grass, *Eragrostis spinosa*. The most characteristic plant of the gravel plains is the bushman's candle, *Sarcocaulon Burmanni*.

On the *rocky mountains*, the most conspicuous plants are the kokerboom, *Aloe dichotoma*, the giftboom, *Euphorbia virosa*, and *E. dregeana*.

For fuller and further information relating to the flora and vegetation of South Africa, the following references should be consulted:—

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## § 8. Fauna.\*

1. **General.**—South Africa is rich in certain groups of the animal world; although with the advance of settlement and colonization the numbers, particularly of certain classes, are being rapidly reduced. This is more especially the case with the magnificent game animals or antelope. Every effort should be made to preserve those species which are threatened with extinction. Much of the present knowledge of the fauna of the country is due to the early investigators, notably the Swedes—Sparman, Thunberg, Wahlberg, Victorin, and C. J. Andersson, the German—Lichtenstein—and the Englishmen—Barrow, Burchell, Sir A. Smith, Layard, Trimen, and Selous.

2. **Mammals.**—*Primates.*—These are not well represented. The Baboon, is, however, common wherever mountainous country prevails; and there are the Vervet or Blue Monkey, common throughout South Africa, the Samango Monkey of the forests in the east of the Cape of Good Hope, and the Mozambique Monkey in the north-east of the Transvaal. Of the Lemuroidea there are several species of the small *Galago* or Nightape (Nachtaapje) and two species of the larger *Otolemur* (Bushbaby); these last animals being mostly nocturnal in habit and rarely seen. *Carnivora.*—The lion is now becoming scarce, and is only found in the Bechuanaland territory, the northern parts of the Transvaal, and the Sabi Game Reserves. Leopards are still fairly common in the east of the Cape of Good Hope, and the mountainous parts of the Transvaal and South-West Africa. The Cheetah (Hunting Leopard) is found in Bechuanaland, the northern and eastern Transvaal, and South-West Africa. Several smaller species of the Felidae are to be found, the Wild or Caffre Cat, the Lynx or Caracal (Tijger Boschkat), the spotted Serval (Tijger Boschkat), and the smaller, spotted Blackfooted Cat. These are all predatory animals which are destructive to the farmers' flocks and herds. *Viverridae.*—Of this family there is the Civet Cat, five species of Genet Cats, and several species of Mongoose—the Yellow or Thick-tailed Mongoose, the Water Mongoose, and the common Mierkat (Graatje) being the best known. *Hyaenidae.*—This family is represented by the Brown and Spotted Hyenas, and the Aardwolf (Manhaar Jakhals). The Hyenas are now becoming scarce; and the Aardwolf is a harmless animal with a very weak dentition. *Canidae.*—This family includes the Jackals (the Common or Black-backed, and the Side-striped), the Silver Fox, the Cape Long-eared Fox, and the Wild Dog or Cape Hunting Dog; the Jackals and Wild Dogs are pests to farmers in many parts of the country owing to their ravages amongst small stock. *Mustelidae.*—This group comprises the Ratel, somewhat resembling the Badger, the South African Pole-cat or Striped Muishond, and the small Snake-weasel. *Pinnepedia.*—Of the Marine Carnivora there is only one species—the Cape Fur Seal, or Sea Lion, to be found on the islands of the west and south coasts. *Ungulata.*—This order is largely represented, containing thirty-four species of Antelope, the smallest being the Blue Duiker or Pete, and the largest the Eland. Other species are the Gemsbuck, the Springbuck, the Blesbuck, and its southern representative, the Bontebok—now almost extinct and only found on a few farms in the Prieska district—the Impala or Rooibok, two species of Wildebeest or Gnu. The Brindled or Blue Wildebeest is found in the Transvaal, north Bechuanaland, and South-West Africa, while the Black or White Tailed Wildebeest is practically confined to the flats of the Orange Free State, where it is getting scarcer every year, and where it only exists in a semi-domesticated state. A special reserve for this animal in the Orange Free State is urgently required. The Sable and Roan Antelopes are also getting scarcer every year and are now only to be found in the northern and north-eastern Transvaal and in northern Bechuanaland. The Bushbuck and its allies, the Inyala and Sitatunga, and the Koodoo.—The Inyala is only found in the wooded coastal belt from Zululand to Gazaland; and the Sitatunga is an inhabitant of the swamps of the Caprivi strip in South-West Africa and Northern Rhodesia. The commonest of the antelopes and the most widely distributed are the small Duikers and Steinbuck. In the Eastern Transvaal an ally of the latter is also found, viz., Sharpe's Steinbuck, a grizzled animal resembling the Cape Grijpsbok, but smaller and lighter in build. There are also two cobs found in Northern Rhodesia, the Lohw; and the Puku; the former is very common along the Kafue River. There are also the Giraffe, two species of Rhinoceros and the Hippopotamus, though the three last are becoming rare. The White or Square-mouthed Rhinoceros is to-day only found in a small area in southern Zululand and is in great danger of becoming exterminated in South Africa unless stringent measures are adopted to preserve the few remaining animals. Two species of Wild Pig are found, the Bushpig and the Warthog—the latter characterized by large warty protuberances on the face. There are three species of Zebra, one of which, the Mountain Zebra, is confined to certain mountain ranges in the Cape of Good Hope. Only about 400 of these zebras still exist, and they are fortunately protected by the Cape Provincial Council. In Zululand and Bechuanaland the lighter variety of Burchell's Zebra is found and in the Transvaal the darker form, usually called Chapman's Zebra. It is, however, still a moot point whether these varieties are distinct, and I have seen various stages of Chapman's Zebra from one

\* Contributed by A. K. Haagner, D.Sc., F.Z.S., Director of the National Zoological Gardens, Pretoria.



herd in the northern Transvaal. There is also the Hyrax or Dassie. The African Elephant is now only found in the Addo Bush and Knysna Forest of the Cape of Good Hope, and in the Sabi Reserve in the Transvaal. *Rodentia*.—Of this order there are eight families and some one hundred and fifty species. Two families are peculiar to South Africa—the *Bathyridae* and *Pedetidae* (Blasmoles and Springhares). Squirrels, Hares, one species of Porcupine, Dormice, and various species of Rats and Mice are found. *Chiroptera*.—This order comprises a number of species, including several species of Fruit Bats. *Insectivora*.—In addition to the common Shrews, and the Hedgehog, there are the Golden Moles and the Elephant Shrews, the last two being peculiar to South Africa. *Edentata*.—This class is represented by the Scaly Anteater (*I. Jzer Magaauw*) and the Aardvark, the latter resembling a pig in build, and being nocturnal in habit. *Whales*.—Several species are found in the South African seas.

3. *Birds*.—There are well over one thousand species of birds in the country, including such migratory birds as the European Swallow, the European Bee-eater, the White Stork, and others. There are twenty-one families of the Order *Passeres* (perching birds), and peculiar to South Africa, of the family *Sturnidae*, are the Oxpecker and Wattled Starling (Small Locust Bird); and of the family *Ploceidae* the Giant Whydah (Kaffir Fink), the Bishop Birds, numerous Weaver Birds and Waxbills. These latter form, with the Canaries and Seed-eaters (*Fringillidae*), the bulk of the cage birds of the country; the principal varieties being the Rooibekje or Common Waxbill, the Black-cheeked Waxbill, Violet-eared Waxbill, Cape Canary, Mountain Canary, and Golden Seedeater (*Seisje*). The three species last named are fine songsters. There are a large number of Larks, Pipits, and Wagtails; and a wonderful variety of Sunbirds, the commonest being two species of the Double-collared, the Black, the Scarlet-chested, and the Malachite. Thrushes, Warblers, and Swallows are well represented. The Picarian birds include the Swifts, five species of the Roller, Bee-eaters, Kingfishers, Mousebirds, Hornbills (*Toucan*), Woodpeckers, and the Cape, Purple-crested and Grey Louries, or Plantain-eaters. *Accipitres*.—Amongst the birds of prey are several large Eagles, including the Martial and Crowned Hawk Eagles and the Black or Verreaux's Eagle, Harriers, Sparrow-hawks, Kites, Falcons, Kestrels, and Owls, the two last named being more useful than harmful, and also the Secretary Bird, which is peculiar to Africa. *Columbidae*.—This order has numerous representatives, and includes the Green Fruit Pigeon. Game Birds and Water Fowl are well represented and comprise a large number of species of Francolin—locally called Partridges and Pheasants—Guinea-fowl, Sandgrouse, Ducks, and Geese. Three species of Crane are found, but are becoming scarce. Of the order *Impennes* is the Penguin, a peculiar flightless bird, found on the islands off the coast. The largest bird is the Ostrich, the breeding and farming of which forms a very considerable industry in the Union. It still exists in a wild state in North-West Cape Province, South-West Africa, Bechuanaland, and the Transvaal Bushveld.

4. *Reptiles and Batrachians*.—*Reptiles*.—This class comprises one species of Crocodile, many Tortoises, including the Leopard Tortoise or Berg Schildpad, Lizards, including two Monitors (the Cape or Land, and the Nile or Water Monitor), and the Thorny Lizard (Spiny-tailed); and Snakes of many kinds, including one species of Python, Puffadders, Cobras, Garter-snakes, Grass-snakes, and others. The *Batrachians* are not very numerous, the commonest being the Bull-frog, which attains a length of about eight inches. The largest Toad is *Bufo regularis*.

5. *Fish*.—The commonest freshwater Fish are *Clarias gariepinnes* (Barber), the Barbels (Yellow Fish), Tilapia (Curper), and Labeo (Silver Fish or Mud Fish). *Hydrocyon lineatus* (Tiger Fish) is found at Komatipoort; other species are the *Eutropius* (Squecker) and *Gnathonemus* (Beaked Fish); also in both tidal and inland rivers species of Eel.

6. *Land and Freshwater Invertebrates*.—*Crustaceans*.—The *Thelpusa perlata*, a large land crab, is found in most rivers and waters. There are several species of *Copepods* and numerous *Entomostraca* to be found in the freshwaters of the country. Amongst the Earthworms are the *Lambricus* and *Allolobophora*, and also an Earthworm reaching a length of over four feet. *Arachnida*.—There are a large variety of Scorpions, Solifugae (Hunting-spiders), and Trap-door Spiders.

7. *Insects*.—*Coleoptera* and *Lepidoptera*.—The species are numerous. The best represented families of the *Rhoplocera* are the *Lycanidae* (190 species), *Nymphalidae* (about 70 species), *Pieridae* (about 50 species), *Acraeidae*, and *Satyridae*. *Heterocera*.—Of these the moths *Hesperidae* are not largely represented, but the *Sphingidae* and *Noctuidae* are more numerous. Locusts, Grasshoppers (*Orthoptera*), and *Hymenoptera* (Ants, Bees, and Wasps) abound; the White Ant is common over a great part of the country, and liable to work havoc amongst trees and the timber-work of houses.

### § 9. Climate and Meteorology.\*

**1. Meteorological Organization of the Union.**—(i) *Introductory.*—The amalgamation of the various Meteorological Services followed the consummation of the Union of the Provinces, and in April, 1912, a central office with Mr. C. Stewart, B.Sc., as Chief Meteorologist, was established in Pretoria. Its functions are the collection, classification, and publication of meteorological statistics, the issue of forecasts, and the scientific investigation of the atmosphere.

(ii) *Meteorological Stations.*—On 31st March, 1921, the number and distribution of meteorological stations was as follows:—

Province.	Full Order Stations.	Barometric Stations.	Thermometric Stations.	Rainfall Stations.	Total.
Cape.....	—	46	32	901	979
Natal.....	—	8	28	100	131
Transvaal.....	1	27	40	801	869
Orange Free State...	—	7	6	518	530
<b>TOTAL.....</b>	<b>1</b>	<b>88</b>	<b>100</b>	<b>2,320</b>	<b>2,509</b>

(iii) *Forecasts and Weather Reports.*—The results of observations at 8.30 a.m. at seventy-three stations are telegraphed daily to the Forecasting Branch, and from this material a synopsis of the existing weather conditions over the Union, together with a forecast for the succeeding twenty-four hours, is issued at 11.30 a.m. This information is disseminated through the medium of the telegraphs and Press. A separate forecast for the coast is also prepared and transmitted to ships at sea by the wireless stations at Slangkop and Durban. Particulars of rainfall and extremes of temperature recorded during the preceding twenty-four hours at the telegraph reporting stations in each Province, together with similar data for the principal towns of the other Provinces, are collected and distributed to the Press by the central telegraph offices.

(iv) *Publications.*—Since January, 1920, a "Monthly Weather Report" has been issued regularly. This contains a summary of the leading features of the weather of each month, isohyetal and isobaric maps, tabular statements of temperature and rainfall and comparison with normals for a number of stations suitably distributed over the Union, together with Observer's Notes. Extracts from this are published in the *Journal of Agriculture*. Part 3 of "Climatology of the Union of South Africa," containing tabular statements of monthly and annual precipitation at all meteorological stations since their inception, with quinquennial and decennial means, normals, an analysis, seasons, etc., has been prepared and awaits publication.

(v) *Upper Air Research.*—The first "Pilot Balloon" for determining the direction and velocity of the air at various heights was liberated on 18th June, 1918, at Pretoria. On 4th January, 1920, records were obtained by this method to a height of about 58,000 feet above sea-level. A further step in the development of upper air investigation was reached on 18th February, 1922, when a "Sounding Balloon," carrying instruments for obtaining records of pressure and temperature, was dispatched.

**2. Physical Characteristics of the Union.**—An important factor in the climate of South Africa is found in the topography of the country. There are essentially four elevated plateaus; the *Coast Flats*, with an elevation of 500 to 600 feet and a variation in width from thirty miles in South-West Africa to three miles or even less in the south-east of the Cape Province; the *Little Karroo*, a narrow stretch of from fifteen to twenty miles, with an elevation of about 1,500 feet; the *Great Karroo* at an altitude of from 2,000 to 3,000 feet, and the *Northern Karroo* with an elevation of 4,000 feet, rising to 6,000 feet in the eastern portions. These plateaus are separated by steep escarpments, rising a considerable height above them.

**3. Temperature.**—One effect of this formation, and the most apparent, is to counteract the ordinary increase of temperature with decrease of latitude giving a remarkable

\* From data supplied by the Chief Meteorologist, Pretoria.

uniformity to the mean annual temperature of the different parts of the Union as shown below :—

**UNIFORMITY OF MEAN ANNUAL TEMPERATURE AT CERTAIN PLACES IN THE UNION.**

Station.	Latitude.		Longitude.		Altitude.	Mean Annual Temperature.
	Deg.	Min.	Deg.	Min.	Feet.	Deg. Fahr.
Mossel Bay.....	34	11	22	9	105	63·3
Cape Town (Royal Observatory)	33	56	18	29	40	62·0
Graaff-Reinet.....	32	16	24	32	2,460	63·6
Umtata.....	31	35	28	46	2,400	63·0
O'okiep.....	29	36	17	52	3,036	63·0
Pretoria.....	25	45	28	11	4,392	63·5

Temperature is, moreover, affected by the relatively small area of the sub-continent making it possible for the ocean to exert an influence almost, if not entirely, throughout the country, and to impart an equability to the climate which would otherwise be absent. As the western shores of the Union are, however, washed by the cold Benguela current, and the eastern and southern shores by the warm Mozambique current, different temperature effects are produced according to the influence under which a particular part may fall. This is apparent in the following table :—

**CONTRASTS IN TEMPERATURE UNDER INFLUENCE OF DIFFERENT OCEAN CURRENTS.**

Station.	Latitude.		Longitude.		Altitude.	Mean Annual Temperature.
	Deg.	Min.	Deg.	Min.	Feet.	Deg. Fahr.
Port Nolloth.....	29	16	16	52	40	57·5
Port St. Johns.....	31	38	29	35	40	66·9
Cape Town (Royal Observatory)	33	56	18	29	40	62·0
Port Elizabeth.....	33	58	25	37	176	64·0
Mouille Point.....	33	54	18	24	20	62·6
Simonstown.....	34	12	18	26	12	64·7
Ceres.....	33	22	19	20	1,493	59·4
Grahamstown.....	33	18	26	32	1,800	62·3

The mean daily range of temperature generally increases from the coast landwards, averaging about 12° F. along the *south coast* and about 16° F. on the *high veld*. The extreme shade temperatures recorded are 125° F. at Main Tembuland in January, 1903, and 6° F. at Palmietfontein in the north-east of the Cape Province in June, 1902. Frosts of sufficient severity to freeze standing waters are practically unknown along the coasts; but in the interior between May and the middle of September when, under anti-cyclonic conditions, clear skies and low humidity facilitate nocturnal radiation, they are fairly frequent. Frosts may occur as early as March and as late as October.

The mean monthly shade temperatures at a number of stations are tabulated below:—

**MEAN MONTHLY TEMPERATURES.**

(a) MAXIMUM TEMPERATURES (°F.).

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Ave.
<b>CAPR PROVINCE.</b>													
Allwal North.....	82.5	82.5	79.1	73.1	67.2	63.2	63.7	67.3	73.5	76.1	79.9	82.0	74.2
Amalienstein.....	88.5	90.0	87.0	78.4	73.3	60.0	67.1	70.8	74.7	78.5	83.0	88.0	78.8
Bedford.....	82.7	83.6	79.4	75.6	71.0	68.0	67.4	70.9	72.4	75.5	76.4	82.6	75.5
Cape Town.....	78.5	79.2	77.4	71.7	67.1	62.6	62.4	63.0	61.8	68.7	72.7	76.1	70.8
Clanwilliam.....	92.5	93.1	90.4	83.3	74.7	67.6	68.5	70.3	75.0	80.0	85.1	89.7	80.8
East London.....	75.0	74.2	73.0	72.8	70.9	70.3	70.3	69.5	68.6	69.7	71.5	73.8	71.7
Groot Drakenstein...	82.0	84.5	80.7	71.8	69.5	63.7	63.7	63.7	68.5	71.6	76.5	83.3	73.5
Hanover.....	85.2	84.5	78.7	72.1	65.0	58.9	59.4	64.8	68.0	73.7	78.4	84.0	72.2
Hopetown.....	90.7	90.9	86.4	78.8	71.8	67.1	67.3	73.3	77.5	82.8	87.6	92.3	80.5
Kenhardt.....	93.0	93.0	88.8	81.7	74.8	67.9	67.7	72.4	76.8	82.9	87.8	93.9	81.8
Kimberley.....	90.5	89.8	84.0	76.2	68.6	63.6	61.6	70.9	79.6	85.0	90.2	91.9	79.6
Kokstad.....	77.6	78.4	74.7	73.0	67.9	65.5	65.4	64.2	70.4	69.8	75.8	76.8	71.2
Matatiele.....	84.5	85.3	83.5	80.0	72.5	67.6	60.2	74.4	80.0	80.5	83.6	85.1	78.2
Mossel Bay.....	75.7	75.5	74.6	71.2	68.6	66.3	66.3	65.9	65.6	68.0	71.2	73.9	70.2
O'okiep.....	83.5	85.3	83.7	76.8	73.0	63.8	63.4	65.4	70.8	74.4	77.7	84.5	75.1
Port Elizabeth.....	75.4	75.8	75.2	72.4	69.9	67.1	67.4	67.2	66.6	68.3	71.1	73.8	70.2
Port St. Johns.....	79.2	79.7	79.3	77.6	74.2	72.9	72.5	72.0	73.1	73.4	75.9	78.7	75.7
Queenstown.....	81.0	81.4	79.6	74.7	69.0	65.3	65.9	67.2	72.6	76.0	80.8	81.0	74.5
Wynberg.....	76.1	77.9	76.9	72.8	68.9	65.3	64.8	65.5	67.4	68.9	71.6	75.5	70.6
<b>NATAL.</b>													
Dundee.....	86.3	84.3	82.3	79.8	73.4	71.6	74.4	74.0	70.8	81.4	85.1	87.9	80.6
Durban.....	84.9	85.0	84.3	81.5	77.6	75.5	75.3	75.8	76.5	77.8	81.2	83.4	79.6
Pietermaritzburg.....	85.2	85.3	82.7	79.8	70.0	73.8	74.8	76.7	78.7	80.1	81.3	84.1	79.8
<b>ZULULAND.</b>													
Hiabisa.....	84.7	82.8	80.1	80.2	76.9	75.1	75.7	77.9	78.0	78.0	79.2	81.3	79.9
<b>TRANSVAAL.</b>													
Belfast.....	73.8	72.8	70.8	68.7	65.6	61.2	60.3	66.1	70.2	71.2	71.9	71.9	68.7
Johannesburg.....	75.1	73.4	71.2	68.2	63.3	69.3	69.8	65.4	70.2	72.4	73.2	74.8	68.8
Komatipoort.....	91.8	90.6	88.0	85.3	82.0	79.5	79.3	82.4	87.7	80.4	88.6	93.0	86.6
Louis Trichardt.....	79.5	78.8	77.7	74.8	72.4	69.3	68.4	73.6	77.1	78.4	79.4	82.2	75.9
Pietersburg.....	81.5	80.2	78.2	77.2	73.6	69.8	69.0	71.5	78.2	80.1	80.5	81.7	77.0
Potchefstroom.....	83.8	82.0	79.7	76.2	70.8	67.2	66.8	72.0	78.4	80.8	82.4	84.5	77.1
Pretoria.....	83.8	82.2	80.1	78.0	72.7	69.6	68.6	73.7	79.4	82.3	82.4	84.0	78.0
Volkstrand.....	75.0	74.3	71.8	69.5	65.2	61.8	61.3	67.0	71.3	73.2	73.4	76.8	70.9
Zeerust.....	86.9	84.6	81.7	78.6	72.8	67.6	68.1	74.4	79.6	83.7	85.8	87.9	79.3
<b>ORANGE FREE STATE.</b>													
Bethulle.....	87.2	85.0	80.2	73.7	66.9	61.0	61.9	67.9	73.7	77.7	83.1	86.6	75.4
Bloemfontein.....	84.6	82.9	78.3	72.4	65.6	60.7	61.9	66.9	73.2	77.2	81.5	85.3	74.2
Harrismith.....	76.0	75.7	72.5	69.2	62.4	61.1	61.9	64.3	67.5	73.7	76.5	78.9	70.6
Lindley.....	81.3	79.9	77.3	72.8	66.2	63.7	64.7	69.1	75.0	74.9	79.9	79.9	73.7
<b>BSUTOLAND.</b>													
Teyateyaneng.....	82.6	82.4	77.0	72.6	67.5	60.9	61.7	66.7	69.1	76.8	79.2	82.5	73.3
<b>SWAZILAND.</b>													
Mbabane.....	76.3	75.3	73.2	72.2	70.2	67.0	60.5	69.5	72.3	73.8	74.3	76.0	72.2

## (b) MINIMUM TEMPERATURES (°F.).

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
<b>CAPE PROVINCE.</b>													
Allwal North.....	56.7	56.1	53.1	46.0	36.3	30.0	29.1	34.5	39.9	46.0	50.9	54.6	44.4
Amalfenstein.....	59.1	59.9	59.4	49.8	42.4	36.7	35.3	39.5	43.0	48.2	52.2	57.3	48.7
Bedford.....	56.4	57.8	64.2	50.8	45.8	42.8	41.6	43.0	44.8	47.6	49.7	54.0	49.9
Cape Town.....	60.1	60.2	58.7	54.4	50.7	48.3	47.2	48.1	49.3	52.6	55.6	58.5	53.6
Clanwilliam.....	58.8	58.6	57.5	51.1	46.8	42.2	40.0	41.4	44.1	49.3	53.6	58.3	50.0
East London.....	64.9	64.8	63.5	59.7	54.0	50.6	49.7	52.3	55.1	57.8	60.2	63.2	58.0
Groot Drakenstein.....	58.4	60.8	58.1	53.2	48.0	45.0	44.2	45.0	48.1	50.6	52.4	57.4	51.7
Hanover.....	53.7	54.2	49.4	42.5	35.1	26.9	26.4	30.6	36.2	42.5	48.2	53.5	41.8
Hopetown.....	61.7	62.2	58.0	48.8	39.5	33.0	31.7	32.9	42.7	50.0	54.0	61.7	48.0
Keuhardt.....	62.9	64.1	60.8	50.6	42.1	36.4	33.9	39.2	46.2	52.1	55.1	62.9	50.5
Kimberley.....	61.0	60.6	59.4	51.0	43.0	36.7	36.5	40.1	45.2	51.5	56.2	60.5	50.1
Korstad.....	55.2	54.4	52.4	45.8	39.5	35.4	32.4	35.4	43.1	46.2	51.2	50.5	45.1
Mataiele.....	54.8	54.0	52.9	46.0	37.6	32.2	33.4	38.1	42.2	47.8	50.3	54.4	45.4
Mossel Bay.....	63.8	63.7	62.6	57.6	53.7	50.6	49.5	50.1	51.3	54.7	58.3	61.1	56.4
O'okiep.....	56.9	59.1	56.2	54.7	48.9	44.1	43.0	42.3	47.0	48.7	50.6	58.2	50.3
Port Elizabeth.....	64.4	63.8	62.8	58.6	54.4	51.1	50.3	51.4	52.8	55.7	59.1	61.6	57.2
Port St. Johns.....	63.1	65.0	64.0	59.3	54.9	51.5	50.5	51.3	55.0	57.4	61.5	64.2	58.1
Queenstown.....	57.9	58.4	56.6	49.1	41.4	37.2	37.0	39.6	43.9	48.4	52.7	55.9	48.2
Wynberg.....	58.2	59.7	57.4	53.4	50.4	47.2	47.2	47.8	49.1	50.8	52.9	57.1	52.6
<b>NATAL.</b>													
Dundee.....	58.5	55.5	55.0	48.0	38.4	33.2	34.2	39.8	45.8	52.2	53.5	59.5	47.8
Durban.....	68.2	68.3	67.8	63.3	58.2	54.3	53.8	56.1	58.7	61.6	64.3	66.2	61.7
Pietermaritzburg.....	61.4	61.5	60.2	63.7	47.8	41.3	42.4	48.0	51.6	51.7	56.9	59.6	53.3
<b>ZULULAND.</b>													
Hlabisa.....	64.1	64.1	59.8	58.9	55.9	52.2	52.1	53.3	55.4	57.0	60.1	62.0	57.9
<b>TRANSVAAL.</b>													
Belfast.....	52.2	52.1	48.8	43.0	36.9	30.9	29.3	32.9	40.1	44.9	48.4	50.5	42.5
Johannesburg.....	55.7	55.5	53.5	49.5	45.6	41.4	41.0	43.9	48.0	50.4	52.8	54.8	49.3
Komatipoort.....	69.2	68.2	65.9	60.7	53.6	46.7	46.7	52.5	57.8	62.6	65.3	68.3	59.8
Louis Trichardt.....	61.6	61.0	59.3	53.6	47.8	44.2	43.0	46.3	55.0	56.1	58.7	61.6	54.1
Pietersburg.....	69.9	68.9	65.8	49.5	42.6	37.9	36.2	40.7	47.6	53.7	56.5	58.7	49.8
Potchefstroom.....	56.8	56.6	54.1	44.8	37.8	31.3	31.0	35.4	43.8	48.9	52.3	55.7	45.7
Pretoria.....	59.6	59.1	55.5	47.8	40.6	35.5	34.8	39.6	47.4	53.0	56.0	58.3	44.1
Volkersrust.....	54.3	53.2	50.1	43.2	36.6	30.4	29.1	34.8	42.7	47.6	50.4	53.0	43.8
Zeerust.....	62.0	61.3	57.1	48.8	40.1	33.4	32.7	38.8	47.1	54.2	58.2	61.5	49.6
<b>ORANGE FREE STATE.</b>													
Bethulle.....	59.4	58.8	53.5	46.4	39.3	32.0	32.2	36.0	42.8	47.8	53.1	59.2	46.7
Rooifontein.....	60.3	59.5	55.1	47.4	40.3	33.5	33.2	36.9	45.0	49.4	54.0	58.5	47.8
Harrismith.....	52.9	53.4	49.6	42.8	35.8	30.3	30.8	33.0	41.8	45.7	49.2	51.8	43.1
Lindley.....	55.7	57.0	53.3	44.8	36.7	29.8	29.4	32.9	43.1	48.2	51.9	55.4	44.9
<b>BASUTOLAND.</b>													
Teyateyaneng.....	54.4	53.6	49.3	44.3	37.2	30.8	30.9	35.5	40.2	45.1	47.0	52.0	43.4
<b>SWAZILAND.</b>													
Mbabane.....	58.5	58.4	55.9	52.9	49.0	45.1	44.4	47.6	50.2	52.9	55.0	56.7	52.2

(C) MEAN TEMPERATURES (°F).

Stations.	Jan.	Feb.	Mar.	Apr.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Aver.
<b>CAPE PROVINCE.</b>													
Allwal North.....	69.6	69.2	66.1	59.0	51.8	46.6	46.4	50.0	56.7	61.0	65.4	68.8	59.2
Amalienstein.....	73.8	75.0	73.2	64.1	57.8	51.6	51.2	55.2	59.3	63.6	67.6	73.0	63.7
Bedford.....	69.0	70.7	66.9	63.2	58.7	55.2	51.5	57.0	58.6	61.6	63.0	68.3	62.2
Cape Town.....	60.3	69.7	68.0	63.1	58.9	55.5	54.8	55.6	57.0	60.7	64.2	67.3	62.0
Clanwilliam.....	75.6	75.8	73.8	67.2	60.8	64.9	64.2	55.8	59.6	64.6	69.4	73.2	65.4
East London.....	70.0	69.5	68.7	66.2	62.4	60.4	60.0	60.9	61.8	63.8	65.8	68.5	64.8
Groot Drakenstein.....	70.2	72.6	69.4	64.0	58.8	54.4	54.0	54.4	58.3	61.1	64.4	70.4	62.5
Hanover.....	69.4	69.4	64.0	57.3	50.0	42.9	42.9	47.7	52.4	58.1	63.3	69.2	57.2
Hopetown.....	76.2	76.6	72.2	63.8	56.6	50.0	49.5	53.1	60.1	66.4	70.8	77.0	64.3
Kenhardt.....	78.4	78.6	74.8	66.2	58.4	52.2	51.3	55.8	61.5	67.5	71.4	77.4	63.1
Kimbeley.....	75.8	75.2	72.0	63.6	55.8	50.2	50.6	55.5	62.4	68.2	73.2	75.7	64.8
Koetstul.....	66.4	66.4	63.0	59.4	53.7	50.4	48.0	49.8	56.8	58.0	63.5	63.2	58.3
Makatielo.....	69.6	69.6	68.2	63.0	55.0	49.9	51.3	56.2	61.1	64.2	67.0	69.8	62.0
Mossel Bay.....	69.8	69.6	68.6	64.4	61.2	58.4	57.9	58.0	58.4	61.4	64.8	67.5	63.3
Ookiep.....	70.2	72.2	70.0	65.8	61.0	54.0	53.5	53.8	58.8	61.6	64.2	71.4	63.0
Port Elizabeth.....	69.0	69.8	69.0	65.5	62.2	59.1	58.8	59.3	59.7	62.0	65.1	67.7	64.0
Port St. Johns.....	71.2	72.4	71.6	68.4	64.6	62.2	61.5	61.6	64.0	65.4	68.7	71.4	66.9
Queenstown.....	69.4	69.0	68.1	61.9	55.2	51.2	51.4	53.4	58.2	62.2	66.8	68.4	61.3
Wynberg.....	67.2	68.8	67.2	62.8	59.6	56.2	56.0	56.6	58.2	59.8	62.2	66.3	61.7
<b>NATAL.</b>													
Dundee.....	72.4	69.9	68.6	63.0	55.0	52.4	51.8	56.9	62.8	66.8	69.3	73.7	63.5
Durban.....	70.6	76.6	76.0	72.2	67.8	64.9	64.6	66.0	67.6	69.7	72.8	71.8	70.8
Pietermaritzburg.....	73.8	73.4	71.4	67.8	61.1	57.6	58.6	62.4	65.2	67.4	69.4	71.8	66.0
<b>ZULULAND.</b>													
Hlabisa.....	74.4	73.4	70.0	69.6	66.1	63.7	63.0	65.6	66.7	67.5	69.0	71.0	68.5
<b>TRANSVAAL.</b>													
Komatipoort.....	80.5	79.4	77.0	73.0	68.1	63.1	62.9	67.4	72.7	76.0	76.9	80.6	73.1
Beaufort.....	63.0	62.4	59.8	55.9	51.3	46.1	44.8	49.5	55.1	58.1	60.2	61.2	55.6
Zeerust.....	74.4	72.6	69.4	63.7	56.5	50.5	50.4	56.6	63.4	66.0	72.0	74.7	64.4
Potchefstroom.....	70.2	69.8	66.8	60.5	54.3	49.2	49.0	51.8	61.1	64.8	67.5	70.1	61.4
Pretoria.....	71.8	70.8	67.8	62.9	56.7	52.6	51.7	56.7	63.4	67.6	69.2	71.1	63.5
Volkmarst.....	64.6	63.8	61.0	56.4	50.9	46.1	45.2	50.9	57.0	60.4	61.9	64.9	56.9
Johannesburg.....	65.4	64.4	62.3	58.5	54.5	50.4	50.4	54.6	59.1	61.4	63.0	64.8	60.0
Louis Trichardt.....	70.6	69.9	68.8	61.2	60.1	56.8	55.7	60.0	66.0	67.2	69.0	71.0	65.0
Pietersburg.....	70.7	69.6	67.0	63.3	58.1	53.8	52.6	57.6	62.8	66.9	68.5	70.2	63.4
<b>ORANGE FREE STATE.</b>													
Bethulle.....	73.8	71.9	66.8	60.0	53.1	46.5	47.0	52.0	58.2	62.8	68.1	72.9	61.6
Bloemfontein.....	72.5	71.2	66.7	59.9	53.0	47.1	47.6	51.9	59.1	63.3	67.7	71.9	60.9
Harrismith.....	64.8	64.6	61.0	56.0	49.1	45.7	46.4	49.0	54.6	59.7	62.8	65.4	56.5
Lindley.....	68.5	68.4	65.3	68.8	51.4	46.8	47.0	51.0	59.0	61.6	65.9	67.6	59.2
<b>BASUTOLAND.</b>													
Teyateyaneng.....	68.5	68.0	63.2	58.4	52.4	45.8	46.3	51.1	54.8	61.0	63.1	67.4	58.3
<b>SWAZILAND.</b>													
Mbabane.....	67.4	66.8	64.6	62.5	59.6	56.1	55.5	58.4	61.2	63.3	64.6	66.4	62.2

4. **Humidity.**—Although the amount of water vapour in the air decreases from the coast inland the north-easterly and easterly winds of the summer months convey to the high *veld* more moisture than is probably present on the same plane at the coast. The curves of Fig. 1 below illustrate this, and in some measure indicate to what extent the air is deprived of moisture in mounting the plateaus. Fig. 3 represents graphically the mean monthly maximum and minimum temperatures and relative humidity at eight stations.

5. **Rainfall.**—The average annual rainfall over the Union is approximately 19 inches, which is distributed as follows:—

**AREAS SUBJECT TO AVERAGE ANNUAL RAINFALLS  
BETWEEN CERTAIN LIMITS.**

Average Annual Rainfall.	Cape.	Natal.	Transvaal.	Orange Free State.	Union.
Inches.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.	Sq. miles.
Under 5.0.....	6,501	—	—	—	6,501
5.1 to 15.0.....	177,677	—	—	573	178,250
15.1 " 25.0.....	96,817	—	70,764	32,660	170,241
25.1 " 35.0.....	21,771	21,227	33,632	17,156	93,786
35.1 " 50.0.....	1,071	14,057	5,536	—	23,664
Over 50.....	129	—	518	—	647
Total Area.....	276,966	35,284	110,450	50,389	473,089

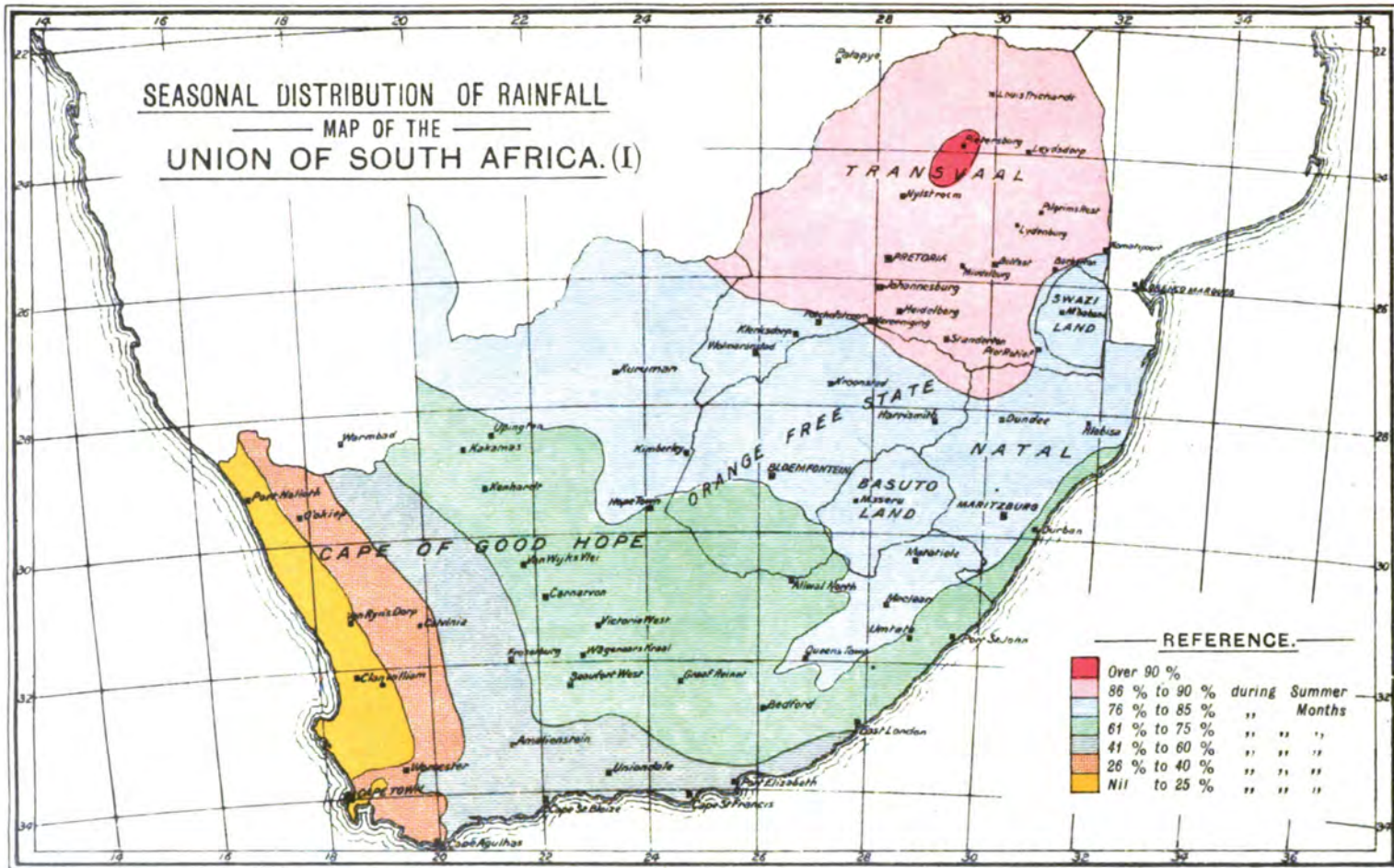
The positions of these areas are shown in Map II, and it is seen that there is a general decrease in amount of precipitation from east to west, excepting in the south where the effect of winter rains are apparent. Further information concerning the distribution may be obtained from table (i) below, giving records for stations of continuous standing for ten years and over.

With regard to seasonal distribution, Map I shows that within the Union are regions of well-defined summer and winter rainfall, precipitation occurring almost entirely during the months October to March in the north-east and during the months April to September in the south-west.

This distribution is related to the movement and action of the permanent anti-cyclones which lie off the west coast of the Cape Province and off the east coast between the Cape Province and Australia. This belt of high pressure migrates northwards and southwards with the sun, and in addition the centres or cores have a lateral displacement from month to month. During April and May that to the east of the Cape Province moves westwards to the African coasts, while that on the west coast moves eastwards. At the same time an important secondary core appears over the land, where barometric pressure increases until June or July. The movement northwards of the anti-cyclonic belt brings the west and south-west coastal regions of the Cape Province under the influence of A-shaped depressions connected with the cyclonic system to the south; and it is the westerly winds associated with the rear of these depressions which are the rain-bearers for the west and south-west coastal districts of the Cape Province, where over 75 per cent. of the annual precipitation occurs during the winter. As will be seen from Map II the area thus watered is not extensive. Originating in the cold parts of the Atlantic the capacity of these westerly winds for moisture is small, and after condensation, forced by the elevated ground which forms the western boundaries of the plateaus, they soon cease to act as rain-bearers.

In September and October the high pressure moves off the land, merging into the South Indian anti-cyclone, which then returns eastwards to its summer position just off the west coast of Australia, and the South Atlantic anti-cyclone which lies a short distance from the west coast of the Cape Province. The north-easterly and easterly winds associated

SEASONAL DISTRIBUTION OF RAINFALL  
 MAP OF THE  
 UNION OF SOUTH AFRICA. (I)

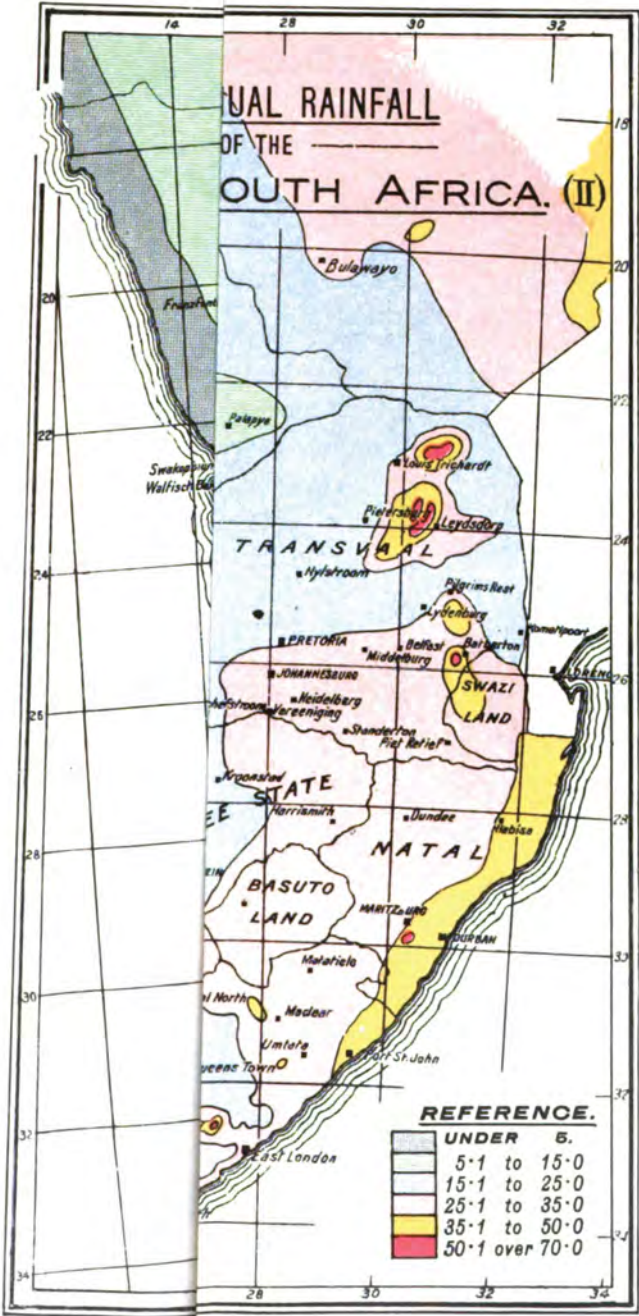


REFERENCE.

Over 90 %	during Summer
86 % to 90 %	Months
76 % to 85 %	" " "
61 % to 75 %	" " "
41 % to 60 %	" " "
26 % to 40 %	" " "
Nil to 25 %	" " "









with the former introduce the moisture which is deposited over the greater part of the Union during the summer months. These winds when leaving the Indian Ocean are warm and their capacity for moisture is great; and although they deposit a considerable amount of moisture in ascending the plateaus (evidence of which is seen in the mist belts of the more easterly parts of the Union), and so decrease their absolute humidity (Fig. 1), they still reach the interior with a comparatively high relative humidity (Figs. 1 and 3).

Fig. 2 presents graphically the rainfall at the Royal Observatory, Cape Town, and the Union Observatory, Johannesburg, respectively situated in typical winter and summer rainfall areas.

As an indication of the great fluctuations in the amount of precipitation at the same place, table (ii), containing the yearly records for nine stations since their inception, may be referred to. It will be noticed that in only one case is the difference between the lowest and highest amounts less than the average annual fall.

(i) MEAN ANNUAL RAINFALL.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
CAPE OF GOOD HOPE.							
Aberdeen (Bedford).....	24-03	32-28	1878-1915	12-52	43	71	29
Aberdeen (Gaal).....	24-03	32-28	1881-1915	12-14	41	60	31
Aberdeen Road.....	24-20	32-46	1885-1915	10-11	29	66	34
Adefalde.....	26-18	32-43	1891-1915	19-10	81	67	33
Albert Vale.....	26-00	32-45	1903-1915	18-65	84	66	34
Alexandria.....	26-25	33-38	1885-1915	27-55	75	52	48
Alice.....	26-50	32-47	1878-1900	22-81	73	66	34
Alicedale.....	26-05	33-20	1878-1915	17-92	49	67	43
Allwal North (Gaal).....	26-40	30-42	1883-1915	21-14	59	74	26
Allwal North (Brown).....	26-40	30-42	1880-1907	24-36	81	75	25
Amallentuin.....	21-29	33-29	1869-1914	13-07	61	52	48
Anenous.....	17-35	29-14	1900-1915	5-55	28	24	76
Armadale.....	25-28	33-26	1897-1915	10-19	40	59	41
Atherstone.....	26-25	33-19	1881-1915	22-70	86	61	39
Avoca.....	23-53	29-00	1833-1909	13-35	37	78	22
Avoca.....	27-32	30-15	1888-1915	39-09	96	70	30
Baakenrug.....	23-16	32-18	1890-1915	9-19	25	65	35
Balfour.....	26-40	32-31	1886-1914	28-08	68	72	28
Barkly East.....	27-36	30-58	1884-1915	23-60	77	73	27
Barkly West.....	24-32	28-32	1884-1915	17-75	61	78	22
Bazeya.....	28-24	21-35	1901-1915	52-20	116	79	21
Beaufort West.....	22-36	32-21	1878-1915	9-46	36	66	34
Bedford (Gaal).....	26-06	32-41	1878-1915	27-98	103	69	31
Bedford (Hall).....	26-06	32-41	1892-1915	26-83	127	68	32
Bellbank.....	24-24	28-08	1893-1915	17-18	11	83	17
Berlin.....	27-38	32-53	1892-1915	23-33	16	69	31
Bethesda Road.....	24-16	31-54	1900-1915	11-02	30	70	30
Blaauwberg Strand.....	18-28	33-17	1895-1915	15-02	93	23	77
Blaney.....	27-31	32-50	1882-1915	20-69	53	67	33
Blikana.....	27-36	30-34	1890-1915	29-13	90	75	25
Bloomhof.....	24-43	31-59	1899-1915	11-19	39	65	35
Boetsiep.....	21-25	27-50	1886-1915	20-60	52	83	17
Belo.....	27-38	32-33	1898-1915	23-22	64	74	26
Boschfontein.....	24-36	30-47	1892-1906	12-39	39	69	31
Brakfontein.....	23-02	31-49	1872-1915	10-06	35	71	29
Bredasdorp.....	20-02	34-33	1878-1915	19-81	85	42	58
Britstown.....	23-31	30-35	1887-1915	11-31	33	65	35
Buffelenk.....	23-10	33-53	1890-1915	47-60	124	55	45
Bullfontein.....	26-40	31-22	1885-1915	21-08	54	73	27
Burchersdorp (Gaal).....	26-19	31-02	1887-1915	29-71	57	73	27
Burchersdorp (Le Roux).....	26-19	31-02	1878-1901	20-84	64	71	29
Buthrurwh.....	28-08	32-21	1880-1915	25-06	93	70	30
Cala.....	27-43	31-31	1887-1915	24-22	60	78	22
Calendon.....	19-25	34-11	1877-1915	20-68	92	34	66
Callitzdorp.....	21-42	33-32	1877-1915	8-52	31	57	43
Calvinia.....	19-46	31-29	1878-1915	7-74	29	31	69
Cannbell.....	23-43	28-48	1885-1907	13-64	42	78	22
Camps Bay.....	18-23	33-57	1890-1915	24-25	86	25	75
Cape Azulias.....	20-01	34-50	1881-1915	16-94	89	33	67
Cape Point.....	18-30	34-21	1900-1915	12-31	95	27	73
Cape St Francis.....	24-50	34-12	1880-1915	26-73	92	40	60

## (i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
CAPE OF GOOD HOPE—(continued).							
<b>Cape Town—</b>							
Fire Station.....	18-25	33-55	1862-1915	25-64	91	22	78
Hospital.....	18-26	33-56	1905-1915	21-74	108	23	77
Molteno Reservoir.....	18-24	33-54	1887-1915	33-16	104	23	77
Platteklip.....	18-25	33-57	1882-1915	45-12	110	24	76
Royal Observatory.....	18-20	33-56	1811-1915	25-60	97	23	77
Sea Point Hall.....	18-23	33-56	1900-1915	24-45	100	27	73
Signal Hill.....	18-24	33-55	1882-1915	18-03	87	23	77
South African College.....	18-25	33-55	1885-1911	31-40	94	23	77
Woodstock Hall.....	18-27	33-59	1904-1915	28-07	112	26	74
Carnarvon.....	22-08	30-58	1878-1915	8-01	29	06	34
Carnarvon Farm.....	20-40	31-34	1880-1915	20-59	76	70	24
Cata.....	27-08	32-35	1890-1915	38-79	89	72	28
Cathcart (Forest).....	27-00	32-18	1905-1915	25-14	84	77	23
Cathcart (Gaal).....	27-10	32-18	1879-1915	26-17	72	76	24
Centlivres.....	25-30	33-30	1890-1915	13-48	45	53	47
Ceres.....	19-10	33-22	1877-1915	41-29	67	23	77
Cheviot Fells.....	26-05	32-10	1891-1915	18-60	65	61	39
Chschuurat.....	27-58	32-58	1900-1915	33-37	96	02	38
Clanwilliam (Downes).....	16-55	32-10	1868-1915	8-57	46	21	79
Clanwilliam (Gaal).....	18-55	32-10	1860-1915	8-59	46	22	78
Claremont (Bishops Court).....	18-27	33-59	1879-1913	65-85	111	22	78
Claremont (The Grove).....	18-28	33-58	1877-1909	50-12	102	18	82
Cofimvaba.....	37-35	32-00	1894-1915	24-43	76	70	21
Colerberg.....	25-07	30-43	1878-1915	15-65	46	70	30
Colonies Plaats.....	24-19	32-00	1883-1902	13-72	48	70	30
Concordia.....	17-56	29-32	1890-1915	6-40	20	30	46
Concordia.....	23-03	34-02	1891-1915	37-90	113	54	46
Contest.....	27-15	31-58	1886-1915	20-20	69	75	25
Cookhouse.....	25-48	32-44	1898-1915	16-19	50	71	29
Corndale.....	21-03	32-23	1895-1909	12-29	40	73	27
Cradoek (Gaal).....	25-38	32-10	1878-1915	14-76	49	71	29
Cradoek (Station).....	25-38	32-10	1881-1909	15-20	58	68	32
Cranmerr.....	25-06	32-30	1883-1915	12-89	43	65	36
Crawley.....	27-16	32-25	1888-1915	18-62	52	76	24
Cullenale.....	26-12	32-30	1884-1915	24-47	73	69	31
Colerstock.....	25-27	31-33	1898-1915	11-21	33	73	27
Cwebe.....	28-55	32-12	1901-1915	40-91	78	67	33
Cyphergat.....	26-25	31-27	1885-1915	21-16	50	73	27
Daggaboer's Nek.....	25-52	32-32	1887-1915	18-70	62	67	33
Danger Point.....	19-18	34-37	1901-1915	24-25	93	31	69
De Aar.....	24-01	30-30	1888-1915	13-31	39	69	31
De Doorns.....	19-44	33-29	1901-1915	11-66	27	21	79
De Hoop.....	19-56	33-46	1898-1915	16-42	27	43	57
De Kruis.....	23-51	32-06	1888-1915	13-69	38	62	38
De Put's.....	25-18	31-36	1882-1893	13-53	37	71	29
Dohne.....	27-28	32-32	1881-1915	25-09	62	74	26
Dont'sah.....	27-14	32-37	1890-1915	35-01	104	69	31
Doorskuilt.....	23-22	30-36	1898-1909	10-46	25	66	34
Dordrecht.....	27-03	31-22	1878-1915	23-50	76	75	25
Douglas.....	23-46	29-03	1883-1915	13-83	37	77	23
Dreunberg.....	26-19	30-58	1903-1915	18-09	53	74	26
Droogfontein.....	25-30	31-23	1891-1909	11-83	34	74	26
Drummond Park.....	26-21	32-01	1888-1911	19-19	47	76	24
Durbanville.....	18-39	33-40	1900-1915	25-05	73	24	76
Dunbrody.....	25-28	33-30	1885-1915	16-18	70	58	42
Dunedin.....	22-18	31-57	1893-1915	7-87	20	64	36
Dunnurry.....	22-42	28-18	1893-1915	13-78	45	74	26
East London (East).....	27-54	33-01	1882-1915	33-39	103	60	40
E. St. London (West).....	27-53	33-02	1880-1915	25-75	85	58	42
Erste River.....	18-44	34-02	1892-1915	21-89	72	24	76
Flein Plantation.....	19-01	34-00	1902-1915	43-87	95	29	71
Ellesmere.....	26-20	30-42	1884-1915	18-50	58	73	27
Elliotdale.....	28-12	31-57	1892-1915	26-08	65	70	30
Elsenberg.....	18-50	33-51	1903-1915	26-07	93	23	77
Emerald Hill.....	25-36	33-58	1882-1915	30-79	114	17	53
Engelco.....	28-00	31-41	1890-1915	30-98	80	76	24
Eskdale.....	24-00	29-20	1890-1903	13-14	25	74	26
Evelyn Valley.....	27-15	32-41	1887-1915	70-20	150	70	30
Exell Park.....	27-08	32-40	1900-1915	17-18	45	75	25
Ezellhof.....	22-06	33-48	1883-1909	14-98	31	39	61
Farthoff.....	25-58	32-20	1886-1910	20-57	56	67	33
Fish River.....	25-25	31-55	1898-1915	16-61	34	74	26
Flagstaff.....	20-31	31-04	1900-1915	35-72	108	73	27
Forest Hall.....	23-31	33-50	1890-1902	29-25	108	56	44
Fort Beaufort.....	26-40	32-46	1879-1915	21-05	68	08	32

(i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>CASES OF GOOD HOPE—(continued).</b>							
Fort Beaufort (Gregory)...	26-40	32-40	1882-1905	24-54	85	68	33
Fort Cuninghame.....	27-27	32-29	1896-1915	30-47	99	72	27
Fort Fordyce.....	26-30	32-41	1898-1915	29-25	94	69	31
Fort Jackson.....	27-42	32-55	1882-1915	25-41	56	64	36
Fountain Head.....	26-32	32-24	1893-1915	23-86	58	65	32
Fraserburg.....	21-31	31-55	1874-1915	6-60	33	57	43
Fraserburg Road.....	22-00	32-46	1881-1915	4-75	17	66	34
Gannapan.....	22-11	30-23	1880-1915	4-16	12	65	35
Garies.....	17-59	30-33	1885-1915	5-19	26	20	80
Geelhoek's Vlei.....	22-05	34-06	1881-1906	16-67	67	52	48
George.....	22-29	33-57	1878-1916	31-36	125	67	43
Glencorn.....	26-49	32-25	1886-1916	30-84	77	67	33
Glenconner.....	25-10	33-24	1884-1915	12-07	31	59	41
Glen Harry.....	24-47	32-07	1900-1915	11-58	42	63	37
Glen Roy.....	26-28	32-18	1898-1910	18-12	47	66	34
Glen, The.....	24-48	32-03	1880-1891	17-05	40	68	32
Goliad's Kraal.....	24-37	32-06	1893-1895	14-87	43	67	33
Graaff-Reinet.....	24-32	32-16	1861-1915	14-64	52	66	34
Graaff-Reinet (Gaol).....	24-32	32-16	1861-1915	13-98	55	65	35
Grahamstown (Gaol).....	26-32	33-18	1877-1915	28-79	80	61	39
Grahamstown (Hospital).....	26-32	33-20	1880-1896	28-34	86	61	39
Great Brak River.....	22-14	34-03	1900-1915	20-41	87	58	42
Griquatown.....	23-15	28-51	1883-1915	13-03	43	72	28
Groot Constantia.....	18-25	31-02	1888-1915	45-87	94	23	77
Groot Drakenstein.....	19-01	33-52	1893-1915	35-61	92	24	76
Grootfontein.....	21-17	33-07	1899-1915	4-16	15	60	40
Grootvader's Bosch.....	20-52	33-59	1898-1915	40-68	83	57	43
Hankey.....	24-53	33-50	1892-1915	10-79	44	63	47
Hanover.....	24-26	31-04	1878-1915	13-31	43	67	33
Harkerville.....	23-12	34-03	1888-1915	37-02	115	51	49
Heatherton Towers.....	26-34	33-00	1897-1915	13-67	39	62	38
Heidelberg.....	20-58	34-05	1878-1915	17-12	42	51	49
Herbertsdale.....	21-46	34-02	1886-1900	17-37	64	49	51
Herschel.....	27-09	30-37	1882-1916	28-20	68	73	27
Hex River.....	19-36	33-29	1889-1915	15-03	36	22	78
Hillmoor.....	20-03	31-14	1888-1915	14-75	49	71	29
Holmesdale.....	25-47	31-38	1908-1915	13-82	36	71	29
Hogback.....	26-65	32-36	1885-1915	51-34	114	70	30
Hopetown.....	24-05	29-37	1878-1915	12-13	43	76	24
Houdoustant.....	24-12	34-02	1879-1889	18-48	37	68	32
Houtboek.....	19-17	34-13	1886-1900	22-93	62	29	71
Hughenden.....	26-10	30-47	1904-1915	14-75	50	76	24
Humansdorp.....	24-46	34-02	1878-1915	26-88	92	50	50
Ida.....	27-39	31-25	1896-1915	27-34	70	77	23
Ilutya.....	28-18	32-06	1880-1915	21-77	59	72	28
Inskeni.....	29-35	30-09	1901-1915	43-19	130	83	17
Isidenge.....	27-21	32-40	1885-1915	40-52	122	68	32
Janestown.....	20-49	31-07	1879-1915	21-99	53	72	28
Jausenville.....	24-40	32-56	1878-1915	10-81	41	65	35
Kaifer's Kraal.....	23-03	32-14	1877-1915	8-36	37	67	33
Karoo's River.....	10-42	34-22	1898-1911	20-37	79	36	64
Karoo Kloof.....	23-23	29-49	1900-1915	10-11	25	73	27
Katberg (Lower Gauze).....	26-40	32-29	1882-1915	43-01	95	74	26
Katberg (Upper Gauze).....	26-40	32-29	1882-1907	53-28	—	75	25
Keilands.....	27-34	32-13	1890-1915	20-90	67	74	26
Kei Road.....	27-33	32-44	1877-1915	31-14	77	71	29
Keiskama Hoek.....	27-06	32-41	1886-1915	26-53	77	68	32
Kenilworth (Hohnes).....	21-30	32-30	1883-1915	12-23	38	68	32
Kenhardt.....	21-09	29-21	1878-1915	5-84	21	69	31
Keilworth.....	18-28	33-59	1889-1915	47-09	105	20	80
Kentani.....	26-18	32-30	1889-1915	30-89	93	69	31
Kersfontein.....	18-21	32-52	1892-1915	12-34	47	19	81
Kidronh.....	29-42	30-23	1899-1915	34-61	89	84	16
Kimberley (Gaol).....	24-40	28-44	1885-1915	16-25	46	78	22
Kimberley (Stephen's).....	24-46	28-44	1882-1915	18-47	65	77	23
Kingswilliamstown (Gaol).....	27-23	32-52	1885-1915	22-11	7	67	33
Kingswilliamstown (Hospital).....	27-23	32-52	1878-1915	25-26	96	66	34
Klondons.....	18-51	33-48	1883-1915	29-80	97	24	76
Kleinmoort.....	24-53	33-20	1880-1909	12-20	35	63	37
Klipdrift.....	21-29	32-23	1842-1911	11-43	27	70	30
Klipfontein.....	17-39	29-13	1885-1915	7-05	37	26	74
Klipfontein.....	24-56	32-29	1892-1915	11-63	30	65	35
Klipmaat.....	24-20	33-03	1900-1915	9-84	30	65	35
Kluitjes Kraal.....	19-08	33-27	1893-1915	25-15	62	22	78
Kuysna.....	23-03	34-03	1880-1915	23-27	97	49	51

## (i) MEAN ANNUAL RAINFALL—continued.

Station.	Longi- tude E.	Lat- itude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Per- centage of Summer Rainfall.	Per- centage of Winter Rainfall.
CAPE OF GOOD HOPE—(continued).							
Kokstad (Gaal).....	29-26	30-33	1882-1915	27-18	83	80	20
Kokstad (The Willows)...	29-26	30-33	1905-1915	30-55	110	78	22
Kologha.....	27-22	32-31	1885-1915	37-51	117	75	25
Komgha.....	27-54	32-35	1884-1915	29-10	92	70	30
Kraalfontein.....	17-44	29-15	1880-1916	5-55	28	25	75
Krom River.....	23-02	31-59	1901-1915	8-73	35	66	34
Kruis River.....	25-20	33-47	1901-1913	19-50	87	53	47
Kubusie.....	27-29	32-35	1881-1915	24-71	60	72	28
Kuruman.....	23-27	27-25	1904-1916	16-43	49	80	20
Ladismith.....	21-17	33-29	1878-1915	14-55	49	50	50
Lady Frere.....	27-13	31-42	1885-1915	24-22	64	78	22
Lady Grey.....	27-11	30-48	1889-1915	31-51	87	73	27
Lalingsburg.....	20-34	33-12	1901-1915	4-02	26	52	48
Langebaan.....	18-02	33-05	1899-1915	12-40	63	21	79
Leeuwkuil.....	23-00	32-25	1883-1910	7-42	21	70	30
Lillyfontein.....	18-05	30-18	1885-1915	13-24	40	23	77
Lottering.....	23-41	33-56	1896-1915	42-35	105	54	46
Lovedale.....	26-51	32-46	1881-1915	23-30	85	66	34
Lower Nelspoort.....	23-07	32-12	1876-1905	9-95	36	68	32
Lyndene.....	26-14	31-00	1898-1915	16-84	62	72	28
Lyndeloch.....	25-50	32-31	1898-1915	16-81	50	62	38
MacGregor.....	19-40	33-57	1897-1915	9-68	41	31	69
Malear.....	28-21	31-04	1891-1915	33-42	85	80	20
Mafeking.....	25-39	25-52	1898-1915	21-51	58	84	16
Maitland.....	18-39	33-54	1901-1915	24-56	82	22	78
Malmesbury.....	18-43	33-28	1878-1915	18-02	72	22	78
Matatiele.....	28-48	30-20	1892-1915	27-29	94	82	18
Matjesfontein.....	20-36	33-14	1878-1915	6-88	27	37	63
Melrose.....	25-51	32-38	1900-1915	13-48	51	67	33
Middleburg.....	25-00	31-30	1878-1915	13-55	45	72	28
Middlecourt.....	27-00	31-00	1901-1912	18-80	60	76	24
Middlemount.....	21-29	31-28	1893-1907	12-48	30	73	27
Middlepost.....	20-15	31-53	1882-1910	5-12	31	50	50
Middleton.....	25-49	32-57	1878-1915	14-22	43	63	37
Middlewater.....	25-32	33-05	1899-1915	11-68	36	57	43
Millwood.....	22-59	33-53	1887-1915	41-64	120	58	42
Moffeno.....	26-22	31-23	1889-1915	20-87	52	74	26
Montagu.....	20-08	33-48	1883-1915	13-18	80	34	66
Montagu.....	25-32	30-47	1902-1915	11-53	20	67	33
Moofontein.....	26-16	31-07	1893-1915	18-33	46	71	29
Mossel Bay.....	22-09	34-11	1877-1915	17-31	90	47	53
Mount Ayliff.....	29-22	30-49	1900-1910	27-20	101	73	27
Mount Coke.....	27-24	32-58	1899-1915	23-36	50	64	36
Mount Fletcher.....	28-30	30-42	1891-1915	27-58	71	80	20
M'qandull.....	28-43	31-46	1890-1906	27-18	85	71	29
Murraysburg.....	23-48	31-57	1878-1915	11-02	30	65	35
Naaupoort.....	24-57	31-11	1885-1915	14-47	43	70	30
Nelspoort.....	23-01	32-00	1886-1915	9-09	36	66	34
New Bethesda.....	24-34	31-52	1885-1915	14-20	38	72	28
Newlands.....	24-22	28-20	1887-1915	17-05	62	81	19
Newlands (Kelvin Grove)	18-28	33-58	1881-1896	52-20	78	20	80
Newlands (Montebello)...	18-28	33-58	1897-1913	66-07	110	23	77
New Year's Kraal.....	23-07	29-21	1901-1915	9-68	37	75	25
Omdraai's Vlei.....	23-09	30-06	1898-1908	9-54	19	83	37
O'oklep.....	17-52	29-36	1882-1915	6-09	43	25	75
Orange River.....	24-12	29-38	1884-1915	9-85	25	72	28
Oudtshoorn.....	22-13	33-35	1877-1915	9-21	36	46	54
Paarl.....	18-57	33-45	1878-1915	33-70	70	21	79
Palmietfontein.....	27-32	30-25	1898-1907	28-24	83	74	26
Patryfontein.....	24-42	31-53	1881-1915	14-78	42	72	28
Pearston.....	25-07	32-34	1893-1910	13-80	43	65	35
Peddie.....	27-07	33-13	1878-1915	22-85	63	60	40
Pella.....	19-09	29-02	1878-1915	3-06	13	61	39
Perie (Forest).....	27-18	32-45	1885-1915	37-79	98	72	28
Perie (Forestbourne).....	27-18	32-47	1881-1915	42-02	104	70	30
Petrusville.....	24-39	30-00	1893-1915	14-78	32	74	26
Phillipstown.....	21-30	30-25	1878-1915	13-37	34	70	30
Pietermeintjes.....	20-30	33-15	1900-1915	13-82	29	27	73
Piquetberg.....	18-45	32-53	1879-1915	20-71	55	25	75
Plettenberg Bay.....	23-22	34-04	1891-1915	26-33	77	47	53
Poplar Grove.....	26-43	32-08	1890-1915	18-68	41	75	25
Port Elizabeth.....	25-37	33-58	1866-1915	22-23	75	45	55
Porterville Road.....	19-01	33-18	1901-1915	22-05	47	23	77
Port Alfred.....	26-54	33-34	1880-1915	26-54	91	50	50
Port Nolloth.....	16-51	29-11	1879-1913	2-17	17	21	79
Port St. Johns.....	29-35	31-38	1887-1915	48-56	106	68	32

(i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
CAPE OF GOOD HOPE—(continued).							
Prieska.....	22-45	29-39	1898-1915	9-75	29	70	30
Prince Albert.....	22-02	33-11	1877-1915	8-21	75	50	50
Prince Albert Road.....	21-41	32-58	1880-1913	4-57	17	60	40
Prospect Farm.....	27-48	32-37	1897-1915	29-84	93	70	30
Quacu Forest.....	27-29	32-34	1887-1915	29-74	106	76	24
Quaggas Kerk.....	26-13	32-19	1890-1906	20-85	63	64	36
Queenstown (Gaol).....	26-52	31-54	1884-1915	21-45	62	76	24
Queenstown (Gardens).....	26-52	31-54	1872-1915	23-00	84	76	24
Qumbu.....	28-52	31-10	1888-1915	20-93	98	78	22
Rawsonville.....	19-19	33-41	1900-1915	24-54	61	23	77
Rhebokfontein.....	21-36	31-24	1888-1911	5-46	15	66	34
Richmond.....	23-57	31-25	1878-1915	13-18	40	66	34
Rietbult.....	25-13	30-30	1877-1903	15-02	44	73	27
Rietfontein.....	23-49	32-50	1863-1915	9-43	28	66	34
Rietfontein.....	26-55	30-59	1898-1915	22-45	81	72	28
Riversdale.....	21-16	34-06	1877-1915	17-40	62	48	52
Robben Island.....	18-23	33-48	1891-1915	18-24	78	23	77
Robertson (Gaol).....	19-53	33-47	1877-1915	12-57	53	38	62
Robertson (Plantation).....	19-50	33-48	1898-1915	11-98	49	35	65
Rocklands.....	19-20	33-06	1885-1903	23-10	41	21	79
Rocklands.....	26-33	32-02	1893-1915	17-23	53	70	30
Rondebosch.....	18-29	33-58	1878-1902	42-15	111	62	38
Roodenberg.....	24-20	32-31	1978-1880	12-67	30	69	31
Roodebloem.....	24-36	32-00	1882-1915	11-40	36	68	32
Roodeloogte.....	24-56	31-44	1900-1915	13-77	35	71	29
Roooplaats.....	22-30	31-40	1898-1915	6-74	21	07	33
Roekeen.....	19-16	34-23	1904-1915	26-54	100	33	07
Salem.....	26-30	33-28	1878-1908	21-60	67	58	42
Saron.....	19-00	33-11	1877-1893	20-86	48	25	75
Schietfontein.....	24-10	32-46	1884-1895	11-28	50	70	30
Schuilhoek.....	24-47	30-58	1903-1915	13-19	49	72	28
Seteba.....	29-03	30-20	1900-1910	28-83	78	81	19
Setlagoll.....	25-08	26-16	1903-1915	18-36	46	83	17
Seymour.....	26-47	32-34	1878-1915	23-25	63	66	34
Sharks River (Convict Station).....	25-37	33-50	1897-1900	25-89	89	45	55
Shark's River (Forest).....	25-37	33-50	1895-1915	25-71	104	45	55
Simonstown (Gaol).....	18-26	34-12	1869-1907	32-17	104	26	74
Simonstown (Wood).....	18-26	34-12	1884-1910	31-84	119	28	72
Slaats.....	27-40	31-18	1892-1913	20-80	82	78	22
Somerset East.....	25-35	32-44	1878-1915	25-12	83	67	33
Somerset West.....	18-51	34-05	1877-1915	25-45	65	25	75
Somerville.....	28-37	31-12	1891-1913	28-00	111	76	24
Sourflats.....	23-00	33-57	1888-1915	34-68	115	56	44
Springbokfontein.....	17-53	29-40	1878-1915	8-99	34	23	77
Stellenbosch (Gaol).....	18-51	33-56	1878-1915	28-04	77	24	76
Stellenbosch (Agricultural College).....	18-51	33-56	1886-1898	26-55	93	22	78
Sterkspruit.....	27-19	30-31	1901-1915	25-40	70	76	24
Sterkspruit.....	26-33	31-33	1885-1915	19-00	56	74	26
Steynsburg.....	25-40	31-18	1878-1915	16-07	56	71	29
Steytlerville.....	24-10	33-20	1893-1915	9-25	30	67	33
Stonehills.....	25-38	32-02	1886-1904	15-70	49	73	27
Storm's River.....	23-52	33-58	1883-1915	41-40	128	53	47
Stutterheim (Bousfield).....	27-27	32-34	1885-1915	29-07	130	73	27
Stutterheim (Wyde).....	27-27	32-34	1883-1906	28-71	119	73	27
Sunnyside.....	26-30	33-17	1900-1915	23-87	86	63	37
Sutherland.....	20-42	32-25	1879-1915	0-40	40	38	62
Swellendam.....	20-27	34-04	1881-1915	32-64	88	52	48
Sydney's Hope.....	26-10	33-24	1893-1915	22-78	100	58	42
Tabankulu (Atkins).....	29-19	30-58	1898-1910	28-17	89	72	28
Tabankulu (Residency).....	29-19	30-58	1906-1915	31-95	101	72	28
Table Mountain—							
Dias Head.....	18-24	33-50	1881-1915	40-67	153	27	73
Kaasteel's Poort.....	18-24	33-50	1884-1915	61-81	—	23	77
St. Michael's.....	18-25	33-58	1884-1915	74-75	—	28	72
Waal Kopje.....	18-25	33-58	1881-1915	65-72	—	28	72
Tafelberg.....	25-10	31-38	1885-1915	12-55	38	72	28
Tankara.....	25-42	33-41	1879-1906	16-85	48	54	46
Tarkastad.....	20-15	32-00	1878-1915	18-46	70	71	29
Taung.....	24-47	27-32	1898-1915	17-24	47	85	15
Thaba N'Doda.....	27-13	32-50	1887-1915	36-89	54	68	32
Tbosfontein.....	24-36	30-42	1906-1915	11-67	40	69	31
Thibet Park.....	26-27	32-10	1884-1915	19-43	65	73	27
Thomas River.....	27-18	32-28	1880-1915	20-92	65	74	26
Toegedacht.....	24-44	32-44	1894-1915	9-51	26	66	34



(i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>CAPR OF GOOD HOPE—(continued).</b>							
Tokai.....	18-25	34-04	1886-1915	39-70	94	24	76
Touwa River.....	20-03	33-20	1877-1909	8-95	84	82	68
Towers, The.....	18-28	33-25	1866-1915	18-24	66	21	79
Triangle.....	19-49	33-26	1900-1913	9-82	29	33	67
Trooitspan.....	21-31	28-39	1899-1915	6-08	20	75	27
Tromo.....	27-42	32-09	1890-1915	22-46	63	75	25
Tulbagh.....	19-08	33-18	1877-1915	18-53	58	25	75
Tylden.....	27-05	32-07	1882-1915	18-98	44	75	25
Uitenhage (Gaol).....	25-25	33-46	1877-1915	17-35	60	54	46
Uitenhage (Inggs).....	25-24	33-47	1868-1915	17-46	75	55	45
Uitenhage (Park).....	25-25	33-46	1901-1915	18-25	76	52	48
Umtata.....	28-46	31-35	1881-1915	25-65	97	71	29
Umzimkulu.....	29-56	30-15	1885-1915	27-41	92	78	22
Umlondale.....	23-09	33-39	1878-1915	13-50	49	45	55
Uppington.....	21-15	28-27	1883-1914	7-04	26	74	26
Van Rhyn's Dorp.....	18-46	31-35	1885-1915	5-71	37	20	80
Van Staadens.....	25-16	33-50	1881-1915	30-83	83	50	50
Van Wyk's Vlei.....	21-49	30-21	1882-1915	6-55	27	69	31
Varkens Kop.....	25-30	31-30	1898-1915	12-88	46	74	26
Varsch Vlei.....	25-45	31-40	1893-1901	13-69	45	72	28
Venterstad.....	25-47	30-47	1883-1915	18-29	61	70	30
Victoria West.....	23-07	31-24	1878-1915	10-14	88	66	34
Vogel Vlei.....	21-49	34-13	1900-1915	17-40	40	50	50
Vosburg.....	22-53	30-35	1903-1915	9-01	28	64	36
Vruchtbaar.....	19-00	33-40	1904-1915	28-71	76	26	74
Vryburg.....	24-44	26-57	1856-1915	19-69	53	84	16
Wagenaar's Kraal.....	22-48	31-48	1885-1906	9-92	40	74	26
Walsingham.....	25-10	32-28	1883-1915	14-38	46	64	36
Wanstead.....	29-01	30-18	1904-1915	32-85	76	81	19
Waverley.....	26-28	31-56	1884-1915	18-89	54	75	25
Weibedacht.....	19-13	32-10	1898-1915	9-22	30	16	84
Wellington (Gaol).....	18-59	33-38	1881-1915	26-50	76	23	77
Wellington (Seminary).....	18-59	33-38	1876-1908	25-57	84	22	78
Wellwood.....	24-38	31-59	1875-1915	13-27	50	68	32
Whittless.....	26-49	32-10	1881-1915	17-96	54	74	26
Wildebekerkool.....	23-42	30-12	1882-1914	9-22	23	66	34
Willowmore.....	23-30	33-17	1878-1915	9-28	38	62	38
Willows, The.....	24-39	31-33	1886-1915	14-06	39	72	28
Winterhoek.....	24-28	32-15	1881-1915	17-21	48	66	34
Witte Els Bosch.....	24-09	34-00	1892-1915	44-99	106	52	48
Witteklip.....	25-14	32-55	1881-1910	29-85	48	51	49
Witmoos.....	25-45	32-33	1884-1916	14-85	33	70	30
Wolfredge.....	27-05	32-39	1899-1915	42-81	101	70	30
Woodcliff.....	28-10	31-00	1891-1915	40-69	93	81	19
Worcester (Gaol).....	19-26	33-39	1869-1915	12-67	42	26	74
Worcester (Melring).....	19-26	33-30	1881-1905	11-84	45	27	73
Wupperthal.....	19-11	32-14	1890-1915	10-59	35	20	80
Wynberg (St. Alban's).....	18-28	34-00	1876-1900	42-23	95	20	80
Wynberg (St. Mary's).....	18-28	34-00	1897-1915	47-10	103	22	78
Zwartberg Pass.....	22-03	33-21	1887-1915	28-79	50	64	40
Zwavelfontein.....	22-39	30-54	1903-1915	8-01	31	63	37

NATAL.

Cedara Vlei.....	30-16	28-31	1902-1915	32-39	120	81	19
Dundee.....	30-18	28-11	1896-1915	31-26	67	83	17
Durban (Observatory).....	31-00	29-51	1871-1915	40-91	118	71	29
Durban (Point).....	31-03	29-52	1897-1915	41-87	110	71	29
Estcourt.....	29-53	29-00	1894-1915	28-06	72	86	14
Greytown.....	30-38	29-04	1891-1915	36-45	106	83	17
Howick.....	30-14	29-27	1896-1915	32-04	117	81	19
Killarney.....	30-84	29-48	1903-1915	27-02	90	76	24
Kloofend.....	30-32	30-34	1904-1915	37-95	118	71	29
Lady'smith.....	29-47	28-33	1896-1915	27-31	84	84	16
Mid Illovo.....	30-35	30-01	1904-1915	40-91	133	74	26
Newcastle.....	29-56	27-45	1894-1915	30-80	67	87	13
New Hanover.....	30-30	29-22	1896-1915	37-28	108	79	21
Pietermaritzburg.....	30-22	29-35	1895-1915	35-87	127	82	18
Port Shepstone.....	30-27	30-43	1892-1915	43-67	103	68	32
Richmond.....	30-17	29-51	1894-1915	42-63	126	78	22
Stanger.....	31-17	29-10	1893-1915	42-31	104	74	26
Umzimto.....	30-41	30-26	1892-1915	42-55	84	72	28

(i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>NATAL—(continued).</b>							
Verulam.....	31-04	29-37	1892-1915	38-03	98	73	27
Vryheid.....	30-43	27-51	1906-1915	30-89	89	83	17
Weenen.....	30-05	28-51	1896-1915	26-31	78	83	17
Winklespruit.....	30-50	30-03	1903-1915	43-35	108	70	30
<b>ZULULAND.</b>							
Hlabisa.....	31-52	28-08	1890-1915	43-22	80	78	22
Mahlabatini.....	31-28	28-15	1902-1915	31-68	76	81	19
Melmoth.....	31-23	28-35	1899-1915	30-88	124	70	21
Mongoma.....	31-36	27-53	1890-1915	32-20	75	80	20
Ubonbo.....	32-04	27-32	1899-1915	37-81	87	80	20
<b>TRANSVAAL.</b>							
<b>BARBERTON.</b>							
Alkmaar.....	30-50	25-27	1906-1915	36-44	72	86	14
Barberton.....	31-04	25-45	1888-1915	31-98	101	84	16
Calra.....	30-54	25-27	1905-1915	37-93	100	87	13
Crocodile Poort.....	31-09	25-29	1905-1915	26-04	52	86	14
Elandsloek.....	30-42	25-30	1905-1915	40-33	69	85	16
Eureka.....	31-10	25-40	1905-1915	27-05	46	87	13
Godwan River.....	30-88	25-35	1905-1915	32-57	64	88	12
Hectorspruit.....	31-39	25-25	1905-1915	28-34	68	86	14
Hilltop.....	31-03	25-35	1903-1915	38-33	101	87	13
Kaapmuiden.....	31-21	25-32	1905-1915	26-17	55	86	14
Kaapse Hoop.....	30-46	25-35	1892-1915	54-90	110	87	13
Komatipoort.....	31-56	25-26	1904-1915	26-27	71	86	14
Leggat.....	31-00	25-28	1903-1915	40-59	85	87	13
Maldene.....	31-30	25-30	1903-1915	26-03	78	85	15
Nelspruit.....	30-59	25-28	1905-1915	37-69	62	90	10
<b>BETHAL.</b>							
Bekker's Rust.....	29-36	20-33	1905-1915	29-55	67	90	10
Bethul.....	29-28	20-27	1903-1915	30-39	89	90	10
Vlakkuilen.....	29-28	20-15	1905-1915	27-40	57	88	12
Vlakteagte.....	29-29	20-23	1906-1915	29-90	73	82	18
<b>BLOEMHOF.</b>							
Bloemhof.....	25-36	27-39	1907-1915	18-82	68	82	18
Christiana.....	25-10	27-55	1904-1915	16-95	50	82	18
Poortjie.....	25-26	26-54	1903-1915	19-06	47	86	14
Schweizer Rencke.....	25-20	27-11	1904-1915	17-83	50	83	17
Vecht Vallei.....	25-04	27-25	1903-1915	17-48	59	82	18
<b>CAROLINA.</b>							
Airlie.....	30-31	25-37	1905-1915	28-05	58	89	11
Brakspruit.....	30-09	25-27	1905-1915	29-61	76	87	13
Carolina.....	30-07	26-04	1904-1915	28-93	87	87	13
Dalmanutha.....	30-10	25-45	1905-1915	32-92	88	87	13
Waterval Doven.....	30-19	25-30	1903-1915	31-21	85	87	13
<b>ERMELO.</b>							
Amsterdam.....	30-39	26-38	1904-1915	35-22	80	87	13
Athole.....	30-33	26-30	1904-1915	30-29	90	87	13
Bellevue.....	30-20	26-15	1903-1915	30-75	81	88	12
Camden.....	30-10	26-38	1905-1915	31-53	85	88	12
De Emigratie.....	30-07	26-46	1905-1915	28-37	73	88	12
Ermelo.....	29-59	26-31	1895-1915	29-21	78	89	11
Goedeloop.....	29-56	26-44	1905-1915	29-17	71	89	11
Krauspan.....	30-11	26-27	1905-1915	31-75	71	89	11
Rensboogte.....	29-43	26-29	1905-1915	27-89	80	90	10
Uitzicht.....	29-47	26-38	1906-1915	29-76	67	89	11
Vleiplaats.....	29-45	26-41	1903-1915	30-29	71	89	11
<b>HEIDELBERG.</b>							
Greylingstad.....	28-44	26-44	1905-1915	30-51	74	87	13
Heidelberg.....	28-22	26-30	1903-1915	27-73	87	88	12
Rietvel.....	28-18	26-23	1905-1915	27-76	71	88	12
Vereeniging.....	27-56	26-40	1901-1915	27-37	80	87	13
Vlakfontein.....	28-26	26-44	1905-1915	28-71	83	86	14
Witboek.....	28-20	26-19	1903-1915	26-80	75	87	13

(i) MEAN ANNUAL RAINFALL—*continued.*

Station.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>TRANSTAAL—(continued).</b>							
<b>LICHTENBURG.</b>							
Doornbult.....	26 10	26 33	1904-1915	20 83	40	82	18
Lichtenburg.....	26 10	26 10	1903-1915	23 74	78	87	13
Palmietfontein.....	26 17	26 33	1905-1915	21 63	35	86	14
<b>LYDENBURG.</b>							
Belfast (Forest).....	30 02	25 41	1905-1915	32 00	87	87	13
Belfast (St.).....	30 03	25 43	1904-1915	32 20	78	88	12
Bushbuck Ridge.....	31 03	24 48	1905-1915	44 93	102	86	14
Dullstroom.....	30 06	25 25	1906-1915	30 48	83	83	17
Grakop (Forest).....	30 50	24 56	1900-1915	68 65	135	84	16
Lydenburg.....	30 27	25 06	1904-1915	25 13	65	89	11
Machadodorp.....	30 14	25 40	1903-1915	32 16	102	88	12
Nooitgedacht.....	30 26	25 03	1903-1915	25 77	59	90	10
Pilgrim's Rest.....	30 44	24 54	1885-1915	40 48	138	86	14
Sable.....	30 47	25 05	1898-1915	44 58	116	86	14
Waterval Onder.....	30 23	25 39	1904-1915	27 38	52	88	12
<b>MARICO.</b>							
Rietfontein.....	26 09	25 24	1904-1915	19 39	46	88	12
Rickersdam.....	26 23	25 27	1904-1915	25 83	75	90	10
Vaalkop.....	26 13	25 35	1904-1915	24 90	68	89	11
Zeerust (Harmonia).....	26 05	25 32	1903-1915	24 05	82	87	13
Zeerust (Town).....	26 05	25 32	1903-1915	23 58	82	87	13
<b>MIDDELBURG.</b>							
Brugspruit.....	29 08	25 53	1905-1915	27 15	66	87	13
Gemboksfontein.....	29 41	25 44	1903-1915	29 24	103	87	13
Goedehoop.....	29 20	25 34	1903-1915	28 96	68	89	11
Keerom.....	29 31	25 41	1903-1915	27 43	80	87	13
Middelburg.....	29 28	25 46	1903-1915	28 77	100	90	10
Pamplaats.....	29 46	25 41	1903-1915	27 82	71	89	11
Roosenekal.....	29 55	25 12	1900-1915	29 24	60	88	12
Schoonoord.....	29 46	26 00	1903-1915	27 23	91	89	11
Tantesberg.....	29 47	25 17	1905-1915	20 33	76	88	12
Vaalkrans.....	29 20	26 07	1904-1915	27 63	76	89	11
Witbank.....	29 12	25 53	1904-1915	29 04	89	89	11
Zwartfontein.....	29 40	25 45	1900-1915	27 75	82	87	13
<b>PIET RETIEF.</b>							
Bergplaats.....	31 14	27 15	1904-1915	30 58	90	83	17
Cascades.....	30 44	26 47	1904-1915	34 08	58	82	18
Piet Retief.....	40 48	27 00	1904-1915	30 62	88	86	14
<b>POTCHEFSTROOM.</b>							
Bank.....	27 31	26 10	1903-1915	22 90	51	88	12
Boskop.....	27 08	26 33	1905-1915	24 55	71	85	15
Randsheувel.....	27 06	26 42	1904-1915	24 91	60	85	15
Gerhard Minnebron.....	27 09	26 29	1905-1915	23 64	51	86	14
Haaskraal.....	27 03	26 50	1904-1915	25 07	80	86	14
Klerksdorp.....	26 40	26 52	1895-1915	21 89	70	84	16
Klerkskraal.....	27 10	26 14	1903-1915	25 50	75	88	12
Koppies Kraal.....	27 22	26 53	1903-1915	25 59	49	86	14
Machavle.....	26 58	26 47	1904-1915	23 20	69	85	15
Moolbank.....	27 07	26 41	1904-1915	22 09	80	85	15
Potchefstroom (Exp. Farm).....	27 05	26 44	1903-1915	23 69	76	85	15
Potchefstroom (Town).....	27 05	26 43	1903-1915	25 20	76	85	15
Roodekop.....	26 54	26 27	1914-1915	24 24	64	86	14
Strathmore.....	26 37	26 50	1903-1915	22 91	79	84	16
Turfontein.....	27 00	26 25	1903-1915	24 46	49	89	11
<b>PRETORIA.</b>							
Bronkhorstspuit.....	28 44	25 48	1905-1915	27 99	73	90	10
Donkerhoek.....	28 27	25 47	1904-1915	28 00	57	89	11
Irene.....	28 13	25 53	1903-1915	27 84	87	89	11
Kaalfontein.....	28 15	26 02	1903-1915	30 93	85	88	12
Moshlerfontein.....	28 00	26 06	1903-1915	29 20	97	86	14
Premier Mine.....	28 30	25 40	1904-1915	28 31	70	89	11
Pretoria (Arcadia).....	28 12	25 45	1902-1915	29 08	92	90	10
Pretoria (Fountains).....	28 12	25 47	1904-1915	32 18	84	90	10
Pretoria (Gezina).....	28 13	25 43	1903-1915	27 09	55	91	9
Pretoria (Leper Asylum).....	28 07	25 44	1904-1915	27 57	73	90	10
Pretoria (Municipal).....	28 11	25 44	1904-1915	29 80	65	91	9
Pretoria (West).....	28 11	25 45	1905-1915	31 11	77	90	10
Pyramids.....	28 08	25 35	1902-1915	24 99	58	90	10
Waalkraal.....	28 41	25 39	1904-1915	26 82	72	88	12
Zwartfontein.....	28 14	26 07	1904-1915	27 41	72	87	13
Zwartspruit.....	28 01	25 43	1905-1915	25 52	52	90	10

(i) MEAN ANNUAL RAINFALL—continued.

Station.	Longi- tude E.	Lati- tude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Per- centage of Summer Rainfall.	Per- centage of Winter Rainfall.
TRANSVAAL—(continued).							
<b>RUSTENBURG.</b>							
Commissie Driif.....	27-13	25-47	1905-1915	29-01	73	80	11
Cyferbut.....	27-19	26-00	1905-1915	26-48	54	87	13
Rustenburg.....	27-14	25-40	1903-1915	25-86	75	89	11
Vlakfontein.....	27-03	25-54	1905-1915	24-50	76	87	13
Wolhuter's Kop.....	27-42	25-42	1905-1915	29-16	77	89	11
Zandfontein.....	27-14	25-58	1905-1915	27-55	86	88	12
<b>STANDERTON.</b>							
Beginsel.....	29-15	26-57	1905-1915	29-77	78	87	13
Cranbourne.....	29-29	27-10	1904-1915	30-27	87	87	13
Earlridge.....	29-27	27-07	1903-1915	27-57	80	87	13
New Denmark.....	29-16	26-42	1905-1915	27-44	84	87	13
Platrand.....	29-28	27-05	1903-1915	28-11	71	88	12
Standerton.....	29-15	26-57	1903-1915	30-26	79	88	12
Val.....	28-50	26-48	1905-1915	28-23	56	88	12
<b>WAKKERSTROOM.</b>							
Amerfoort.....	29-53	27-00	1905-1915	29-62	68	87	13
Balmoral.....	30-13	26-53	1905-1915	38-77	73	86	14
Rietpoort.....	29-49	27-08	1906-1915	33-04	85	88	12
Rolffontein.....	29-50	26-59	1904-1915	29-95	61	90	10
Wakkerstroom.....	30-08	27-21	1904-1915	32-09	92	86	14
Volksrust.....	29-53	27-22	1903-1915	33-47	100	88	12
Zandspruit.....	29-47	27-16	1905-1915	28-48	57	89	11
Zomershoek.....	30-02	27-10	1905-1915	28-20	61	83	15
<b>WATERBERG.</b>							
Brakfontein.....	28-07	24-04	1904-1915	25-22	65	89	11
Doornkraal.....	28-47	24-17	1905-1915	21-96	59	88	12
Geelhoutkop.....	28-23	24-17	1904-1915	25-80	63	90	10
Gembokspoort.....	28-12	24-42	1904-1915	26-42	63	88	12
Groenfontein.....	28-29	24-37	1905-1915	21-40	43	87	13
Naboomspruit.....	28-43	24-31	1904-1915	23-11	48	90	10
Nun Num.....	28-37	24-42	1904-1915	23-51	72	90	10
Potzleiersrust.....	29-01	24-11	1903-1915	24-50	63	91	9
Rhenosterpoort.....	28-09	24-38	1904-1915	23-74	63	88	12
Twenty-four Rivers.....	28-17	24-15	1904-1915	23-21	75	89	11
Warmbaths.....	28-17	24-53	1904-1915	23-42	61	88	12
Zandrivierpoort.....	28-07	24-25	1904-1915	25-36	63	88	12
<b>WITWATERSRAND.</b>							
Bedford Farm.....	28-07	26-16	1901-1915	28-37	83	87	13
East Rand Prop. Mines.....	28-14	26-13	1904-1915	29-12	83	88	12
Florida.....	27-54	26-09	1903-1915	30-98	92	88	12
Gerhaston (New Primrose G.M. Co.).....	28-11	26-12	1904-1915	28-74	87	88	12
Hekpoort.....	27-36	25-54	1905-1915	26-35	64	88	12
<b>Johannesburg.</b>							
Belgavia.....	28-04	26-12	1904-1915	34-66	83	87	13
Berea Water Works.....	28-03	26-11	1904-1915	32-94	93	83	12
Booyssens.....	28-00	26-13	1904-1915	29-51	92	87	13
Cemetery.....	28-02	26-11	1903-1915	31-40	95	88	12
City and Sub. G.M. Co.....	28-03	26-12	1904-1915	30-93	85	88	12
Hospital Hill.....	28-03	26-11	1901-1915	30-74	87	88	12
Joubert Park.....	28-03	26-11	1888-1915	31-96	88	86	14
Oakdene.....	28-03	26-15	1905-1915	30-40	68	86	14
Observatory.....	28-04	26-11	1904-1915	29-03	93	87	13
Observatory (Valley).....	28-04	26-11	1904-1915	32-48	99	87	13
Turffontein.....	28-01	26-14	1904-1915	30-46	96	86	14
Wolhuter G.M. Co.....	28-04	26-12	1905-1915	31-60	94	87	13
Kleinfontein.....	28-19	26-11	1904-1915	27-37	73	88	12
Knight's G.M. Co.....	28-11	26-12	1904-1915	28-98	72	87	13
Krugersdorp.....	27-46	26-06	1903-1915	30-43	84	88	12
Langlaate.....	27-50	26-12	1903-1915	30-88	86	88	12
Latipard's Vlei.....	27-47	26-07	1901-1915	28-57	82	89	11
Maralburg.....	27-57	26-10	1903-1915	27-53	80	88	12
Natal Spruit.....	28-06	26-18	1904-1915	30-97	92	88	12
Randfontein.....	27-42	26-10	1901-1915	26-87	79	87	13
Simmer and Jack G. M. Co.....	28-08	26-12	1904-1915	30-93	80	87	13
Steenkopjes.....	27-35	26-01	1906-1915	26-71	85	89	11
Zuurbekom.....	27-47	26-19	1903-1915	27-59	90	88	12

(i) MEAN ANNUAL RAINFALL—*continued.*

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>TRANSVAAL—(continued).</b>							
<b>WOLMARANSTAD.</b>							
Mimosa Vale.....	26-05	27-36	1906-1915	21-35	56	84	16
Uitkyk.....	25-50	27-28	1903-1915	19-16	44	84	16
Wondilla.....	26-02	27-36	1901-1915	20-12	62	82	18
<b>ZOUTPANSBERG.</b>							
Blauwberg.....	28-59	23-04	1904-1915	28-61	49	91	9
Dwars River.....	29-45	23-20	1904-1915	19-23	44	91	9
Eerstling.....	29-10	24-08	1905-1915	27-34	60	91	9
Klim.....	30-03	23-10	1903-1915	34-82	94	88	12
Groot Spelonken.....	30-00	23-28	1904-1915	38-79	81	87	13
Haenerisburg.....	29-56	23-56	1903-1915	40-66	102	86	14
Krabbfontein.....	30-07	23-48	1903-1915	49-46	98	89	11
Loek Trichardt.....	29-54	23-03	1905-1915	32-38	99	86	14
Mamathola.....	30-11	23-57	1901-1915	52-36	110	89	11
Moddervlei.....	30-00	23-12	1904-1915	35-37	78	88	12
Mow Cop.....	29-57	23-01	1906-1915	31-43	59	86	14
Pienar's Nek.....	29-20	24-18	1901-1915	23-05	56	91	9
Pietersburg (Hospital).....	29-28	23-54	1904-1915	20-09	55	90	10
Pietersburg (Post Office).....	29-28	23-54	1903-1915	21-69	61	90	10
Sibasa.....	30-25	22-55	1904-1915	58-41	67	88	12
Stoncheuge.....	29-54	23-02	1904-1915	34-00	76	87	13
Thabina.....	30-17	23-58	1905-1915	34-26	41	90	10
Wilgebosfontein.....	29-54	23-34	1904-1915	26-05	77	90	10
Woodbush (Forest).....	29-59	23-51	1904-1915	71-07	138	88	12
<b>ORANGE FREE STATE.</b>							
Alma.....	27-27	28-54	1904-1915	26-25	56	79	21
Bellvue.....	28-30	28-13	1906-1915	29-79	81	81	19
Bethlehem.....	28-18	28-14	1903-1915	24-51	68	82	18
Bethulle.....	25-58	30-30	1886-1915	18-46	55	76	24
Bloemfontein.....	26-12	29-07	1880-1915	22-06	62	76	24
Boomplaats.....	25-39	29-51	1906-1915	14-21	27	75	25
Boshof.....	25-14	28-32	1879-1908	19-87	57	77	23
Bucklands Downs.....	29-08	27-58	1906-1915	30-97	84	86	14
Burgundy.....	27-11	29-14	1906-1915	25-72	78	76	24
Burnet Holme.....	27-10	28-01	1905-1915	21-55	56	81	19
Carisbrooke.....	27-11	27-47	1904-1915	23-25	65	83	17
Clearwater.....	27-18	30-06	1905-1915	26-29	79	76	24
Cliff, The.....	26-46	29-29	1905-1915	22-56	57	75	25
Congleton.....	27-20	27-36	1906-1915	24-36	73	82	18
Devon Farm.....	26-35	29-35	1906-1915	19-99	60	74	26
Dewetsdorp.....	26-40	29-35	1906-1915	23-33	56	75	25
Dunelm.....	28-22	28-37	1905-1915	33-25	99	81	19
Ellerslie North.....	26-16	29-34	1905-1915	20-59	66	76	24
Excelsior.....	25-42	30-23	1905-1915	14-20	52	74	26
Fairfield.....	27-55	28-27	1904-1915	26-97	72	81	19
Fauresmith.....	25-19	29-45	1898-1915	14-84	39	72	28
Fort Bassett.....	27-00	29-16	1905-1915	28-92	69	76	24
Glenyon.....	26-17	28-58	1895-1915	19-59	46	77	23
Groothoek.....	26-52	29-17	1905-1915	21-64	61	75	25
Harrismith.....	29-07	28-16	1882-1912	26-97	69	81	19
Harrismith (Forest).....	29-10	28-16	1905-1915	28-19	76	84	16
Helvetia.....	26-33	29-52	1905-1915	19-21	53	76	24
Imperial.....	27-52	28-51	1904-1915	28-18	75	82	18
Jacobsood.....	24-48	29-09	1885-1915	17-45	46	74	26
Jagersfontein.....	25-26	29-46	1890-1915	18-28	40	75	25
Kalkfontein.....	26-41	29-45	1906-1915	20-86	53	76	24
Kalkoekrantz.....	27-56	28-32	1905-1915	31-03	81	81	19
Komfontein.....	25-00	29-24	1905-1915	13-75	41	72	28
Kroonbank.....	27-48	27-37	1905-1915	15-96	87	83	17
Kroonstad.....	27-14	27-40	1879-1915	24-32	68	80	20
Ladybrand (Nursery).....	27-26	29-10	1905-1915	27-34	73	77	23
Ladybrand (School).....	27-27	29-12	1879-1915	30-66	88	76	24
Leuw River Mills.....	27-12	29-15	1902-1915	23-57	55	75	25
Lindley.....	27-55	27-53	1897-1915	24-25	65	80	20
Maccanvlei.....	27-57	26-41	1905-1915	26-66	74	86	14
Mazel's Poort.....	26-24	29-03	1905-1915	20-10	66	78	22
Middelput.....	28-03	28-11	1906-1915	26-28	70	82	18
Modderpoort.....	27-27	29-06	1904-1915	27-34	83	78	22
Monat Stephan.....	27-02	29-04	1905-1915	25-07	74	78	22
New Vale.....	27-24	29-15	1905-1915	26-24	61	77	23
Niet te Weet.....	25-49	30-26	1905-1915	15-44	43	75	26

(i) MEAN ANNUAL RAINFALL—continued.

Stations.	Longitude E.	Latitude S.	Period.	Mean Annual Rainfall.	Mean Annual Number of Days.	Percentage of Summer Rainfall.	Percentage of Winter Rainfall.
<b>ORANGE FREE STATE—(continued).</b>							
Nieuwjaarsfontein.....	26-38	29-31	1905-1915	21-43	57	78	24
Normandale.....	25-47	30-12	1905-1915	17-56	55	72	28
Novo.....	28-15	27-42	1906-1915	27-12	70	84	16
Oranje.....	25-31	30-20	1906-1915	16-62	37	74	26
Parys.....	27-27	26-54	1904-1915	25-53	78	83	17
Philippolis.....	25-16	30-16	1879-1915	18-07	48	72	28
Ramalltal.....	26-38	29-12	1906-1915	23-89	55	77	23
Reddersburg.....	26-10	29-39	1906-1915	19-58	69	76	24
Reitz.....	28-26	27-48	1904-1915	26-80	89	81	19
Riversdale.....	26-26	30-33	1906-1915	16-23	37	75	25
Riversford.....	26-07	29-27	1906-1915	17-89	50	76	24
Rouxville.....	26-50	30-25	1906-1915	22-60	64	74	26
Sannah's Post.....	26-33	29-12	1905-1915	16-39	45	77	23
Senekal.....	27-37	28-19	1905-1915	24-72	74	83	17
Smithfield.....	26-32	30-13	1882-1915	20-13	46	75	25
Springfontein.....	25-42	30-16	1906-1915	17-72	46	71	29
Stoltzkoop.....	28-35	27-39	1906-1915	28-91	75	86	14
Thaba 'Nchu.....	26-51	29-13	1898-1915	24-41	58	77	23
Tweespruit.....	27-05	26-12	1905-1915	25-13	74	77	23
Vrede.....	29-10	27-26	1905-1915	27-62	63	87	13
Vryheid.....	28-18	27-21	1905-1915	25-43	82	87	13
Wepener.....	27-02	29-44	1890-1915	27-96	69	79	21
Westminster.....	27-09	29-10	1906-1915	24-61	73	77	23
Witburn.....	28-16	28-15	1904-1915	29-09	90	81	19
Wilgeboom Nek.....	26-55	29-14	1903-1915	22-29	59	78	22
Witburg.....	27-01	28-31	1886-1915	21-92	58	81	19
Wonderboom.....	27-03	29-49	1906-1915	23-17	47	74	26
York.....	26-58	29-18	1907-1915	22-92	68	75	25
Zuikerkop.....	27-36	29-00	1905-1915	25-95	75	79	21

**BASUTOLAND.**

Butha Buthe.....	28-13	28-44	1891-1901	32-29	87	79	21
Leribe.....	28-10	28-49	1887-1915	34-58	89	79	21
Mafeking.....	27-13	29-47	1886-1910	31-69	78	75	25
Maseru.....	27-30	29-17	1885-1911	30-40	86	70	24
Mohale's Hoek.....	27-28	30-08	1896-1915	29-04	69	75	25
Moyeni.....	27-45	30-23	1887-1911	35-49	84	74	26
Quthus Nek.....	27-48	30-19	1895-1915	36-10	100	82	18
Teyateyaneng.....	27-45	29-08	1896-1915	29-87	80	78	22

**SWAZILAND.**

Bremersdorp.....	31-23	26-29	1897-1915	37-32	85	84	16
Croydon.....	31-37	26-15	1905-1915	32-37	89	84	16
Forbes Reef.....	31-06	26-09	1906-1915	46-39	118	83	17
Hlatikulu.....	31-20	26-58	1905-1915	44-81	119	83	17
Mbabane.....	31-09	26-19	1903-1915	50-18	130	85	15
Pigg's Peak.....	31-15	25-58	1903-1915	50-41	120	85	15
Schroedershof.....	31-58	26-28	1899-1915	34-00	105	81	19

## (ii) YEARLY RECORDS OF RAINFALL IN NINE TOWNS FROM EARLIEST DATE OF OBSERVATION IN EACH CASE.

(a) RAINFALL RECORDED AT CAPE TOWN (ROYAL OBSERVATORY), 1838-1866.

Year.	Amount.	Year.	Amount.	Year.	Amount.	Year.	Amount.	Year.	Amount.
	Inches.		Inches.		Inches.		Inches.		Inches.
1838	24.44	1844	18.78	1850	33.47	1856	19.48	1862	32.01
1839	17.48	1845	20.91	1851	20.30	1857	22.04	1863	25.00
1840	25.06	1846	22.50	1852	23.19	1858	24.27	1864	18.92
1841	23.21	1847	22.38	1853	21.22	1859	36.72	1865	18.67
1842	26.27	1848	23.25	1854	20.05	1860	29.12	1866	19.21
1843	24.82	1849	24.62	1855	24.57	1861	25.44		

(b) RAINFALL IN NINE TOWNS, 1867-1921.

Year.	Cape Town (Royal Observatory).	Port Elizabeth.	Durban.	Willowmore.	Graaf-Reinet.	Bloemfontein.	Prieska.	Kimberley.	Johannesburg (Joubert Park).
	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.	Inches.
1867	22.90	33.59	—	—	—	—	—	—	—
1868	10.95	10.78	—	—	—	—	—	—	—
1869	32.34	22.93	—	—	—	—	—	—	—
1870	28.06	30.38	—	—	—	—	—	—	—
1871	20.11	24.24	—	—	—	—	—	—	—
1872	29.33	28.60	—	—	—	—	—	—	—
1873	23.77	20.15	43.00	—	—	—	—	—	—
1874	26.20	30.33	53.17	—	—	—	—	—	—
1875	25.71	23.40	54.68	—	—	—	—	—	—
1876	26.64	22.17	35.22	—	—	—	—	—	—
1877	35.56	15.31	35.54	—	—	—	—	—	—
1878	41.02	24.83	28.64	8.76	—	—	7.46	—	—
1879	18.74	20.73	44.14	8.29	—	—	9.54	—	—
1880	17.71	25.99	47.58	5.61	—	—	6.67	—	—
1881	25.61	22.52	37.07	0.08	14.50	34.71	18.09	—	—
1882	29.31	17.27	36.21	12.61	12.30	19.42	8.05	13.33	—
1883	32.06	23.17	44.52	4.58	10.00	16.04	3.62	11.76	—
1884	28.29	19.70	44.68	7.86	9.60	16.44	11.24	17.71	—
1885	27.92	17.14	34.48	8.78	14.72	17.84	4.46	8.25	—
1886	27.79	22.56	31.79	9.27	21.46	17.66	6.39	13.07	—
1887	23.08	16.22	31.87	6.90	15.86	21.45	11.52	17.33	—
1888	36.06	28.30	38.21	16.26	14.47	27.88	9.70	16.25	—
1889	30.98	25.02	29.27	9.23	18.53	33.05	11.12	15.97	19.85
1890	26.34	15.28	32.78	11.09	17.21	28.80	13.15	21.00	25.94
1891	30.30	24.82	45.45	14.67	20.61	34.57	15.98	30.17	40.85
1892	40.92	10.16	38.20	8.99	15.01	25.79	14.54	7.90	27.54
1893	23.42	22.20	71.32	13.58	15.32	15.98	13.66	14.52	37.63
1894	22.55	16.22	37.27	11.46	14.83	25.12	12.68	25.21	35.41
1895	28.52	17.05	51.41	7.53	12.35	33.03	11.64	15.76	29.14
1896	17.07	16.97	39.60	11.23	13.87	19.60	4.87	18.54	23.23
1897	10.92	26.23	34.30	7.96	12.21	15.17	4.63	10.54	28.08
1898	28.78	22.35	42.48	9.70	13.51	23.72	10.78	16.04	28.90
1899	26.79	10.41	27.86	6.72	9.10	18.10	13.48	18.00	28.57
1900	21.24	17.42	27.24	11.97	16.41	—	7.55	10.38	32.80
1901	25.60	20.38	55.54	7.48	15.15	—	12.02	21.67	35.48
1902	35.74	20.09	41.28	10.96	15.11	—	3.53	18.78	33.51
1903	29.02	25.93	35.66	4.11	7.84	14.37	1.37	10.80	27.23
1904	31.82	21.95	34.72	9.61	12.14	21.00	11.87	15.90	36.60
1905	30.15	24.20	44.95	10.23	12.94	22.28	8.38	12.15	27.57
1906	20.26	20.15	41.58	9.39	17.93	10.51	6.09	20.05	32.22
1907	19.89	21.40	38.78	10.42	12.17	26.62	18.71	25.50	37.35
1908	24.72	25.65	44.91	3.08	7.12	14.41	6.92	13.67	26.66
1909	24.01	22.06	44.37	9.84	18.49	28.46	17.03	19.40	52.57
1910	21.56	25.34	47.93	—	13.02	18.38	3.80	14.65	33.29
1911	27.42	28.82	42.32	—	17.63	22.27	14.81	10.70	29.50
1912	22.00	22.30	29.01	—	8.65	14.38	8.49	12.85	26.37
1913	24.01	23.00	45.80	—	17.04	14.97	11.41	14.15	30.18
1914	25.02	20.63	36.33	—	12.40	21.79	8.06	16.44	32.10
1915	26.06	22.96	37.01	—	8.55	22.65	8.11	12.31	44.46
1916	21.20	26.54	29.55	—	12.95	15.49	5.53	9.74	32.91
1917	25.31	34.08	79.79	—	19.53	21.59	10.89	15.56	54.88
1918	22.38	25.64	41.63	—	11.26	24.18	11.43	18.29	52.41
1919	19.59	20.20	37.28	—	6.53	11.64	4.45	8.90	20.03
1920	26.98	13.57	44.51	—	17.92	23.20	11.12	21.44	30.50
1921	25.83	25.46	54.08	—	19.95	21.85	10.71	14.43	40.24
Average	25.36*	22.58	41.37	9.02	14.09	21.73	9.67	15.90	33.36
Highest	41.02	34.08	79.79	16.92	21.46	34.71	18.71	30.17	54.88
Lowest	17.07	10.41	27.24	3.08	6.53	11.64	1.37	7.90	19.85
Ratio of Difference to Mean Rainfall	.94	1.05	1.27	1.34	1.06	1.06	1.79	1.40	1.05

\* For period 1838 to 1921.

Figure 1.

HUMIDITY—LOURENÇO MARQUES AND JOHANNESBURG.

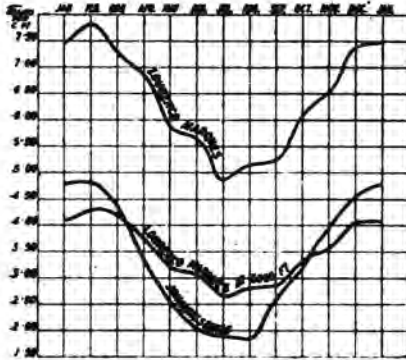


Figure 2.

MEAN MONTHLY RAINFALL—JOHANNESBURG AND CAPE TOWN.

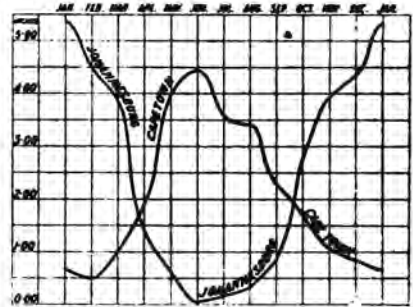
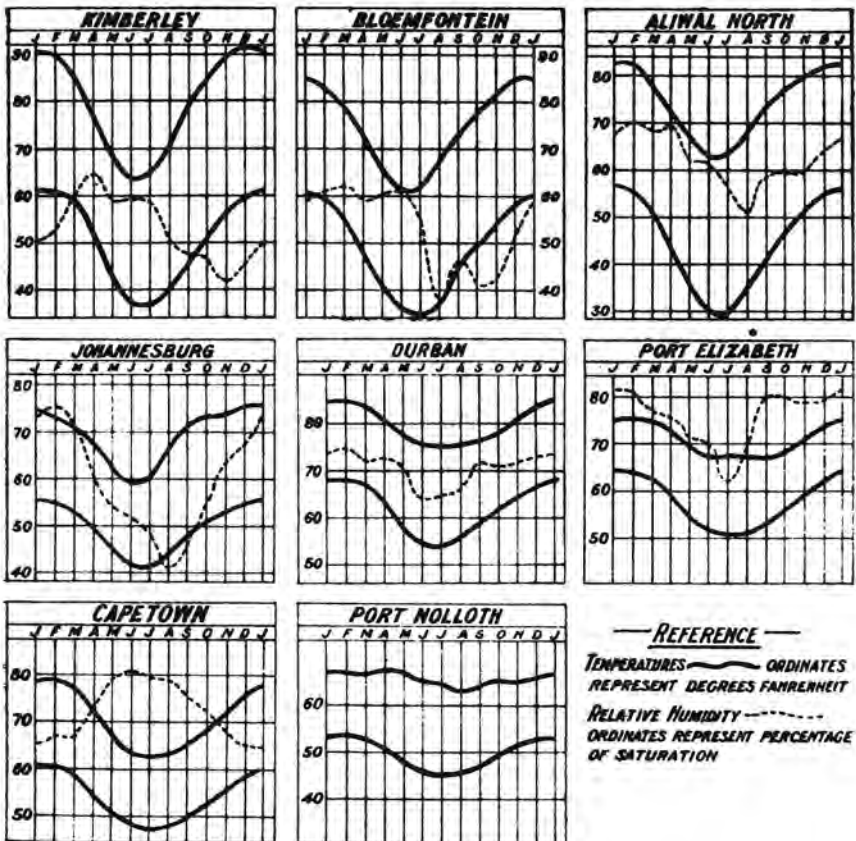


Figure 3.

MEAN MONTHLY MAXIMUM AND MINIMUM TEMPERATURES AND RELATIVE HUMIDITY.

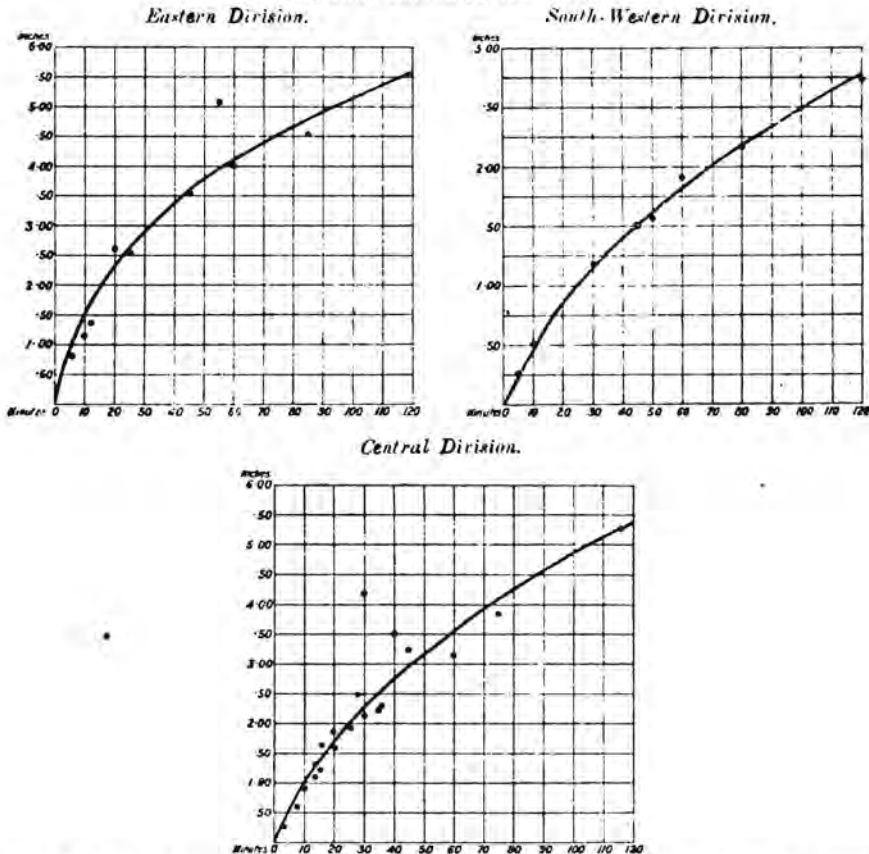




Precipitation in the interior takes place mostly through the agency of thunderstorms, the occurrence of which is facilitated by a steep temperature gradient from about the 3,500 ft. plane. Such storms are also frequent on the eastern slopes of the plateau, and the accompanying precipitation is sometimes of great intensity. By taking the heaviest falls recorded in the Transvaal during various intervals of time the curves of Fig. 4 have been obtained as representing the probable maximum amount of rainfall to be expected during a stated interval of time. The eastern slopes of the *main* and *Zoutpansberg* plateaus and part of the north-eastern *high veld* fall under the eastern division, the extreme south-western district of the Province, under the south-western division, and the remainder of the country, excluding the unhealthy regions of the *low veld*, under the central. The most remarkable fall yet recorded occurred at Wolhuterskop on the 18th February, 1915, when 4.19 inches fell in thirty minutes.

Figure 4.

## PROBABLE MAXIMUM RAINFALL.



**6. Hail and Snow.**—Hail has been observed over the Union in three different forms, viz.: (a) *soft hail* which consists of small rounded pellets about the size of peas, opaque and white like compacted snow; this form occurs mostly in showers of short duration in spring and early summer, and sometimes in winter when it is occasionally followed by snow; (b) *icy pellets*, larger, more compact and transparent like frozen raindrops. These are known as *Riesel* in Germany, but there is no equivalent in English, although the American Bureau define this as sleet. This *Riesel* constitutes the transition stage between *soft hail* and (c) *true hail*, which consists of pieces of ice of irregular form but mostly pear or mushroom shaped, with a central nucleus surrounded by a series of more or less concentric hard and soft, alternately clear and opaque, layers. This *true hail* is associated with thunderstorms and occurs mostly during the warmest period of the year. Although usually regarded as a summer phenomenon, such storms may occur during the winter months, as at Fauresmith on the 19th June, 1900. A fourth form of hail, occurring at times associated with *true hail* consists of irregularly-shaped pieces of ice-like fragments of larger

pieces which have been broken by collision with one another. Hail frequently causes considerable damage to orchards and growing crops, even at times killing numbers of small stock. Hailstorms occur on an average 108 days in the year over the Transvaal, mostly in the months of October to January, the maximum being in November, whilst over the Cape Province the number of days is 105, mostly from November to March, with the maximum in February.

Snow is of infrequent occurrence and usually confined to the mountainous districts. On the flats along the coast it is rarely met, and its infrequency on the *high veld* is indicated by the fact that in only eleven of fifty-seven years has it been recorded in the Transvaal. Map II shows the general distribution of precipitation over the country.

**7. Evaporation.**—Evaporation from free water surfaces is considerable over the whole country, the monthly means at Johannesburg, Cape Town, and Dunbrody being:—

**MONTHLY MEANS OF EVAPORATION.**

MONTH.	Johannesburg (Union Observatory).	Cape Town (Molteno Reservoir).	Dunbrody (near Port Elizabeth).
	Inches.	Inches.	Inches.
January.....	6·51	10·39	9·10
February.....	5·65	9·82	7·61
March.....	5·07	9·10	6·55
April.....	5·13	5·75	5·01
May.....	5·10	3·16	3·83
June.....	4·35	2·48	3·59
July.....	4·91	3·50	3·72
August.....	6·60	3·62	5·03
September.....	7·91	5·08	5·36
October.....	8·41	6·80	6·37
November.....	7·63	8·83	7·32
December.....	7·40	10·04	8·70
<b>TOTAL.....</b>	<b>74·67</b>	<b>78·57</b>	<b>72·19</b>

**8. Hours of Sunshine.**—The mean number of hours of bright sunshine experienced daily at Cape Town, Kimberley, and Johannesburg as compared with similar data for other parts of the world is given below:—

**MEAN DAILY HOURS OF SUNSHINE.**

MONTH.	Cape Town (Royal Observatory).	Kim- berley.	Johan- nesburg (Union Observatory).	London.	Buchar- est.	Calcutta.	Balti- more.	New York.	Cor- doba.
	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.	Hours.
January.....	9·71	9·90	7·8	1·4	2·5	8·9	4·9	5·1	9·1
February.....	9·78	9·14	7·5	1·8	3·4	9·0	6·4	6·2	8·5
March.....	8·36	8·83	7·2	3·4	4·5	9·5	6·8	6·5	7·6
April.....	6·50	8·72	8·7	4·6	6·1	9·9	7·9	7·7	7·1
May.....	6·10	8·64	8·8	6·5	8·0	9·4	7·7	8·1	6·6
June.....	4·81	8·64	9·0	6·2	8·7	5·1	9·2	9·0	5·3
July.....	4·00	8·90	9·2	6·3	10·4	4·1	9·2	8·4	5·6
August.....	5·93	9·23	9·9	5·9	10·1	3·6	8·4	8·3	7·1
September.....	6·76	9·78	9·3	4·3	7·7	5·3	8·4	7·5	7·6
October.....	7·92	10·06	9·0	3·1	5·3	8·3	6·7	5·8	8·0
November.....	9·16	10·76	8·9	1·7	3·4	8·5	5·0	5·0	8·9
December.....	10·17	10·26	8·6	1·1	2·1	8·1	4·9	4·9	8·8
Year.....	7·51	9·41	8·7	3·8	6·0	7·5	7·1	6·9	7·6
Percentage of total possible hours.....	66	78	73	29	49	62	58	56	63

## § 10. The Union Observatory.

[Longitude, 1h. 52m. 18<sup>o</sup>s. E.; Latitude, 26° 10' 55" S.; Altitude, 1,806 metres.]

UNION ASTRONOMER: R. T. A. INNES.

1. **Institution and Development.**—By Government Notice No. 612 (1/5/12) notification was given that the Transvaal Observatory would be known as the Union Observatory under the charge of the Union Astronomer. The Observatory was instituted in 1903, when, as a result of a petition presented by the South African Association for the Advancement of Science, the Governor of the Transvaal decided to form a Meteorological Department for that Colony. The Director of Meteorology was appointed in April, 1903, and the headquarters of the Department, the Transvaal Observatory near Johannesburg, were officially opened on the 5th January, 1905, by Lord Milner, in the presence of Sir David Gill, then H.M. Astronomer at the Cape, the Mayor of Johannesburg, and representatives of the scientific and technical societies of the Transvaal.

From 1903 until 1910, the Transvaal Meteorological Department published annual volumes (7) of meteorological results compiled from data collected by voluntary observers in all parts of the Province. In 1911 the Government decided to consolidate the meteorological services of the Union in the Irrigation Department (Meteorological Branch), and at the same time desired that the Transvaal Observatory should concentrate and develop its operations on the astronomical side, the title of the Transvaal Observatory being changed to that of the Union Observatory, the Transvaal Meteorological Director becoming the Union Astronomer. The Union Observatory still maintains its own meteorological observations, and as such it is still the only official meteorological station of the first order\* in the Union.

## (i) RECORDS OF RAINFALL—UNION OBSERVATORY, JOHANNESBURG, 1904-21.

PERIOD.	JULY.		AUGUST.		SEPTEMBER.		OCTOBER.		NOVEMBER.		DECEMBER.	
	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.
1904-05.....	0-02	1	0-02	1	0-13	2	0-79	8	4-54	9	3-28	12
1905-06.....	0-00	0	0-06	2	0-23	3	0-85	4	6-04	13	3-90	14
1906-07.....	0-00	0	0-00	0	0-51	2	4-87	11	5-34	12	4-59	16
1907-08.....	0-00	0	0-00	0	3-02	5	2-38	11	4-61	15	4-24	14
1908-09.....	0-84	3	0-16	3	0-84	5	4-04	7	3-45	14	2-08	13
1909-10.....	0-39	1	1-39	2	0-35	5	1-37	7	3-60	14	5-12	17
1910-11.....	0-00	0	0-00	0	2-71	5	4-57	17	0-97	9	5-09	16
1911-12.....	0-24	2	0-00	0	0-08	2	1-73	11	3-50	15	2-34	12
1912-13.....	0-01	1	0-00	0	0-32	2	0-72	7	1-51	8	4-87	15
1913-14.....	0-14	1	0-91	3	0-40	4	4-59	12	4-07	10	3-31	14
1914-15.....	0-00	0	0-80	1	0-11	2	2-25	10	6-86	19	7-69	17
1915-16.....	2-76	10	0-19	1	1-85	4	4-30	7	5-88	12	4-27	9
1916-17.....	0-00	0	0-00	0	0-00	0	1-94	8	4-23	13	9-41	20
1917-18.....	0-83	5	2-57	10	1-14	8	0-85	6	17-76	20	7-71	22
1918-19.....	0-30	3	3-66	6	0-95	4	4-90	16	4-24	13	7-58	18
1919-20.....	0-05	2	0-00	0	0-25	3	1-52	10	5-32	13	3-04	18
1920-21.....	0-04	1	0-05	2	1-85	3	5-03	10	3-92	15	3-35	9
Monthly Means.	0-33	2	0-58	2	0-86	3	2-74	9	5-05	13	4-82	15

PERIOD.	JANUARY.		FEBRUARY.		MARCH.		APRIL.		MAY.		JUNE.		SEASON.	
	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.	Ins.	Dys.
1904-05.....	3-28	17	3-15	17	3-42	14	1-54	9	0-35	3	0-00	0	20-52	93
1905-06.....	3-81	11	8-54	13	3-39	13	0-88	6	0-11	2	0-00	0	27-90	81
1906-07.....	7-23	20	6-25	15	2-87	6	2-01	12	0-19	3	0-00	0	34-86	97
1907-08.....	2-08	15	1-98	10	5-11	14	0-07	1	0-00	0	0-00	0	23-49	85
1908-09.....	18-42	23	6-57	18	4-72	14	0-15	3	1-08	5	0-00	0	42-33	108
1909-10.....	4-94	16	3-94	11	6-50	8	0-42	5	0-04	1	0-28	5	28-34	92
1910-11.....	5-73	15	3-10	9	2-50	12	2-77	10	3-86	10	0-00	0	31-39	103
1911-12.....	2-83	10	5-28	14	2-58	13	2-93	12	0-60	3	0-04	1	22-15	95
1912-13.....	2-66	16	3-08	15	4-47	15	2-23	13	0-06	1	0-00	0	19-93	93
1913-14.....	2-71	11	3-09	13	2-93	10	0-51	7	0-40	3	0-19	1	23-25	89
1914-15.....	11-63	19	5-04	8	2-64	9	0-32	3	1-36	5	0-00	0	38-70	90
1915-16.....	4-37	9	3-75	10	4-86	13	0-43	4	0-58	3	0-00	0	33-04	82
1916-17.....	4-52	15	5-76	12	1-55	7	2-58	9	0-75	6	0-67	7	31-41	97
1917-18.....	4-96	18	15-06	15	4-73	23	0-00	0	0-21	3	0-02	2	55-64	132
1918-19.....	4-78	17	3-33	8	3-44	7	1-73	8	0-07	3	0-00	0	34-98	98
1919-20.....	5-14	13	1-67	10	4-40	10	0-84	8	1-67	8	0-00	0	23-07	95
1920-21.....	4-77	11	2-63	12	7-69	16	0-73	7	1-15	7	0-00	0	31-21	93
Monthly Means.	5-52	15	4-84	12	3-99	12	1-24	7	0-75	4	0-07	1	30-77	95†

\* First order stations are those making continuous records of the chief meteorological elements.

† Mean of seventeen seasons.

(ii) RECORDS OF TEMPERATURE OBSERVATIONS, 1904-21.

Period.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	Mar.	Apr.	May.	June.
(a) AVERAGE MAXIMUM (MONTHLY).												
1904-05.....	80.2	85.5	87.8	72.9	75.5	72.0	75.5	72.6	70.1	70.3	63.0	58.6
1905-06.....	80.6	83.2	70.9	78.4	73.0	75.7	78.0	73.3	70.4	68.6	66.2	59.6
1906-07.....	59.3	64.2	70.7	68.9	70.9	72.8	72.9	73.1	74.0	64.6	62.4	59.2
1907-08.....	59.3	66.4	68.9	71.7	72.7	72.6	77.0	77.3	72.3	66.7	65.2	62.6
1908-09.....	58.4	66.0	71.9	72.6	72.6	76.0	71.5	69.7	68.4	68.6	62.1	60.1
1909-10.....	60.1	66.5	69.2	72.2	74.6	73.5	74.0	72.3	72.9	70.8	65.3	57.3
1910-11.....	61.2	67.6	68.9	67.5	71.1	74.6	76.2	75.8	70.0	67.5	58.0	57.7
1911-12.....	59.6	63.7	73.0	74.6	74.0	80.8	79.9	76.5	72.8	68.4	66.2	60.3
1912-13.....	59.8	66.6	70.1	76.5	81.8	75.7	77.4	76.0	71.7	68.9	63.1	60.6
1913-14.....	63.5	66.6	69.0	72.2	75.8	80.3	80.2	77.8	74.6	71.7	66.3	59.4
1914-15.....	62.4	61.8	76.5	74.7	72.7	74.8	75.2	76.5	76.0	70.9	62.8	59.7
1915-16.....	55.7	65.3	68.1	72.6	73.7	75.2	76.5	79.2	72.1	71.2	62.9	62.8
1916-17.....	62.4	64.3	72.9	77.9	74.6	72.9	77.6	73.4	74.7	67.8	63.3	58.1
1917-18.....	56.6	58.7	67.1	75.0	70.8	71.4	72.0	73.3	70.9	70.7	62.0	61.1
1918-19.....	59.6	60.7	71.4	73.3	74.4	75.6	77.0	75.4	72.6	64.8	62.9	62.9
1919-20.....	62.7	65.4	70.6	78.9	72.2	78.9	78.0	76.8	72.9	65.8	65.8	59.8
1920-21.....	62.1	66.3	72.6	72.8	76.5	78.4	77.4	75.2	70.9	68.5	61.2	61.8
Monthly Means	60.2	64.6	70.6	73.7	74.0	75.4	76.4	75.0	72.4	69.4	63.6	60.1

(b) AVERAGE MINIMUM (MONTHLY).												
1904-05.....	42.4	44.3	45.0	50.8	55.4	52.6	55.9	55.5	52.6	52.0	40.0	39.1
1905-06.....	41.2	42.6	47.9	53.8	52.7	56.0	58.2	54.8	52.2	50.2	47.3	41.6
1906-07.....	40.2	40.8	48.3	49.2	51.5	53.3	56.0	56.4	54.8	49.3	44.2	41.9
1907-08.....	40.3	45.9	47.5	49.7	52.7	54.1	55.0	56.5	53.3	45.5	46.5	44.9
1908-09.....	41.0	44.9	51.8	50.3	53.8	55.7	56.5	55.4	54.5	51.4	46.0	42.1
1909-10.....	41.8	47.1	47.8	49.4	52.4	55.7	53.9	55.3	54.2	48.6	46.0	40.7
1910-11.....	40.8	45.8	46.8	48.5	50.7	52.1	55.3	54.4	53.1	49.2	43.4	38.2
1911-12.....	40.2	41.9	49.2	51.5	53.4	58.2	57.7	57.8	53.7	51.4	47.9	39.8
1912-13.....	40.2	43.9	46.2	51.0	57.2	54.3	55.9	55.8	52.6	51.5	45.7	41.6
1913-14.....	44.2	45.5	52.7	51.1	54.2	56.7	58.2	56.0	55.0	52.1	46.9	40.4
1914-15.....	42.0	40.5	46.1	52.7	51.3	57.2	58.1	57.5	54.9	51.1	44.5	41.1
1915-16.....	40.4	44.2	48.0	40.7	53.6	53.8	55.4	55.9	54.4	50.6	42.5	43.4
1916-17.....	42.2	40.9	48.1	54.7	52.6	54.8	55.7	55.2	53.7	47.8	35.2	41.6
1917-18.....	37.5	39.6	46.3	51.5	51.3	53.7	52.9	55.1	54.0	48.4	42.9	41.4
1918-19.....	41.1	41.3	51.1	54.4	54.0	55.5	57.4	56.5	55.9	51.4	43.3	42.9
1919-20.....	42.6	42.4	46.0	53.0	51.9	55.4	56.3	56.5	52.9	50.3	46.4	39.6
1920-21.....	42.1	44.9	48.3	51.2	54.2	54.1	56.1	55.4	54.3	49.6	43.8	41.8
Monthly Means	41.2	43.3	48.1	51.3	53.1	54.9	56.2	55.9	53.9	50.0	45.2	41.3

(c) AVERAGE MEAN (MONTHLY).												
1904-05.....	51.3	54.9	56.4	61.8	65.4	62.3	65.7	64.0	61.3	61.2	54.9	48.9
1905-06.....	50.9	52.9	59.4	66.1	62.9	65.8	68.5	64.0	61.3	59.4	56.8	50.6
1906-07.....	49.8	52.5	59.5	59.0	61.2	63.0	64.4	64.8	64.4	57.0	53.3	50.8
1907-08.....	49.8	56.2	58.2	61.4	62.7	63.4	66.0	66.0	64.8	56.1	55.8	53.8
1908-09.....	49.7	55.4	61.8	61.4	63.2	65.8	64.0	62.6	61.4	60.0	54.0	49.0
1909-10.....	51.0	56.6	58.5	60.8	63.5	64.6	64.0	63.8	63.6	59.7	55.6	51.1
1910-11.....	51.0	52.7	57.8	68.0	60.9	63.4	65.8	65.1	61.6	58.7	50.7	49.0
1911-12.....	49.9	56.7	61.1	63.0	62.0	60.5	68.8	67.2	63.2	58.9	57.0	50.0
1912-13.....	50.0	55.2	58.2	63.8	60.5	65.0	66.6	65.9	62.2	60.2	54.6	51.1
1913-14.....	53.8	56.0	58.3	61.6	65.0	67.0	66.0	66.0	64.4	61.0	56.6	49.6
1914-15.....	48.0	51.2	64.3	63.7	62.0	66.0	66.6	67.0	65.1	61.0	56.6	50.4
1915-16.....	48.0	54.6	58.0	61.2	63.6	64.5	66.0	67.6	63.2	60.9	52.7	53.1
1916-17.....	47.9	49.2	58.7	63.7	63.6	63.8	66.6	64.3	64.2	57.8	54.2	49.2
1917-18.....	45.9	49.0	61.1	63.7	61.0	62.6	62.5	64.4	62.4	59.6	52.4	51.2
1918-19.....	50.4	51.0	61.3	63.8	64.2	65.5	67.2	66.8	65.6	62.6	54.0	49.7
1919-20.....	52.9	53.9	58.3	66.0	62.1	67.1	67.6	66.6	62.9	61.1	56.1	49.7
1920-21.....	52.1	55.6	60.5	62.0	65.3	66.2	66.7	65.3	62.6	59.0	52.5	51.8
Monthly Means	50.7	53.9	59.3	62.5	63.5	65.1	66.2	65.3	63.1	59.7	51.4	50.7

(ii) RECORDS OF TEMPERATURE OBSERVATIONS, 1904-21—*continued.*

## (d) AVERAGE MAXIMUM AND MINIMUM (ANNUAL) AND ABSOLUTE HIGHEST AND LOWEST.

Year.	Average Maximum for Year.	Absolute Highest during Year.	Average Minimum for Year.	Absolute Lowest during Year.	Average Mean for Year.
1904-05.....	68.7	88.3 Nov. 8	40.3	26.5 Sept. 10	59.0
1905-06.....	69.0	87.8 Oct. 18	49.9	25.7 June 24	59.9
1906-07.....	67.8	83.5 Oct. 30	48.8	23.1 July 10	58.3
1907-08.....	69.3	86.1 Jan. 20	49.3	29.6 July 4	59.8
1908-09.....	68.2	84.2 Dec. 28	50.3	31.3 Aug. 3	59.2
1909-10.....	68.8	86.5 Nov. 27	49.4	26.9 Aug. 16	59.1
1910-11.....	68.0	85.0 Feb. 16	48.2	25.0 June 27	58.1
1911-12.....	70.9	89.7 Dec. 22	50.2	26.5 July 26	60.6
1912-13.....	70.7	88.0 Nov. 21	49.7	29.8 July 29	60.2
1913-14.....	71.5	90.0 Dec. 23	50.6	26.0 June 28	61.0
1914-15.....	70.3	89.6 Nov. 17	50.2	25.8 Aug. 28	60.3
1915-16.....	69.6	86.0 Jan. 28	49.3	27.4 July 23	59.5
1916-17.....	70.0	89.6 Oct. 14	49.4	29.5 Aug. 26	60.5
1917-18.....	68.4	84.4 Nov. 1	47.9	24.9 May 30	57.7
1918-19.....	70.4	89.9 Feb. 8	50.4	25.1 July 28	60.4
1919-20.....	71.2	90.1 Jan. 5	49.4	25.2 June 24	60.3
1920-21.....	70.3	89.1 Oct. 20	49.6	29.8 June 23	60.0
Monthly Means.....	69.7	—	49.5	—	59.6

NOTE.—The thermometers are exposed in a Stevenson screen. The 31st January and the 1st March are added to February in order to make the division of the year more even. January, February, and March thus have thirty days each except in Leap Year, when February has thirty-one days.

2. **Instruments.**—In 1910, Weichert seismographs were installed, by which all great earthquakes in any part of the world, as well as the smaller local tremors due to the effects of mining, are automatically recorded.

In 1907 the Witwatersrand Council of Education, Sir David Gill and others provided the Observatory with a 9-inch refracting telescope made by Sir Howard Grubb of Dublin. This instrument was afterwards taken over by the Union Government. In 1909 a deputation from the South African Association for the Advancement of Science waited on the Transvaal Minister of Lands (The Hon. J. F. B. Rissik) to ask the Government through him to provide the funds for a powerful refracting telescope. The request was acceded to and the Transvaal Parliament having voted the required expenditure, a 26-inch refracting telescope was ordered from Sir Howard Grubb in 1909. Through unexpected difficulties in casting the optical glass for the objective, the telescope was unfinished when the War began and its completion had to await the termination of hostilities. Further difficulties have arisen through the greatly increased costs of material and work, so that the completion may be still delayed. About the same time the late Mr. J. Franklin-Adams, of London, offered to present to the Observatory a 10-inch Astrographic Camera by T. Cooke & Sons, of York, and this offer was accepted by the Government. The instrument was erected in 1909. Shortly before his death, Mr. Franklin-Adams offered the Observatory a selection of other astronomical instruments, and, after correspondence with the late Sir David Gill, who inspected them, a fine twin-telescope (with 6-inch and 7-inch telescopes, a 6-inch prism, and other accessories) was accepted. In 1913 a stereocomparator with a blink microscope attached was purchased. The Observatory possesses the collection of clocks, chronometers, and other miscellaneous instruments usually found in such institutions.

3. **General Operations.**—Official Time in South Africa (Standard Time of the 30th meridian east of Greenwich) is determined at both of the astronomical observatories in the Union, namely the Royal Observatory near Cape Town (see Chapter II), and the Union Observatory. The former supplies time to the Cape Province and Orange Free State, the latter to the Transvaal and Natal.

With the Franklin-Adams Star-Camera, photographic plates covering the whole sky have been taken, the plates covering that part of the sky north of the equator having been taken in England before the telescope was presented to the Union Observatory. All these plates were sent to the Astronomer Royal at Greenwich and have been investigated under his direction.

This instrument is constantly at work, new plates being taken on all favourable occasions. On these plates many celestial objects are recorded, including variable stars, comets, minor planets, the fainter satellites of Jupiter and stars with large proper motion. The new minor planet (715) Transvaalia was found on these plates in 1911. A series of charts from these plates is being prepared on a scale of 36 mm. = 1°, showing all stars to about the 14th or 15th magnitude between Dec. — 19° and the South Pole. These charts as issued are distributed to the leading observatories of the world.

With the 9-inch refractor nearly 700 new double stars have been found and measured. Observations of the chief satellites of Jupiter have been made regularly since 1908. With the twin-telescope the spectra of the brighter stars are being photographed with dyed plates so as to obtain more of the red end of the spectrum than can be got with ordinary plates. Visual observations of variable stars are also regularly made with this telescope. The Union Observatory possesses in its blink-microscope one of the most potent of the more modern instruments of astronomical research. With this instrument it is possible to compare two celestial photographs of the same region of the sky with speed and precision, no matter how crowded with stars the plates may be. With its use plates taken at different times are rapidly searched for planets and variable stars, or if the interval between the exposures amounts to years, for stars with proper motion. The Observatories at Greenwich, Paris, Algiers, the Cape, Sydney, and Melbourne have lent many pairs of their astrographic plates with time intervals up to twenty-five years for examination, and numerous examples of large proper motions have been found—mainly in the cases of very faint stars.

The Union Observatory publishes at irregular intervals a circular containing the results of the work it is doing. Up to January, 1922, fifty-three of these circulars had been distributed to other astronomical observatories and institutions.

4. **Visitors.**—Upon written application visitors are admitted to the Observatory on Wednesday evenings and are shown celestial objects through the 9-inch telescope. Senior classes of schools are also shown over the Observatory in the day-time. In 1921 the number of visitors was about 1,500.

## CHAPTER II.

### CONSTITUTION AND GOVERNMENT.

#### § 1. Constitutional Development.

1. **General.**—In reviewing the constitutional history and development of the Cape of Good Hope, Natal, Transvaal, and Orange Free State, it must be noted that the movements which were consummated in the union of these States in 1910 may be traced back at their furthest to a period when the principles which characterize them lay at the root of the constitutional struggles of Western Europe, where in due course they were elaborated, and at length secured general acceptance. The *Cape of Good Hope*, with a constitutional history extending over a relatively long period, was influenced in its modern developments by the liberal tendencies which in England found expression in the Reform Acts and the Durham colonial system. The constitutional movement in *Natal* followed closely that in the Cape, allowances being made for the difference in age of the two colonies. The *Transvaal* and the *Orange Free State* possessed under the Republican régime constitutions which were to a large extent related to the neighbouring systems, and the form of Government which they acquired after the war of 1899-1902 was of the type already proved in the Cape and Natal.

It was principally in the case of the local government institutions that developments of a distinctive character may be noticed—fostered as they were by the existence of small communities widely separated, and to a large extent free from central control. This circumstance forms a very important factor in the whole history of the South African States and the present Union.

2. **Cape of Good Hope.**—(i) *The Four Stages.*—The constitutional history of the Cape of Good Hope naturally falls into four periods—the period of the Dutch East India Company's rule from 1652 to 1795; the period of Crown Colony Government, extending, with a brief interlude, from 1795 to 1854; the period of Representative Government from 1854 to 1872; and the period of Responsible Government from 1872 to 1910, the date when the colony was merged into the Union of South Africa. The year 1795 is the dividing line in this history, and the point of departure for all the subsequent developments.

(ii) *Period 1652-1795.*—There is little in the institutions of this period which survived the events of 1795 and 1806. Long before the date of the British occupation the rule of the Dutch East India Company had been shown to be inadequate to the needs of the expanding settlement. The central government was in the hands of the Governor and a small bureaucracy, with a vague Advisory Council in the shape of the Burgher Raad at Cape Town, consisting of six citizens who sat as lay-judges in the Supreme Court, and were the channel for the transmission of grievances to Amsterdam. In the country districts the board of *landdrosts* and *heemraden* represented the central government. The *landdrost* was a public servant, and the six *heemraden* were citizens selected by the government. Their functions were both administrative and judicial. The system was completed by the institution of the office of *field-cornet* for the administration of sub-districts or wards. The *field-cornet* was, through the district board, a nominee of the central government. This system had hardly a place for any semblance of popular control, and it was subject to many abuses. But the great emphasis laid on local institutions tended towards the growth of a spirit of independence and individuality which manifested itself strongly at the end of the Company's régime, in the establishment of the short-lived republics of Graaff-Reinet and Swellendam in 1795. When the British occupied the colony, the whole system of government was in process of disruption and revolution. Disregarding the strictly chronological order, reference may be made here to the period 1803-6, when the colony came once more into the hands of the Dutch. These three years were marked by an earnest effort on the part of the republican government of Holland to give to the Cape something in the nature of representative institutions.

(iii) *Period 1795-1854.*—This period commences with the first occupation of the Cape by the British, and continues, with the short interruption noted above, to the grant of representative government in 1854. The movement which led up to this event was characterized by progressive developments. The earliest form of government under the British was, like that of the East India Company, frankly bureaucratic, but more centralized. All power was vested in the Governor—administrative and executive, legislative and judicial; and it was exercised in an effective manner, with little regard for local susceptibilities. From 1825 the Governor was assisted in a merely advisory capacity by six of the principal officials in the colony; but while this tended to dilute his powers, the system remained essentially

the same. There was a further development in 1827, when two private citizens were appointed by the Governor as additional members of the Council of 1825. But the first conscious step in the direction of representative government was taken two years after the English Reform Act of 1832. Two Councils were established—an Executive, consisting of five officials, and a Legislative, comprising the same officials and a number of unofficial members (not exceeding seven), selected by the Governor from among the most influential merchants and landowners of the colony. They held their office virtually during the Governor's pleasure. The debates were open, and opportunity was thus given for the growth of public opinion in political matters. This was an important element in the agitation, which resulted in the constitution of 1854.

Two chambers, both elective, were created. The lower, the Legislative Assembly, consisted of forty-six members elected on a liberal franchise by twenty-two constituencies; the upper chamber, the Legislative Council, was composed of fifteen delegates with high property qualifications, chosen by two constituencies, the eastern districts and the western districts, in the proportion of seven to eight respectively. The presidency of the upper chamber was vested in the Chief Justice of the colony, and the executive authority and the power to introduce legislation were in the hands of the Governor and the principal officials, who were entitled to a seat in either chamber, but without the right to vote.

(iv) *Period 1854-1872.*—The system of government introduced in 1853 was fully representative, but in no way responsible in the political sense. The final development occurred in 1872, and was rendered necessary by the general appreciation of the fact that the existing institutions were obstacles to the progress of the colony. A high degree of development was being attained in the local government organizations, and the conception of political responsibility was well recognized in local affairs. This conception was extended to national matters by the amendment of the constitution in 1872, which accepted the principle of responsible government.

(v) *Period 1872-1910.*—This final period was not marked by any considerable changes in the constitution of the colony, apart from certain adjustments in the membership of the two chambers and in the franchise, due to the absorption into the Cape of various native territories. In the field of political institutions, attention was chiefly directed to the development of local bodies and their relation to the central government. After the constitution of the Union this became one of the most important functions of the administrations, which, in the Cape as in the other Provinces, took the place of the colonial governments.

3. **Natal.**—In its main outlines the constitutional history of Natal is similar to that of the Cape, but it forms a more compact whole than the latter. The record begins with some degree of definiteness in 1844, with the annexation of the settlement at Port Natal by the British. Starting as a district of the Cape Colony, it was placed in 1845 under a Lieutenant-Governor acting on the instructions of the Governor of the Cape. Two years later it acquired a separate legislative body in the shape of a nominated council of three or more members. This form of constitution, which answered the purposes of the settlement fairly well, lasted until 1856, when a Royal Charter was issued granting Natal complete autonomy in its relation to the Cape under a separate Governor, and reconstituting its Legislative Council as a body of sixteen, of whom twelve were elective and four nominated by the Crown. The nominated members, all officials, formed the executive council with the Governor. This system was in essence identical with that introduced in the Cape in 1854, but it was only in 1893 that Natal secured the constitution which the sister colony had been granted in 1872. Two chambers were established—a Legislative Council of eleven members nominated by the Governor-in-Council, and a Legislative Assembly of thirty-seven members elected by thirteen separate constituencies. The Executive Council was composed of the Governor and not more than six members of either house. This constitution remained in force without variation until 1910.

4. **Transvaal.**—In the brief historical account given in the preceding chapter, reference is made to the circumstances under which the Transvaal originated, and the difficulties which the earliest settlers had to face. As was natural, several years elapsed before the various groups of emigrants were sufficiently established to have a central government. By 1840 there were two fairly well recognized legislative bodies among the Voortrekkers, one at Pietermaritzburg (the *Volkraad*), with a more or less definite authority over all the sections, and another at Potchefstroom (the *Adjunct Raad*), with a vague jurisdiction over the communities in the present Transvaal and possibly also the Orange Free State, but subsidiary to the *Volkraad* at Pietermaritzburg. With the occupation of Natal by the British in 1844, the *Adjunct Raad* was left to its own resources. Now styling itself the *Volkraad*, it promulgated in that year a series of thirty-three articles, which constitute in effect a code of laws for the community, as well as an explicit sanction of the existing institutions and form of government. From this document it may be seen that the constitution provided for a *President*, a *Volkraad* elected by the people, a *Burgerraad*



consisting of all able-bodied citizens, *landdrosts* and *field-cornets*. The constitution embodied in the *Thirty-three Articles* was accepted by the majority of the emigrants north of the Vaal in 1849, when the community, which had its centre at Potchefstroom, was joined by a small independent group at Ohrigstad. The time was then ripe for the creation of a more comprehensive written constitution answering to the increased development of the new state. This did not take place until six years after the Sand River Convention of 1852, which guaranteed "in fullest manner, on the part of the British Government, to the emigrant farmers beyond the Vaal River, the right to manage their own affairs, and to govern themselves according to their own laws." The *South Africa Republic North of the Vaal* (with the seat of government at Potchefstroom), joined by the communities of Zoutpansberg, and later of Lydenburg, became the *South African Republic*, of which the constitution was formulated in the *Grondwet* of 1858.

The basis of this constitution was the unqualified recognition of the supremacy of the people, which was the fountain of all law. The people's right of legislation was vested, by a deliberate act of delegation of authority, in a *Volksraad* consisting of not less than twelve members elected on a manhood suffrage. The right to propose legislation to the *Volksraad* and to administer laws when passed was delegated to an *Executive Council* composed of four members nominated by the *Volksraad*, and of a *President*, elected by the people, who was also to be President of the Republic. The local representatives of the central government were the *landdrosts*, assisted by boards of *heemraden* and a number of minor officials. The *landdrosts* were selected by the Executive Council with the approval of the people. The *heemraden* were co-opted by the existing boards after notification to the Executive Council, and approval by the people. The *landdrosts* and *heemraden* formed a court both for administrative and for certain judicial functions. The jury system was adopted. Subordinate to the *landdrost* in his administrative capacity, were the *field-cornets*, who were in charge of the small local units called the *wijken* (wards). The *field-cornet*, who had his assistant, was also the representative of the military authority of the state, and as such was subordinate to the *Commandant* of the district, who in his turn was subordinate to the *Commandant-General*—the latter being, like his inferiors, elected directly by the people.

The constitution of 1858 remained unaltered in its chief outlines, surviving the events of 1877-81 (the period of the British occupation). Apart from a development in local government by the creation, in 1883, of District Councils, the first important changes were effected in 1889, when a revised *Grondwet* was adopted. The chief executive power was then vested in the President, with whom were associated the *Commandant-General*, two burghers possessing the franchise, the State Secretary, a Minute Keeper, and the Superintendent of Native Affairs, forming the *Executive Council*, the sessions of which might also be attended by other heads of departments as occasion demanded. The system of administration of justice was elaborated; additional powers were given to the District Councils; and the principle of municipal government was introduced as a further development.

The next step was taken in 1890, when, by Law No. 4 of that year, the constitution was altered by the establishment of two legislative houses, the *First Volksraad*, which was the superior body, and practically identical in constitution with the existing legislative chamber, and the *Second Volksraad*, elected on a wider franchise, but with restricted powers of legislation. The basis of the franchise was repeatedly modified in various enactments before and after 1890, and these changes were finally consolidated in the *Grondwet* of 1896, which formed the constitutional law of the Republic at the outbreak of the South African War in 1899.

In 1906, after several years of Crown Colony government under a Lieutenant-Governor, full responsible government was granted to the Transvaal by the Government in Great Britain.

5. **Orange Free State.**—Up to about 1846 the history of the emigrants who settled between the Orange and the Vaal Rivers took practically the same course as that of the groups to the north of the Vaal. In that year the government of the Cape Colony, acting on behalf of the British Crown through the High Commissioner, assumed full control of the Orange River Sovereignty, with a Resident in charge at Bloemfontein. By a document signed in 1849, a government was established in this territory, on lines similar to the Cape constitution of the day. The High Commissioner had the supreme authority, but delegated his powers to the Resident, who was assisted by a Council of thirteen nominees of the government, partly non-official. The judicial and local administration was akin to that of the Cape, and the Supreme Court of the latter had jurisdiction also in the Sovereignty.

This system was in force until 1854, when, by the Convention of Bloemfontein, complete independence was given to the settlers between the Orange and the Vaal. The state thus created assumed the name of the Orange Free State. A constitution was adopted which was very similar to that of the South African Republic. There was one legislative chamber of elected members, the *Volksraad*, and an Executive Council of five members chosen by the latter. The President of the State was the Chairman of the Executive. In all th

details of the judicial administration and local government the Orange Free State institutions were akin to those of the neighbouring Republic, both being, as a matter of fact, derived from a common source, the system obtaining in the Cape Colony.

The constitution of 1854 underwent a number of modifications and extensions which did not affect its essential character. When the South African War broke out the constitution was fundamentally the same as that of 1866, when the first complete revision took place.

In 1902, after the War, Crown Colony government was instituted. This system was replaced by responsible government in 1907, in the form similar to that which was in force in the other South African States which entered the Union in 1910.

**6. The Union of South Africa.**—The process of events which led up to the unification in 1910 of the legislative and administrative institutions of the four Colonies (thereby constituted Provinces) whose history has been outlined above, is briefly recorded in Section 1 of the preceding Chapter. The constitutional basis of the Union of South Africa is contained in the South Africa Act of 1909, which is given in full hereunder, with references, where necessary, to amendments effected up to the present date.

## SOUTH AFRICA ACT.

[9 EDW. 7, C. 9.]

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## SCHEDULE.

## AN ACT TO CONSTITUTE THE UNION OF SOUTH AFRICA.

Whereas it is desirable for the welfare and future progress of South Africa that the several British Colonies therein should be united under one Government in a legislative union under the Crown of Great Britain and Ireland :

And whereas it is expedient to make provision for the union of the Colonies of the Cape of Good Hope, Natal, the Transvaal, and the Orange River Colony on terms and conditions to which they have agreed by resolution of their respective Parliaments, and to define the executive, legislative, and judicial powers to be exercised in the government of the Union ;

And whereas it is expedient to make provision for the establishment of provinces with powers of legislation and administration in local matters and in such other matters as may be specially reserved for provincial legislation and administration :

And whereas it is expedient to provide for the eventual admission into the Union or transfer to the Union of such parts of South Africa as are not originally included therein :

Be it therefore enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows.

## PART I.

*Preliminary.*

1. This Act may be cited as the South Africa Act, 1909.  
 2. In this Act, unless it is otherwise expressed or implied, the words " the Union " shall be taken to mean the Union of South Africa as constituted under this Act, and the words " Houses of Parliament," " House of Parliament," or " Parliament," shall be taken to mean the Parliament of the Union.  
 3. The provisions of this Act referring to the King shall extend to His Majesty's heirs and successors in the sovereignty of the United Kingdom of Great Britain and Ireland.

## PART II.

*The Union.*

4. It shall be lawful for the King, with the advice of the Privy Council, to declare by proclamation that, on and after a date therein appointed, not being later than one year after the passing of this Act, the Colonies of the Cape of Good Hope, Natal, the Transvaal, and the Orange River Colony, hereinafter called the Colonies, shall be united in a legislative union under one Government under the name of the Union of South Africa. On and after the day appointed \* by such proclamation the Government and Parliament of the Union shall have full power and authority within the limits of the Colonies,† but the King may at any time after the proclamation appoint a Governor-General for the Union.

5. The provisions of this Act shall, unless it is otherwise expressed or implied, take effect on and after the day so appointed.

6. The Colonies mentioned in section *four* shall become original provinces of the Union under the names of Cape of Good Hope, Natal, Transvaal, and Orange Free State, as the case may be. The original provinces shall have the same limits as the respective Colonies at the establishment of the Union.

7. Upon any Colony entering the Union, the Colonial Boundaries Act, 1895, and every other Act applying to any of the Colonies as being self-governing Colonies or Colonies with responsible government, shall cease to apply to that Colony, but as from the date when this Act takes effect every such Act of Parliament shall apply to the Union.

\* 31st May, 1910.

† As to the territory of South-West Africa, see Act No. 49 of 1919 and Section 2 of Act No. 32 of 1921.

## PART III.

*Executive Government.*

8. The Executive Government of the Union is vested in the King, and shall be administered by His Majesty in person or by a Governor-General as his representative.

9. The Governor-General shall be appointed by the King, and shall have and may exercise in the Union during the King's pleasure, but subject to this Act, such powers and functions of the King as His Majesty may be pleased to assign to him.

10. There shall be payable to the King out of the Consolidated Revenue Fund of the Union for the salary of the Governor-General an annual sum of ten thousand pounds. The salary of the Governor-General shall not be altered during his continuance in office.

11. The provisions of this Act relating to the Governor-General extend and apply to the Governor-General for the time being or such person as the King may appoint to administer the government of the Union. The King may authorize the Governor-General to appoint any person to be his deputy within the Union during his temporary absence, and in that capacity to exercise for and on behalf of the Governor-General during such absence all such powers and authorities vested in the Governor-General as the Governor-General may assign to him, subject to any limitations expressed or directions given by the King; but the appointment of such deputy shall not affect the exercise by the Governor-General himself of any power or function.

12. There shall be an Executive Council to advise the Governor-General in the government of the Union, and the members of the council shall be chosen and summoned by the Governor-General and sworn as executive councillors, and shall hold office during his pleasure.

13. The provisions of this Act referring to the Governor-General-in-Council shall be construed as referring to the Governor-General acting with the advice of the Executive Council.

14. The Governor-General may appoint officers not exceeding ten in number to administer such departments of State of the Union as the Governor-General-in-Council may establish; such officers shall hold office during the pleasure of the Governor-General. They shall be members of the Executive Council and shall be the King's Ministers of State for the Union. After the first general election of members of the House of Assembly, as hereinafter provided, no minister shall hold office for a longer period than three months unless he is or becomes a member of either House of Parliament.

\* 15. The appointment and removal of all officers of the public service of the Union shall be vested in the Governor-General-in-Council, unless the appointment is delegated by the Governor-General-in-Council or by this Act or by a law of Parliament to some other authority.

16. All powers, authorities, and functions which at the establishment of the Union are in any of the Colonies vested in the Governor or in the Governor-in-Council, or in any authority of the Colony, shall, as far as the same continue in existence and are capable of being exercised after the establishment of the Union, be vested in the Governor-General or in the Governor-General-in-Council, or in the authority exercising similar powers under the Union, as the case may be, except such powers and functions as are by this Act or may by a law of Parliament be vested in some other authority.

17. The command-in-chief of the naval and military forces within the Union is vested in the King or in the Governor-General as his representative.

18. Save as in section *twenty-three* excepted, Pretoria shall be the seat of Government of the Union.

## PART IV.

*Parliament.*

19. The legislative power of the Union shall be vested in the Parliament of the Union, herein called Parliament, which shall consist of the King, a Senate, and a House of Assembly.

20. The Governor-General may appoint such times for holding the sessions of Parliament as he thinks fit, and may also from time to time, by proclamation or otherwise, prorogue Parliament, and may in like manner dissolve the Senate and the House of Assembly simultaneously, or the House of Assembly alone; provided that the Senate shall not be dissolved within a period of ten years after the establishment of the Union, and provided further that the dissolution of the Senate shall not affect any senators nominated by the Governor-General-in-Council.

21. Parliament shall be summoned to meet not later than six months after the establishment of the Union.

\* As to appointments of officers in the public service see Section 3 of Act No. 29 of 1912 as amended by Section 2 of Act No. 39 of 1914 and as to removal of such officers see Section 15 of Act No. 29 of 1912 as amended by Section 2 of Act No. 39 of 1914.

22. There shall be a session of Parliament once at least in every year, so that a period of twelve months shall not intervene between the last sitting of Parliament in one session and its first sitting in the next session.

23. Cape Town shall be the seat of the Legislature of the Union.

#### *Senate.*

24. For ten years \* after the establishment of the Union the constitution of the Senate shall, in respect of the original provinces, be as follows:—

- (i) Eight senators shall be nominated by the Governor-General-in-Council, and for each original province eight senators shall be elected in the manner hereinafter provided;
- (ii) The senators to be nominated by the Governor-General-in-Council shall hold their seats for ten years. One-half of their number shall be selected on the ground mainly of their thorough acquaintance, by reason of their official experience or otherwise, with the reasonable wants and wishes of the coloured races in South Africa. If the seat of a senator so nominated shall become vacant, the Governor-General-in-Council shall nominate another person to be a senator, who shall hold his seat for ten years;
- (iii) After the passing of this Act, and before the day appointed for the establishment of the Union, the Governor of each of the Colonies shall summon a special sitting of both Houses of the Legislature, and the two Houses sitting together as one body and presided over by the Speaker of the Legislative Assembly shall elect eight persons to be senators for the province. Such senators shall hold their seats for ten years. If the seat of a senator so elected shall become vacant, the provincial council of the province for which such senator has been elected shall choose a person to hold the seat until the completion of the period for which the person in whose stead he is elected would have held his seat.

25. Parliament may provide for the manner in which the Senate shall be constituted after the expiration of ten years,\* and unless and until such provision shall have been made—

- (i) the provisions of the last preceding section with regard to nominated senators shall continue to have effect;
- (ii) eight senators for each province shall be elected by the members of the provincial council of such province together with the members of the House of Assembly elected for such province. Such senators shall hold their seats for ten years unless the Senate be sooner dissolved. If the seat of an elected senator shall become vacant, the members of the provincial council of the province, together with the members of the House of Assembly elected for such province, shall choose a person to hold the seat until the completion of the period for which the person in whose stead he is elected would have held his seat. The Governor-General-in-Council shall make regulations for the joint election of senators prescribed in this section.

26. The qualifications of a senator shall be as follows:—

He must

- (a) be not less than thirty years of age;
- (b) be qualified to be registered as a voter for the election of members of the House of Assembly in one of the provinces;
- (c) have resided for five years within the limits of the Union as existing at the time when he is elected or nominated, as the case may be;
- (d) be a British subject of European descent;
- (e) in the case of an elected senator, be the registered owner of immovable property within the Union of the value of not less than five hundred pounds over and above any special mortgages thereon.

For the purposes of this section, residence in, and property situated within, a Colony before its incorporation in the Union shall be treated as residence in and property situated within the Union.

27. The Senate shall, before proceeding to the dispatch of any other business, choose a senator to be the President of the Senate, and as often as the office of President becomes vacant the Senate shall again choose a senator to be the President. The President shall cease to hold office if he ceases to be a senator. He may be removed from office by a vote of the Senate, or he may resign his office by writing under his hand addressed to the Governor-General.

28. Prior to or during any absence of the President the Senate may choose a senator to perform his duties in his absence.

\* This period of ten years was by Section 1 of Act No. 9 of 1920 declared to end on 31st October, 1920.

29. A senator may, by writing under his hand addressed to the Governor-General, resign his seat, which thereupon shall become vacant. The Governor-General shall as soon as practicable cause steps to be taken to have the vacancy filled.

30. The presence of at least twelve senators shall be necessary to constitute a meeting of the Senate for the exercise of its powers.

31. All questions in the Senate shall be determined by a majority of votes of senators present other than the President or the presiding senator, who shall, however, have and exercise a casting vote in the case of an equality of votes.

#### *House of Assembly.*

32. The House of Assembly shall be composed of members directly chosen by the voters of the Union in electoral divisions delimited as hereinafter provided.

33. The number of members to be elected in the original provinces at the first election and until the number is altered in accordance with the provisions of this Act shall be as follows:—

Cape of Good Hope.....	Fifty-one.
Natal.....	Seventeen.
Transvaal.....	Thirty-six.
Orange Free State.....	Seventeen.

These numbers may be increased as provided in the next succeeding section, but shall not, in the case of any original province, be diminished until the total number of members of the House of Assembly in respect of the provinces herein provided for reaches one hundred and fifty, or until a period of ten years has elapsed after the establishment of the Union, whichever is the longer period.

\* 34. The number of members to be elected in each province, as provided in section thirty-three, shall be increased from time to time as may be necessary in accordance with the following provisions:—

- (i) The quota of the Union shall be obtained by dividing the total number of European male adults in the Union, as ascertained at the census of nineteen hundred and four, by the total number of members of the House of Assembly as constituted at the establishment of the Union:
- (ii) In nineteen hundred and eleven, and every five years thereafter, a census of the European population of the Union shall be taken for the purposes of this Act:
- (iii) After any such census the number of European male adults in each province shall be compared with the number of European male adults as ascertained at the census of nineteen hundred and four, and, in the case of any province where an increase is shown, as compared with the census of nineteen hundred and four, equal to the quota of the Union or any multiple thereof, the number of members allotted to such province in the last preceding section shall be increased by an additional member or an additional number of members equal to such multiple, as the case may be:
- (iv) Notwithstanding anything herein contained, no additional member shall be allotted to any province until the total number of European male adults in such province exceeds the quota of the Union multiplied by the number of members allotted to such province for the time being, and thereupon additional members shall be allotted to such province in respect only of such excess:
- (v) As soon as the number of members of the House of Assembly to be elected in the original provinces in accordance with the preceding sub-sections reaches the total of one hundred and fifty, such total shall not be further increased unless and until Parliament otherwise provides; and subject to the provisions of the last preceding section the distribution of members among the provinces shall be such that the proportion between the number of members to be elected at any time in each province and the number of European male adults in such province, as ascertained at the last preceding census, shall as far as possible be identical throughout the Union:
- (vi) "Male adults" in this Act shall be taken to mean males of twenty-one years of age or upwards not being members of His Majesty's regular forces on full pay:
- (vii) For the purposes of this Act the number of European male adults, as ascertained at the census of nineteen hundred and four, shall be taken to be—

For the Cape of Good Hope.....	167,546
For Natal.....	34,784
For the Transvaal.....	106,493
For the Orange Free State.....	41,014

\* See the Census Act, No. 2 of 1910. A temporary alteration of certain provisions of this section was made by Act No. 31 of 1918 (Electoral Divisions Redelimitation Amendment Act). In connection with the taking of a census of the European population in May, 1918. See also the Electoral Census Further Provision Act, No. 15 of 1918.

35. (1) Parliament may by law prescribe the qualifications which shall be necessary to entitle persons to vote at the election of members of the House of Assembly, but no such law shall disqualify any person in the province of the Cape of Good Hope who, under the laws existing in the Colony of the Cape of Good Hope at the establishment of the Union, is or may become capable of being registered as a voter from being so registered in the province of the Cape of Good Hope by reason of his race or colour only, unless the Bill be passed by both Houses of Parliament sitting together, and at the third reading be agreed to by not less than two-thirds of the total number of members of both Houses. A Bill so passed at such joint sitting shall be taken to have been duly passed by both Houses of Parliament.

(2) No person who at the passing of any such law is registered as a voter in any province shall be removed from the register by reason only of any disqualification based on race or colour.

36. Subject to the provisions of the last preceding section, the qualifications of parliamentary voters, as existing in the several Colonies at the establishment of the Union, shall be the qualifications necessary to entitle persons in the corresponding provinces to vote for the election of members of the House of Assembly: Provided that no member of His Majesty's regular forces on full pay shall be entitled to be registered as a voter.

\* 37. (1) Subject to the provisions of this Act, the laws in force in the Colonies at the establishment of the Union relating to elections for the more numerous Houses of Parliament in such Colonies respectively, the registration of voters, the oaths or declarations to be taken by voters, returning officers, the powers and duties of such officers, the proceedings in connection with elections, election expenses, corrupt and illegal practices, the hearing of election petitions and the proceedings incident thereto, the vacating of seats of members, and the proceedings necessary for filling such vacancies, shall, *mutatis mutandis*, apply to the elections in the respective provinces of members of the House of Assembly.

(2) Notwithstanding anything to the contrary in any of the said laws contained, at any general election of members of the House of Assembly, all polls shall be taken on one and the same day in all the electoral divisions throughout the Union, such day to be appointed by the Governor-General-in-Council.

38. Between the date of the passing of this Act and the date fixed for the establishment of the Union the Governor-in-Council of each of the Colonies shall nominate a judge of any of the Supreme or High Courts of the Colonies, and the judge so nominated shall, upon acceptance by them respectively of such nomination, form a joint commission, without any further appointment, for the purpose of the first division of the provinces into electoral divisions. The High Commissioner for South Africa shall forthwith convene a meeting of such commission at such time and place in one of the Colonies as he shall fix and determine. At such meeting the Commissioners shall elect one of their number as chairman of such commission. They shall thereupon proceed with the discharge of their duties under this Act, and may appoint persons in any province to assist them or to act as assessors to the commission or with individual members thereof for the purpose of inquiring into matters connected with the duties of the commission. The commission may regulate their own procedure and may act by a majority of their number. All moneys required for the payment of the expenses of such commission before the establishment of the Union in any of the Colonies shall be provided by the Governor-in-Council of such Colony. In case of the death, resignation, or other disability of any of the Commissioners before the establishment of the Union, the Governor-in-Council of the Colony in respect of which he was nominated shall forthwith nominate another judge to fill the vacancy. After the establishment of the Union the expenses of the commission shall be defrayed by the Governor-General-in-Council, and any vacancies shall be filled by him.

39. The commission shall divide each province into electoral divisions, each returning one member.

40. (1) For the purpose of such division as is in the last preceding section mentioned, the quota of each province shall be obtained by dividing the total number of voters in the province, as ascertained at the last registration of voters, by the number of members of the House of Assembly to be elected therein.

(2) Each province shall be divided into electoral divisions in such a manner that each such division shall, subject to the provisions of sub-section (3) of this section, contain a number of voters, as nearly as may be, equal to the quota of the province.

(3) The Commissioners shall give due consideration to—

- (a) community or diversity of interests;
- (b) means of communication;
- (c) physical features;
- (d) existing electoral boundaries;
- (e) sparsity or density of population;

\* See now the Electoral Act, No. 12 of 1918.



in such manner that, while taking the quota of voters as the basis of division, the Commissioners may, whenever they deem it necessary, depart therefrom, but in no case to any greater extent than fifteen per centum more or fifteen per centum less than the quota.

41. As soon as may be after every quinquennial census, the Governor-General-in-Council shall appoint a commission consisting of three judges of the Supreme Court of South Africa to carry out any re-division which may have become necessary as between the different electoral divisions in each province, and to provide for the allocation of the number of members to which such province may have become entitled under the provisions of this Act. In carrying out such re-division and allocation the commission shall have the same powers and proceed upon the same principles as are by this Act provided in regard to the original division.

42. (1) The joint commission constituted under section *thirty-eight*, and any subsequent commission appointed under the provisions of the last preceding section, shall submit to the Governor-General-in-Council—

(a) a list of electoral divisions, with the names given to them by the commission and a description of the boundaries of every such division :

(b) a map or maps showing the electoral divisions into which the provinces have been divided :

(c) such further particulars as they consider necessary.

(2) The Governor-General-in-Council may refer to the commission for its consideration any matter relating to such list or arising out of the powers or duties of the commission.

(3) The Governor-General-in-Council shall proclaim the names and boundaries of the electoral divisions as finally settled and certified by the commission, or a majority thereof, and thereafter, until there shall be a re-division, the electoral divisions as named and defined shall be the electoral divisions of the Union in the provinces.

(4) If any discrepancy shall arise between the description of the divisions and the aforesaid map or maps, the description shall prevail.

43. Any alteration in the number of members of the House of Assembly to be elected in the several provinces, and any re-division of the provinces into electoral divisions, shall, in respect of the election of members of the House of Assembly, come into operation at the next general election held after the completion of the re-division or of any allocation consequent upon such alteration, and not earlier.

44. The qualifications of a member of the House of Assembly shall be as follows :—

He must—

(a) be qualified to be registered as a voter for the election of members of the House of Assembly in one of the provinces ;

(b) have resided for five years within the limits of the Union as existing at the time when he is elected ;

(c) be a British subject of European descent.

For the purposes of this section, residence in a Colony before its incorporation in the Union shall be treated as residence in the Union.

45. Every House of Assembly shall continue for five years from the first meeting thereof, and no longer, but may be sooner dissolved by the Governor-General.

46. The House of Assembly shall, before proceeding to the dispatch of any other business, choose a member to be the Speaker of the House, and, as often as the office of Speaker becomes vacant, the House shall again choose a member to be the Speaker. The Speaker shall cease to hold his office if he ceases to be a member. He may be removed from office by a vote of the House, or he may resign his office or his seat by writing under his hand addressed to the Governor-General.

47. Prior to or during the absence of the Speaker, the House of Assembly may choose a member to perform his duties in his absence.

48. A member may, by writing under his hand addressed to the Speaker, or, if there is no Speaker, or if the Speaker is absent from the Union, to the Governor-General, resign his seat, which shall thereupon become vacant.

49. The presence of at least thirty members of the House of Assembly shall be necessary to constitute a meeting of the House for the exercise of its powers.

50. All questions in the House of Assembly shall be determined by a majority of votes of members present other than the Speaker or the presiding member, who shall, however, have and exercise a casting vote in the case of an equality of votes.

#### *Both Houses of Parliament.*

51. Every senator and every member of the House of Assembly shall, before taking his seat, make and subscribe before the Governor-General, or some person authorized by him, an oath or affirmation of allegiance in the following form :—

#### *Oath.*

I, A.B., do swear that I will be faithful and bear true allegiance to His Majesty [*here insert the name of the King or Queen of the United Kingdom of Great Britain and Ireland for the time being*] His [*or Her*] heirs and successors according to law. So help me God.

*Affirmation.*

1. *A. B.*, do solemnly and sincerely affirm and declare that I will be faithful and bear true allegiance to His Majesty [here insert the name of the King or Queen of the United Kingdom of Great Britain and Ireland for the time being] His [or Her] heirs and successors according to law.

52. A member of either House of Parliament shall be incapable of being chosen or of sitting as a member of the other House: Provided that every Minister of State who is a member of either House of Parliament shall have the right to sit and speak in the Senate and the House of Assembly, but shall vote only in the House of which he is a member.

\*53. No person shall be capable of being chosen or of sitting as a senator or as a member of the House of Assembly who

- (a) has been at any time convicted of any crime or offence for which he shall have been sentenced to imprisonment without the option of a fine for a term of not less than twelve months, unless he shall have received a grant of amnesty or a free pardon, or unless such imprisonment shall have expired at least five years before the date of his election; or
- (b) is an unrehabilitated insolvent; or
- (c) is of unsound mind, and has been so declared by a competent court; or
- (d) holds any office of profit under the Crown within the Union: Provided that the following persons shall not be deemed to hold an office of profit under the Crown for the purposes of this sub-section:
  - (1) a Minister of State for the Union;
  - (2) a person in receipt of a pension from the Crown;
  - (3) an officer or member of His Majesty's naval or military forces on retired or half-pay, or an officer or member of the naval or military forces of the Union whose services are not wholly employed by the Union.

† 54. If a senator or member of the House of Assembly

- (a) becomes subject to any of the disabilities mentioned in the last preceding section; or
- (b) ceases to be qualified as required by law; or
- (c) fails for a whole ordinary session to attend without the special leave of the Senate or the House of Assembly, as the case may be;

his seat shall thereupon become vacant.

† 55. If any person who is by law incapable of sitting as a senator or member of the House of Assembly shall, while so disqualified and knowing or having reasonable grounds for knowing that he is so disqualified, sit or vote as a member of the Senate or the House of Assembly, he shall be liable to a penalty of one hundred pounds for each day on which he shall so sit or vote, to be recovered on behalf of the Treasury of the Union by action in any Superior Court of the Union.

†† 56. Each senator and each member of the House of Assembly shall, under such rules as shall be framed by Parliament, receive an allowance of four hundred pounds a year, to be reckoned from the date on which he takes his seat: Provided that for every day of the session on which he is absent there shall be deducted from such allowance the sum of three pounds: Provided further that no such allowance shall be paid to a Minister receiving a salary under the Crown or to the President of the Senate or the Speaker of the House of Assembly. A day of the session shall mean in respect of a member any day during a session on which the House of which he is a member or any committee of which he is a member meets.

§ 57. The powers, privileges, and immunities of the Senate and of the House of Assembly and of the members and committees of each House shall, subject to the provisions of this Act, be such as are declared by Parliament, and until declared shall be those of the House of Assembly of the Cape of Good Hope and of its members and committees at the establishment of the Union.

58. Each House of Parliament may make rules and orders<sup>||</sup> with respect to the order and conduct of its business and proceedings. Until such rules and orders shall have been made the rules and orders of the Legislative Council and House of Assembly of the Cape of Good Hope at the establishment of the Union shall *mutatis mutandis* apply to the Senate and House of Assembly respectively. If a joint sitting of both Houses of Parliament is

\* Amended by Act No. 10 of 1915 so as to provide special modification with a view to the removal of certain disabilities to which members of Parliament or other persons had, or might have, become subject in assisting in Naval or Military operations. A member of Parliament may be appointed a member of the Native Affairs Commission and though he receive remuneration as such he is not deemed to hold an office of profit under the Crown within the Union. See Section 1 of Act No. 23 of 1920.

† See note to paragraph 53.

† Amended by Act No. 21 of 1916 as to method of payment of allowances to members of Parliament and exemptions from deductions.

§ See now the Powers and Privileges of Parliament Act, No. 19 of 1911.

|| These rules and orders have now been made.

required under the provisions of this Act, it shall be convened by the Governor-General by message to both Houses. At any such joint sitting the Speaker of the House of Assembly shall preside and the rules of the House of Assembly shall, as far as practicable, apply.

#### *Powers of Parliament.*

58. Parliament shall have full power to make laws for the peace, order, and good government of the Union.

60. (1) Bills appropriating revenue or moneys or imposing taxation shall originate only in the House of Assembly. But a Bill shall not be taken to appropriate revenue or moneys or to impose taxation by reason only of its containing provisions for the imposition or appropriation of fines or other pecuniary penalties.

(2) The Senate may not amend any Bills so far as they impose taxation or appropriate revenue or moneys for the services of the Government.

(3) The Senate may not amend any Bills so as to increase any proposed charges or burden on the people.

61. Any Bill which appropriates revenue or moneys for the ordinary annual services of the Government shall deal only with such appropriation.

62. The House of Assembly shall not originate or pass any vote, resolution, address, or Bill for the appropriation of any part of the public revenue or of any tax or impost to any purpose unless such appropriation has been recommended by message from the Governor-General during the session in which such vote, resolution, address, or Bill is proposed.

63. If the House of Assembly passes any Bill and the Senate rejects or fails to pass it or passes it with amendments to which the House of Assembly will not agree, and if the House of Assembly in the next session again passes the Bill with or without any amendments which have been made or agreed to by the Senate and the Senate rejects or fails to pass it or passes it with amendments to which the House of Assembly will not agree, the Governor-General may during that session convene a joint sitting of the members of the Senate and House of Assembly. The members present at any such joint sitting may deliberate and shall vote together upon the Bill as last proposed by the House of Assembly and upon amendments, if any, which have been made therein by one House of Parliament and not agreed to by the other; and any such amendments which are affirmed by a majority of the total number of members of the Senate and House of Assembly present at such sitting shall be taken to have been carried, and if the Bill with the amendments, if any, is affirmed by a majority of the members of the Senate and House of Assembly present at such sitting, it shall be taken to have been duly passed by both Houses of Parliament: Provided that, if the Senate shall reject or fail to pass any Bill dealing with the appropriation of revenue or moneys for the public service, such joint sitting may be convened during the same session in which the Senate so rejects or fails to pass such Bill.

64. When a Bill is presented to the Governor-General for the King's Assent, he shall declare according to his discretion, but subject to the provisions of this Act, and to such instructions as may from time to time be given in that behalf by the King, that he assents in the King's name, or that he withholds assent, or that he reserves the Bill for the signification of the King's pleasure. All Bills repealing or amending this section or any of the provisions of Chapter IV under the heading "House of Assembly," and all Bills abolishing provincial councils or abridging the powers conferred on provincial councils under section *eighty-five*, otherwise than in accordance with the provisions of that section, shall be so reserved. The Governor-General may return to the House in which it originated any Bill so presented to him, and may transmit therewith any amendments which he may recommend, and the House may deal with the recommendation.

65. The King may disallow any law within one year after it has been assented to by the Governor-General, and such disallowance, on being made known by the Governor-General by speech or message to each of the Houses of Parliament or by proclamation, shall annul the law from the day when the disallowance is so made known.

66. A Bill reserved for the King's pleasure shall not have any force unless and until, within one year from the day on which it was presented to the Governor-General for the King's Assent, the Governor-General makes known by speech or message to each of the Houses of Parliament or by proclamation that it has received the King's Assent.

67. As soon as may be after any law shall have been assented to in the King's name by the Governor-General, or having been reserved for the King's pleasure shall have received his assent, the Clerk of the House of Assembly shall cause two fair copies of such law, one being in the English and the other in the Dutch language (one of which copies shall be signed by the Governor-General), to be enrolled of record in the office of the Registrar of the Appellate Division of the Supreme Court of South Africa; and such copies shall be conclusive evidence as to the provisions of every such law, and in case of conflict between the two copies thus deposited that signed by the Governor-General shall prevail.

## PART V.

*The Provinces.**Administrators.*

68. (1) In each province there shall be a chief executive officer appointed by the Governor-General-in-Council, who shall be styled the administrator of the province, and in whose name all executive acts relating to provincial affairs therein shall be done.

(2) In the appointment of the administrator of any province, the Governor-General-in-Council shall, as far as practicable, give preference to persons resident in such province.

(3) Such administrator shall hold office for a term of five years and shall not be removed before the expiration thereof except by the Governor-General-in-Council for cause assigned, which shall be communicated by message to both Houses of Parliament within one week after the removal, if Parliament be then sitting, or, if Parliament be not sitting, then within one week after the commencement of the next ensuing session.

(4) The Governor-General-in-Council may from time to time appoint a deputy-administrator to execute the office and functions of the administrator during his absence, illness, or other inability.

69. The salaries of the administrators shall be fixed and provided by Parliament, and shall not be reduced during their respective terms of office.

*Provincial Councils.*

70. (1) There shall be a provincial council in each province consisting of the same number of members as are elected in the province for the House of Assembly: Provided that, in any province whose representatives in the House of Assembly shall be less than twenty-five in number, the provincial council shall consist of twenty-five members.

(2) Any person qualified to vote for the election of members of the provincial council shall be qualified to be a member of such council.

71. (1) The members of the provincial council shall be elected by the persons qualified to vote for the election of members of the House of Assembly in the province voting in the same electoral divisions as are delimited for the election of members of the House of Assembly: Provided that, in any province in which less than twenty-five members are elected to the House of Assembly, the delimitation of the electoral divisions, and any necessary re-allocation of members or adjustment of electoral divisions, shall be effected by the same commission and on the same principles as are prescribed in regard to the electoral divisions for the House of Assembly.

(2) Any alteration in the number of members of the provincial council, and any re-division of the province into electoral divisions, shall come into operation at the next general election for such council held after the completion of such re-division, or of any allocation consequent upon such alteration, and not earlier.

(3) The election shall take place at such times as the administrator shall by proclamation direct, and the provisions of section *thirty-seven* applicable to the election of members of the House of Assembly shall *mutatis mutandis* apply to such elections.

\*72. The provisions of sections *fifty-three*, *fifty-four*, and *fifty-five*, relative to members of the House of Assembly, shall *mutatis mutandis* apply to members of the provincial councils: Provided that any member of a provincial council who shall become a member of either House of Parliament shall thereupon cease to be a member of such provincial council.

73. Each provincial council shall continue for three years from the date of its first meeting, and shall not be subject to dissolution save by effluxion of time.

74. The administrator of each province shall by proclamation fix such times for holding the sessions of the provincial council as he may think fit, and may from time to time prorogue such council: Provided that there shall be a session of every provincial council once at least in every year, so that a period of twelve months shall not intervene between the last sitting of the council in one session and its first sitting in the next session.

75. The provincial council shall elect from among its members a chairman, and may make rules for the conduct of its proceedings. Such rules shall be transmitted by the administrator to the Governor-General, and shall have full force and effect unless and until the Governor-General-in-Council shall express his disapproval thereof in writing addressed to the administrator.

\*76. The members of the provincial council shall receive such allowances as shall be determined by the Governor-General-in-Council.

77. There shall be freedom of speech in the provincial council, and no member shall be liable to any action or proceeding in any court by reason of his speech or vote in such council.

*Executive Committees.*

78. (1) Each provincial council shall at its first meeting after any general election elect from among its members, or otherwise, four persons to form with the administrator, who shall be chairman, an executive committee for the province. The members of the

\* See note to paragraph 63.

executive committee other than the administrator shall hold office until the election of their successors in the same manner.

(2) Such members shall receive such remuneration as the provincial council, with the approval of the Governor-General-in-Council, shall determine.

(3) A member of the provincial council shall not be disqualified from sitting as a member by reason of his having been elected as a member of the executive committee.

(4) Any casual vacancy arising in the executive committee shall be filled by election by the provincial council if then in session, or, if the council is not in session, by a person appointed by the executive committee to hold office temporarily pending an election by the council.

79. The administrator and any other member of the executive committee of a province, not being a member of the provincial council, shall have the right to take part in the proceedings of the council, but shall not have the right to vote.

80. The executive committee shall on behalf of the provincial council carry on the administration of provincial affairs. Until the first election of members to serve on the executive committee, such administration shall be carried on by the administrator. Whenever there are not sufficient members of the executive committee to form a quorum according to the rules of the committee, the administrator shall, as soon as practicable, convene a meeting of the provincial council for the purpose of electing members to fill the vacancies; and until such election the administrator shall carry on the administration of provincial affairs.

81. Subject to the provisions of this Act, all powers, authorities, and functions which at the establishment of the Union are in any of the Colonies vested in or exercised by the Governor or the Governor-in-Council, or any Minister of the Colony, shall after such establishment be vested in the executive committee of the province so far as such powers, authorities, and functions relate to matters in respect of which the provincial council is competent to make ordinances.

82. Questions arising in the executive committee shall be determined by a majority of votes of the members present, and, in case of an equality of votes, the administrator shall have also a casting vote. Subject to the approval of the Governor-General-in-Council, the executive committee may make rules for the conduct of its proceedings.

83. Subject to the provisions of any law passed by Parliament regulating the conditions of appointment, tenure of office, retirement and superannuation of public officers, the executive committee shall have power to appoint such officers as may be necessary, in addition to officers assigned to the province by the Governor-General-in-Council under the provisions of this Act, to carry out the services entrusted to them and to make and enforce regulations for the organization and discipline of such officers.

84. In regard to all matters in respect of which no powers are reserved or delegated to the provincial council, the administrator shall act on behalf of the Governor-General-in-Council when required to do so, and in such matters the administrator may act without reference to the other members of the executive committee.

#### *Powers of Provincial Councils.*

\* 85. Subject to the provisions of this Act and the assent of the Governor-General-in-Council as hereinafter provided, the provincial council may make ordinances in relation to matters coming within the following classes of subjects (that is to say):—

- (i) Direct taxation within the province in order to raise a revenue for provincial purposes;
- (ii) The borrowing of money on the sole credit of the province with the consent of the Governor-General-in-Council and in accordance with regulations to be framed by Parliament;
- (iii) Education, other than higher education, for a period of five years and thereafter until Parliament otherwise provides;
- (iv) Agriculture to the extent and subject to the conditions to be defined by Parliament;
- (v) The establishment, maintenance, and management of hospitals and charitable institutions;
- (vi) Municipal institutions, divisional councils, and other local institutions of a similar nature;
- (vii) Local works and undertakings within the province, other than railways and harbours and other than such works as extend beyond the borders of the province, and subject to the power of Parliament to declare any work a national work and to provide for its construction by arrangement with the provincial council or otherwise;

\* *Vide* Acts Nos. 10 of 1913, 9 of 1917, 6 of 1920, and 5 of 1921, as to further powers conferred on provincial councils.

- (viii) Roads, outspans, ponds, and bridges, other than bridges connecting two provinces ;
- (ix) Markets and pounds ;
- (x) Fish and game preservation ;
- (xi) The imposition of punishment by fine, penalty, or imprisonment for enforcing any law or any ordinance of the province made in relation to any matter coming within any of the classes of subjects enumerated in this section ;
- (xii) Generally all matters which, in the opinion of the Governor-General-in-Council, are of a merely local or private nature in the province ;
- (xiii) All other subjects in respect of which Parliament shall by any law delegate the power of making ordinances to the provincial council.

86. Any ordinance made by a provincial council shall have effect in and for the province as long and as far only as it is not repugnant to any Act of Parliament.

87. A provincial council may recommend to Parliament the passing of any law relating to any matter in respect of which such council is not competent to make ordinances.

\* 88. In regard to any matter which requires to be dealt with by means of a private Act of Parliament, the provincial council of the province to which the matter relates may, subject to such procedure as shall be laid down by Parliament, take evidence by means of a Select Committee or otherwise for and against the passing of such law, and, upon receipt of a report from such council, together with the evidence upon which it is founded, Parliament may pass such Act without further evidence being taken in support thereof.

89. A provincial revenue fund shall be formed in every province, into which shall be paid all revenues raised by or according to the provincial council and all moneys paid over by the Governor-General-in-Council to the provincial council. Such fund shall be appropriated by the provincial council by ordinance for the purposes of the provincial administration generally, or, in the case of moneys paid over by the Governor-General-in-Council for particular purposes, then for such purposes, but no such ordinance shall be passed by the provincial council unless the administrator shall have first recommended to the council to make provision for the specific service for which the appropriation is to be made. No money shall be issued from the provincial revenue fund except in accordance with such appropriation and under warrant signed by the administrator: Provided that, until the expiration of one month after the first meeting of the provincial council, the administrator may expend such moneys as may be necessary for the services of the province.

90. When a proposed ordinance has been passed by a provincial council it shall be presented by the administrator to the Governor-General-in-Council for his assent. The Governor-General-in-Council shall declare within one month from the presentation to him of the proposed ordinance that he assents thereto, or that he withholds assent, or that he reserves the proposed ordinance for further consideration. A proposed ordinance so reserved shall not have any force unless and until, within one year from the day on which it was presented to the Governor-General-in-Council, he makes known by proclamation that it has received his assent.

91. An ordinance assented to by the Governor-General-in-Council and promulgated by the administrator shall, subject to the provisions of this Act, have the force of law within the province. The administrator shall cause two fair copies of every such ordinance, one being in the English and the other in the Dutch language (one of which copies shall be signed by the Governor-General), to be enrolled of record in the office of the Registrar of the Appellate Division of the Supreme Court of South Africa; and such copies shall be conclusive evidence as to the provisions of such ordinance, and, in case of conflict between the two copies thus deposited, that signed by the Governor-General shall prevail.

#### *Miscellaneous.*

92. (1) In each province there shall be an auditor of accounts to be appointed by the Governor-General-in-Council.

(2) No such auditor shall be removed from office except by the Governor-General-in-Council for cause assigned, which shall be communicated by message to both Houses of Parliament within one week after the removal, if Parliament be then sitting, and, if Parliament be not sitting, then within one week after the commencement of the next ensuing session.

(3) Each such auditor shall receive out of the Consolidated Revenue Fund such salary as the Governor-General-in-Council, with the approval of Parliament, shall determine.

(4) Each such auditor shall examine and audit the accounts of the province to which he is assigned subject to such regulations and orders as may be framed by the Governor-General-in-Council and approved by Parliament, and no warrant signed by the administrator authorizing the issuing of money shall have effect unless countersigned by such auditor.

\* See now the Private Bill Procedure Act, No. 20 of 1912.

93. Notwithstanding anything in this Act contained, all powers, authorities, and functions lawfully exercised at the establishment of the Union by divisional or municipal councils, or any other duly constituted local authority, shall be and remain in force until varied or withdrawn by Parliament or by a provincial council having power in that behalf.

94. The seats of provincial government shall be—

For the Cape of Good Hope.....	Cape Town.
For Natal.....	Pietermaritzburg.
For the Transvaal.....	Pretoria.
For the Orange Free State.....	Bloemfontein.

PART VI.

*The Supreme Court of South Africa.*

\* 95. There shall be a Supreme Court of South Africa consisting of a Chief Justice of South Africa, the judges of appeal, and the other judges of the several divisions of the Supreme Court of South Africa in the provinces.

\* 96. There shall be an Appellate Division of the Supreme Court of South Africa, consisting of the Chief Justice of South Africa and four judges of appeal.

\* 97. The Governor-General-in-Council may, during the absence, illness, or other incapacity of the Chief Justice of South Africa, or of any judge of appeal, appoint any other judge of the Supreme Court of South Africa to act temporarily as such chief justice or judge of appeal, as the case may be.

98. (1) The several supreme courts of the Cape of Good Hope, Natal, and the Transvaal, and the High Court of the Orange River Colony shall, on the establishment of the Union, become provincial divisions of the Supreme Court of South Africa within their respective provinces, and shall each be presided over by a judge-president.

(2) The court of the eastern districts of the Cape of Good Hope, the High Court of Griqualand, the High Court of Witwatersrand, and the several circuit courts, shall become local divisions of the Supreme Court of South Africa within the respective areas of their jurisdiction as existing at the establishment of the Union.

(3) The said provincial and local divisions, referred to in this Act as superior courts, shall, in addition to any original jurisdiction exercised by the corresponding courts of the Colonies at the establishment of the Union, have jurisdiction in all matters—

(a) in which the Government of the Union or a person suing or being sued on behalf of such Government is a party;

(b) in which the validity of any provincial ordinance shall come into question.

(4) Unless and until Parliament shall otherwise provide, the said superior courts shall *mutatis mutandis* have the same jurisdiction in matters affecting the validity of elections of members of the House of Assembly and provincial councils as the corresponding courts of the Colonies have at the establishment of the Union in regard to parliamentary elections in such Colonies respectively.

99. All judges of the supreme courts of the Colonies, including the High Court of the Orange River Colony, holding office at the establishment of the Union shall on such establishment become judges of the Supreme Court of South Africa, assigned to the divisions of the Supreme Court in the respective provinces, and shall retain all such rights in regard to salaries and pensions as they may possess at the establishment of the Union. The Chief Justices of the Colonies holding office at the establishment of the Union shall on such establishment become the Judges-President of the divisions of the Supreme Court in the respective provinces, but shall so long as they hold that office retain the title of Chief Justice of their respective provinces.

\* 100. The Chief Justice of South Africa, the judges of appeal, and all other judges of the Supreme Court of South Africa to be appointed after the establishment of the Union, shall be appointed by the Governor-General-in-Council, and shall receive such remuneration as Parliament shall prescribe, and their remuneration shall not be diminished during their continuance in office.

101. The Chief Justice of South Africa and other judges of the Supreme Court of South Africa shall not be removed from office except by the Governor-General-in-Council on an address from both Houses of Parliament in the same session praying for such removal on the ground of misbehaviour or incapacity.

102. Upon any vacancy occurring in any division of the Supreme Court of South Africa, other than the Appellate Division, the Governor-General-in-Council may, in case he shall consider that the number of judges of such court may with advantage to the public interests be reduced, postpone filling the vacancy until Parliament shall have determined whether such reduction shall take place.

\* 103. In every civil case in which, according to the law in force at the establishment of the Union, an appeal might have been made to the Supreme Court of any of the Colonies from a superior court in any of the Colonies, or from the High Court of Southern Rhodesia, the appeal shall be made only to the Appellate Division, except in cases of orders or judgments given by a single judge, upon applications by way of motion or petition or on summons for provisional sentence or judgments as to costs only, which by law are left to the discretion of the court. The appeal from any such orders or judgments, as well as any appeal in criminal cases from any such superior court, or the special reference by any such court of any point of law in a criminal case, shall be made to the provincial division corresponding to the court which before the establishment of the Union would have had jurisdiction in the matter. There shall be no further appeal against any judgment given on appeal by such provincial division except to the Appellate Division, and then only if the Appellate Division shall have given special leave to appeal.

104. In every case, civil or criminal, in which at the establishment of the Union an appeal might have been made from the Supreme Court of any of the Colonies or from the High Court of the Orange River Colony to the King-in-Council, the appeal shall be made only to the Appellate Division: Provided that the right of appeal in any civil suit shall not be limited by reason only of the value of the matter in dispute or the amount claimed or awarded in such suit.

105. In every case, civil or criminal, in which at the establishment of the Union an appeal might have been made from a court of resident magistrate or other inferior court to a superior court in any of the Colonies, the appeal shall be made to the corresponding division of the Supreme Court of South Africa; but there shall be no further appeal against any judgment given on appeal by such division except to the Appellate Division, and then only if the Appellate Division shall have given special leave to appeal.

106. There shall be no appeal from the Supreme Court of South Africa or from any division thereof to the King-in-Council, but nothing herein contained shall be construed to impair any right which the King-in-Council may be pleased to exercise to grant special leave to appeal from the Appellate Division to the King-in-Council. Parliament may make laws limiting the matters in respect of which such special leave may be asked, but Bills containing any such limitation shall be reserved by the Governor-General for the signification of His Majesty's pleasure: Provided that nothing in this section shall affect any right of appeal to His Majesty-in-Council from any judgment given by the Appellate Division of the Supreme Court under or in virtue of the Colonial Courts of Admiralty Act, 1890.

† 107. The Chief Justice of South Africa and the judges of appeal may, subject to the approval of the Governor-General-in-Council, make rules † for the conduct of the proceedings of the Appellate Division and prescribing the time and manner of making appeals thereto. Until such rules shall have been promulgated, the rules in force in the Supreme Court of the Cape of Good Hope at the establishment of the Union shall *mutatis mutandis* apply.

108. The Chief Justice and other judges of the Supreme Court of South Africa may, subject to the approval of the Governor-General-in-Council, frame rules § for the conduct of the proceedings of the several provincial and local divisions. Until such rules shall have been promulgated, the rules in force at the establishment of the Union in the respective courts which become divisions of the Supreme Court of South Africa shall continue to apply therein.

|| 109. The Appellate Division shall sit in Bloemfontein, but may from time to time for the convenience of suitors hold its sittings at other places within the Union.

110. On the hearing of appeals from a court consisting of two or more judges, five judges of the Appellate Division shall form a quorum, but, on the hearing of appeals from a single judge, three judges of the Appellate Division shall form a quorum. No judge shall take part in the hearing of any appeal against the judgment given in a case heard before him.

111. The process of the Appellate Division shall run throughout the Union, and all its judgments or orders shall have full force and effect in every province, and shall be executed

\* Amended by Section 5 of Act No. 1 of 1911 providing for appeals to the Appellate Court by consent of parties. As to appeals from the Native High Court of Natal see Section 1 of Act No. 1 of 1911 and as to appeals from the High Court of the Protectorate of South-West Africa see Section 3 of Act No. 12 of 1920. The procedure as to appeals in criminal cases from supreme courts and special reference of a point of law in such cases has been altered by Sections 368, 369, 370, 371, and 372 of Act No. 31 of 1917.

† Printed as amended by Act No. 12 of 1920.

‡ These rules have now been made.

§ Some rules applicable to all the provincial and local divisions have been made, but the majority of the old rules are still in force.

|| By Section 16 of Act No. 27 of 1912 the hearing of an appeal elsewhere than at Bloemfontein is not deemed to be for the convenience of suitors unless exceptional circumstances exist.



in like manner as if they were original judgments or orders of the provincial division of the Supreme Court of South Africa in such province.

112. The registrar of every provincial division of the Supreme Court of South Africa, if thereto requested by any party in whose favour any judgment or order has been given or made by any other division, shall, upon the deposit with him of an authenticated copy of such judgment or order and on proof that the same remains unsatisfied, issue a writ or other process for the execution of such judgment or order, and thereupon such writ or other process shall be executed in like manner as if it had been originally issued from the division of which he is registrar.

\* 113. Any provincial or local division of the Supreme Court of South Africa to which it may be made to appear that any civil suit pending therein may be more conveniently or fitly heard or determined in another division, may order the same to be removed to such other division, and thereupon such last-mentioned division may proceed with such suit in like manner as if it had been originally commenced therein.

114. The Governor-General-in-Council may appoint a registrar of the Appellate Division and such other officers thereof as shall be required for the proper dispatch of the business thereof.

115. (1) The laws regulating the admission of advocates and attorneys to practise before any superior court of any of the Colonies shall *mutatis mutandis* apply to the admission of advocates and attorneys to practise in the corresponding division of the Supreme Court of South Africa.

(2) All advocates and attorneys entitled at the establishment of the Union to practise in any superior court of any of the Colonies shall be entitled to practise as such in the corresponding division of the Supreme Court of South Africa.

(3) All advocates and attorneys entitled to practise before any provincial division of the Supreme Court of South Africa shall be entitled to practise before the Appellate Division.

116. All suits, civil or criminal, pending in any superior court of any of the Colonies at the establishment of the Union shall stand removed to the corresponding division of the Supreme Court of South Africa, which shall have jurisdiction to hear and determine the same, and all judgments and orders of any superior court of any of the Colonies given or made before the establishment of the Union shall have the same force and effect as if they had been given or made by the corresponding division of the Supreme Court of South Africa. All appeals to the King-in-Council which shall be pending at the establishment of the Union shall be proceeded with as if this Act had not been passed.

## PART VII.

### *Finance and Railways.*

117. All revenues, from whatever source arising, over which the several Colonies have at the establishment of the Union power of appropriation, shall vest in the Governor-General-in-Council. There shall be formed a Railway and Harbour Fund, into which shall be paid all revenues raised or received by the Governor-General-in-Council from the administration of the railways, ports, and harbours, and such fund shall be appropriated by Parliament to the purposes of the railways, ports, and harbours in the manner prescribed by this Act. There shall also be formed a Consolidated Revenue Fund, into which shall be paid all other revenues raised or received by the Governor-General-in-Council, and such fund shall be appropriated by Parliament for the purposes of the Union in the manner prescribed by this Act, and subject to the charges imposed thereby.

118. The Governor-General-in-Council shall, as soon as may be after the establishment of the Union, appoint a commission, consisting of one representative from each province, and presided over by an officer from the Imperial Service, to institute an inquiry into the financial relations which should exist between the Union and the provinces. Pending the completion of that inquiry and until Parliament otherwise provides, there shall be paid annually out of the Consolidated Revenue Fund to the administrator of each province—

- (a) an amount equal to the sum provided in the estimates for education, other than higher education, in respect of the financial year 1908-09, as voted by the Legislature of the corresponding colony during the year nineteen hundred and eight;
- (b) such further sums as the Governor-General-in-Council may consider necessary for the due performance of the services and duties assigned to the provinces respectively.

Until such inquiry shall be completed and Parliament shall have made other provisions,† the executive committees in the several provinces shall annually submit estimates of their expenditure for the approval of the Governor-General-in-Council, and no expenditure shall be incurred by any executive committee which is not provided for in such approved estimates.

\* As to the removal of civil proceedings see Section 14 of Act No. 27 of 1912 and as to the removal of criminal proceedings see Sections 141 and 142 of Act No. 31 of 1917.

† For such other provisions see Acts Nos. 10 of 1913, 9 of 1917, 6 of 1920, and 5 of 1921.

119. The annual interest of the public debts of the Colonies and any sinking funds constituted by law at the establishment of the Union shall form a first charge on the Consolidated Revenue Fund.

120. No money shall be withdrawn from the Consolidated Revenue Fund or the Railway and Harbour Fund except under appropriation made by law. But, until the expiration of two months after the first meeting of Parliament, the Governor-General-in-Council may draw therefrom and expend such moneys as may be necessary for the public service, and for railway and harbour administration respectively.

121. All stocks, cash, bankers' balances, and securities for money belonging to each of the Colonies at the establishment of the Union shall be the property of the Union: Provided that the balances of any funds raised at the establishment of the Union by law for any special purposes in any of the Colonies shall be deemed to have been appropriated by Parliament for the special purposes for which they have been provided.

122. Crown lands, public works, and all property throughout the Union, movable or immovable, and all rights of whatever description belonging to the several Colonies at the establishment of the Union, shall vest in the Governor-General-in-Council subject to any debt or liability specifically charged thereon.

123. All rights in and to mines and minerals, and all rights in connection with the searching for, working for, or disposing of, minerals or precious stones, which at the establishment of the Union are vested in the Government of any of the Colonies, shall on such establishment vest in the Governor-General-in-Council.

124. The Union shall assume all debts and liabilities of the Colonies existing at its establishment, subject, notwithstanding any other provision contained in this Act, to the conditions imposed by any law under which such debts or liabilities were raised or incurred, and without prejudice to any rights of security or priority in respect of the payment of principal, interest, sinking fund, and other charges conferred on the creditors of any of the Colonies, and may, subject to such conditions and rights, convert, renew, or consolidate such debts.

125. All ports, harbours, and railways belonging to the several Colonies at the establishment of the Union shall from the date thereof vest in the Governor-General-in-Council. No railway for the conveyance of public traffic, and no port, harbour, or similar work, shall be constructed without the sanction of Parliament.

\*†126. Subject to the authority of the Governor-General-in-Council, the control and management of the railways, ports, and harbours of the Union shall be exercised through a board consisting of not more than three commissioners, who shall be appointed by the Governor-General-in-Council, and a minister of State, who shall be chairman. Each commissioner shall hold office for a period of five years, but may be re-appointed. He shall not be removed before the expiration of his period of appointment, except by the Governor-General-in-Council for cause assigned, which shall be communicated by message to both Houses of Parliament within one week after the removal, if Parliament be then sitting, or, if Parliament be not sitting, then within one week after the commencement of the next ensuing session. The salaries of the commissioners shall be fixed by Parliament and shall not be reduced during their respective terms of office.

127. The railways, ports, and harbours of the Union shall be administered on business principles, due regard being had to agricultural and industrial development within the Union and promotion, by means of cheap transport, of the settlement of an agricultural and industrial population in the inland portions of all provinces of the Union. So far as may be, the total earnings shall be not more than are sufficient to meet the necessary outlays for working, maintenance, betterment, depreciation, and the payment of interest due on capital not being capital contributed out of railway or harbour revenue, and not including any sums payable out of the Consolidated Revenue Fund in accordance with the provisions of sections *one hundred and thirty* and *one hundred and thirty-one*. The amount of interest due on such capital invested shall be paid over from the Railway and Harbour Fund into the Consolidated Revenue Fund. The Governor-General-in-Council shall give effect to the provisions of this section as soon as and at such time as the necessary administrative and financial arrangements can be made, but in any case shall give full effect to them before the expiration of four years from the establishment of the Union. During such period, if the revenues accruing to the Consolidated Revenue Fund are insufficient to provide for the general service of the Union, and if the earnings accruing to the Railway and Harbour Fund are in excess of the outlays specified herein, Parliament may by law appropriate such excess or any part thereof towards the general expenditure of the Union, and all sums so appropriated shall be paid over to the Consolidated Revenue Fund.

\* Amended by Act No. 13 of 1915 providing special modification as to period of office of the first members of Railway Board.

† Amended by Act No. 17 of 1916 by defining the functions of the Board.

\*128. Notwithstanding anything to the contrary in the last preceding section, the Board may establish a fund out of railway and harbour revenue to be used for maintaining, as far as may be, uniformity of rates notwithstanding fluctuations in traffic.

\*129. All balances standing to the credit of any fund established in any of the Colonies for railway or harbour purposes at the establishment of the Union shall be under the sole control and management of the Board, and shall be deemed to have been appropriated by Parliament for the respective purposes for which they have been provided.

†130. Every proposal for the construction of any port or harbour works or of any line of railway, before being submitted to Parliament, shall be considered by the Board, which shall report thereon, and shall advise whether the proposed works or line of railway should or should not be constructed. If any such works or line shall be constructed contrary to the advice of the Board, and if the Board is of opinion that the revenue derived from the operation of such works or line will be insufficient to meet the costs of working and maintenance, and of interest on the capital invested therein, it shall frame an estimate of the annual loss which, in its opinion, will result from such operation. Such estimate shall be examined by the Controller and Auditor General, and when approved by him the amount thereof shall be paid over annually from the Consolidated Revenue Fund to the Railway and Harbour Fund: Provided that, if in any year the actual loss incurred, as calculated by the Board and certified by the Controller and Auditor General, is less than the estimate framed by the Board, the amount paid over in respect of that year shall be reduced accordingly so as not to exceed the actual loss incurred. In calculating the loss arising from the operation of any such work or line, the Board shall have regard to the value of any contributions of traffic to other parts of the system which may be due to the operation of such work or line.

131. If the Board shall be required by the Governor-General-in-Council or under any Act of Parliament or resolution of both Houses of Parliament to provide any services or facilities either gratuitously or at a rate of charge which is insufficient to meet the costs involved in the provision of such services or facilities, the Board shall at the end of each financial year present to Parliament an account approved by the Controller and Auditor General, showing, as nearly as can be ascertained, the amount of the loss incurred by reason of the provision of such services and facilities, and such amount shall be paid out of the Consolidated Revenue Fund to the Railway and Harbour Fund.

‡132. The Governor-General-in-Council shall appoint a Controller and Auditor General who shall hold office during good behaviour: Provided that he shall be removed by the Governor-General-in-Council on an address praying for such removal presented to the Governor-General by both Houses of Parliament: Provided further that when Parliament is not in session the Governor-General-in-Council may suspend such officer on the ground of incompetence or misbehaviour; and, when and so often as such suspension shall take place, a full statement of the circumstances shall be laid before both Houses of Parliament within fourteen days after the commencement of its next session; and, if an address shall at any time during the session of Parliament be presented to the Governor-General by both Houses praying for the restoration to office of such officer, he shall be restored accordingly; and if no such address be presented the Governor-General shall confirm such suspension and shall declare the office of Controller and Auditor General to be, and it shall thereupon become, vacant. Until Parliament shall otherwise provide, the Controller and Auditor General shall exercise such powers and functions and undertake such duties as may be assigned to him by the Governor-General-in-Council by regulations framed in that behalf.

133. In order to compensate Pietermaritzburg and Bloemfontein for any loss sustained by them in the form of diminution of prosperity or decreased rateable value by reason of their ceasing to be seats of government of their respective Colonies, there shall be paid from the Consolidated Revenue Fund for a period not exceeding twenty-five years to the municipal councils of such towns a grant of two per centum per annum on their municipal debts, as existing on the thirty-first day of January nineteen hundred and nine, and as ascertained by the Controller and Auditor General. The Commission appointed under section one hundred and eighteen shall, after due inquiry, report to the Governor-General-in-Council what compensation should be paid to the municipal councils of Cape Town and Pretoria for the losses, if any, similarly sustained by them. Such compensation shall be paid out of the Consolidated Revenue Fund for a period not exceeding twenty-five years, and shall not exceed one per centum per annum on the respective municipal debts of such towns as existing on the thirty-first January nineteen hundred and nine, and as ascertained by the Controller and Auditor General. For the purposes of this section Cape Town shall be deemed to include the municipalities of Cape Town, Green Point, and Sea Point, Woodstock, Mowbray, and Rondebosch, Claremont, and Wynberg, and any grant made to Cape Town shall be payable to the councils of such municipalities in proportion to their

\* Amended by Section 3 (1) of Act No. 17 of 1916, setting out the duty of the Railway Board with regard to the Funds.

† Amended by Section 3 (2) of Act No. 17 of 1916 in regard to details required in report.

‡ Repealed by Section 1 of Act No. 21 of 1911.

respective debts. One half of any such grants shall be applied to the redemption of the municipal debts of such towns respectively. At any time after the tenth annual grant has been paid to any of such towns the Governor-General-in-Council, with the approval of Parliament, may after due inquiry withdraw or reduce the grant to such town.

## PART VIII

### *General.*

134. The election of senators and of members of the executive committees of the provincial councils as provided in this Act shall, whenever such election is contested, be according to the principle of proportional representation, each voter having one transferable vote. The Governor-General-in-Council, or, in the case of the first election of the Senate, the Governor-in-Council of each of the Colonies, shall frame regulations prescribing the method of voting and of transferring and counting votes and the duties of returning officers in connection therewith, and such regulations or any amendments thereof after being duly promulgated shall have full force and effect unless and until Parliament shall otherwise provide.

135. Subject to the provisions of this Act, all laws in force in the several Colonies at the establishment of the Union shall continue in force in the respective provinces until repealed or amended by Parliament, or by the provincial councils in matters in respect of which the power to make ordinances is reserved or delegated to them. All legal commissions in the several Colonies at the establishment of the Union shall continue as if the Union had not been established.

136. There shall be free trade throughout the Union, but until Parliament otherwise provides the duties of custom and of excise leviable under the laws existing in any of the Colonies at the establishment of the Union shall remain in force.

137. Both the English and Dutch languages shall be official languages of the Union, and shall be treated on a footing of equality, and possess and enjoy equal freedom, rights, and privileges; all records, journals, and proceedings of Parliament shall be kept in both languages, and all Bills, Acts, and notices of general public importance or interest issued by the Government of the Union shall be in both languages.

138. All persons who have been naturalized in any of the Colonies shall be deemed to be naturalized throughout the Union.

\*139. The administration of justice throughout the Union shall be under the control of the Minister of State, in whom shall be vested all powers, authorities, and functions which shall at the establishment of the Union be vested in the Attorneys-General of the Colonies, save and except all powers, authorities, and functions relating to the prosecution of crimes and offences, which shall in each province be vested in an officer to be appointed by the Governor-General-in-Council, and styled the Attorney-General of the province, who shall also discharge such other duties as may be assigned to him by the Governor-General-in-Council: Provided that in the province of the Cape of Good Hope the Solicitor-General for the Eastern Districts and the Crown Prosecutor for Griqualand West † shall respectively continue to exercise the powers and duties by law vested in them at the time of the establishment of the Union.

140. Subject to the provisions of the next succeeding section, all officers of the public service of the Colonies shall at the establishment of the Union become officers of the Union.

141. (1) As soon as possible after the establishment of the Union, the Governor-General-in-Council shall appoint a public service commission to make recommendations for such reorganization and readjustment of the departments of the public service as may be necessary. The commission shall also make recommendations in regard to the assignment of officers to the several provinces.

(2) The Governor-General-in-Council may after such commission has reported assign from time to time to each province such officers as may be necessary for the proper discharge of the services reserved or delegated to it, and such officers on being so assigned shall become officers of the province. Pending the assignment of such officers, the Governor-General-in-Council may place at the disposal of the provinces the services of such officers of the Union as may be necessary.

(3) The provisions of this section shall not apply to any service or department under the control of the Railway and Harbour Board, or to any person holding office under the Board.

‡ 142. After the establishment of the Union the Governor-General-in-Council shall appoint a permanent public service commission with such powers and duties relating to the

\* Amended by Section 2 of Act No. 14 of 1914, so as to substitute Attorney-General for Minister as *curator ad litem* of lunatics.

† As to the abolition of the office of the Crown Prosecutor for Griqualand West see Act No. 27 of 1912, Section 13.

‡ See Acts Nos. 29 of 1912, Section 2, and 39 of 1914, Section 3.

appointment, discipline, retirement, and superannuation of public officers as Parliament shall determine.

143. Any officer of the public service of any of the Colonies at the establishment of the Union who is not retained in the service of the Union or assigned to that of a province shall be entitled to receive such pension, gratuity, or other compensation as he would have received in like circumstances if the Union had not been established.

144. Any officer of the public service of any of the Colonies at the establishment of the Union who is retained in the service of the Union or assigned to that of a province shall retain all his existing and accruing rights, and shall be entitled to retire from the service at the time at which he would have been entitled by law to retire, and on the pension or retiring allowance to which he would have been entitled by law in like circumstances if the Union had not been established.

145. The services of officers in the public service of any of the Colonies at the establishment of the Union shall not be dispensed with by reason of their want of knowledge of either the English or Dutch language.

146. Any permanent officer of the Legislature of any of the Colonies who is not retained in the service of the Union, or assigned to that of any province, and for whom no provision shall have been made by such Legislature, shall be entitled to such pension, gratuity, or compensation as Parliament may determine.

147. The control and administration of native affairs and of matters specially or differentially affecting Asiatics throughout the Union shall vest in the Governor-General-in-Council, who shall exercise all special powers in regard to native administration hitherto vested in the Governors of the Colonies or exercised by them as supreme chiefs, and any lands vested in the Governor or Governor and Executive Council of any Colony for the purpose of reserves for native locations shall vest in the Governor-General-in-Council, who shall exercise all special powers in relation to such reserves as may hitherto have been exercisable by any such Governor or Governor and Executive Council, and no lands set aside for the occupation of natives which cannot at the establishment of the Union be alienated except by an Act of the Colonial Legislature shall be alienated or in any way diverted from the purposes for which they are set apart except under the authority of an Act of Parliament.

148. (1) All rights and obligations under any conventions or agreements which are binding on any of the Colonies shall devolve upon the Union at its establishment.

(2) The provisions of the railway agreement between the Governments of the Transvaal, the Cape of Good Hope, and Natal, dated the second of February, nineteen hundred and nine, shall, as far as practicable, be given effect to by the Government of the Union.

## PART IX.

### *New Provinces and Territories.*

149. Parliament may alter the boundaries of any province, divide a province into two or more provinces, or form a new province out of provinces within the Union, on the petition of the provincial council of every province whose boundaries are affected thereby.

150. The King, with the advice of the Privy Council, may on addresses from the Houses of Parliament of the Union admit into the Union the territories administered by the British South Africa Company on such terms and conditions as to representation and otherwise in each case as are expressed in the addresses and approved by the King, and the provisions of any Order-in-Council in that behalf shall have effect as if they had been enacted by the Parliament of the United Kingdom of Great Britain and Ireland.

151. The King, with the advice of the Privy Council, may, on addresses from the Houses of Parliament of the Union, transfer to the Union the government of any territories, other than the territories administered by the British South Africa Company, belonging to or under the protection of His Majesty, and inhabited wholly or in part by natives, and upon such transfer the Governor-General-in-Council may undertake the government of such territory upon the terms and conditions embodied in the Schedule to this Act.

## PART X.

### *Amendment of Act.*

152. Parliament may by law repeal or alter any of the provisions of this Act: Provided that no provision thereof, for the operation of which a definite period of time is prescribed, shall during such period be repealed or altered: And provided further that no repeal or alteration of the provisions contained in this section, or in sections *thirty-three* and *thirty-four* (until the number of members of the House of Assembly has reached the limit therein prescribed, or until a period of ten years has elapsed after the establishment of the Union, whichever is the longer period), or in sections *thirty-five* and *one hundred and thirty-seven*, shall be valid unless the Bill embodying such repeal or alteration shall be passed by both

Houses of Parliament sitting together, and at the third reading be agreed to by not less than two-thirds of the total number of members of both Houses. A Bill so passed at such joint sitting shall be taken to have been duly passed by both Houses of Parliament.

#### SCHEDULE.

1. After the transfer of the government of any territory belonging to or under the protection of His Majesty, the Governor-General-in-Council shall be the legislative authority, and may by proclamation make laws for the peace, order, and good government of such territory: Provided that all such laws shall be laid before both Houses of Parliament within seven days after the issue of the proclamation or, if Parliament be not then sitting, within seven days after the beginning of the next session, and shall be effectual unless and until both Houses of Parliament shall by resolutions passed in the same session request the Governor-General-in-Council to repeal the same, in which case they shall be repealed by proclamation.

2. The Prime Minister shall be charged with the administration of any territory thus transferred, and he shall be advised in the general conduct of such administration by a commission consisting of not fewer than three members with a secretary, to be appointed by the Governor-General-in-Council, who shall take the instructions of the Prime Minister in conducting all correspondence relating to the territories, and shall also under the like control have custody of all official papers relating to the territories.

3. The members of the commission shall be appointed by the Governor-General-in-Council, and shall be entitled to hold office for a period of ten years, but such period may be extended to successive further terms of five years. They shall each be entitled to a fixed annual salary, which shall not be reduced during the continuance of their term of office, and they shall not be removed from office except upon addresses from both Houses of Parliament passed in the same session praying for such removal. They shall not be qualified to become, or to be, members of either House of Parliament. One of the members of the commission shall be appointed by the Governor-General-in-Council as vice-chairman thereof. In case of the absence, illness, or other incapacity of any member of the commission, the Governor-General-in-Council may appoint some other fit and proper person to act during such absence, illness, or other incapacity.

4. It shall be the duty of the members of the commission to advise the Prime Minister upon all matters relating to the general conduct of the administration of, or the legislation for, the said territories. The Prime Minister, or another Minister of State nominated by the Prime Minister to be his deputy for a fixed period, or, failing such nomination, the vice-chairman shall preside at all meetings of the commission, and in case of an equality of votes shall have a casting vote. Two members of the commission shall form a quorum. In case the commission shall consist of four or more members, three of them shall form a quorum.

5. Any member of the commission who dissents from the decision of a majority shall be entitled to have the reasons for his dissent recorded in the minutes of the commission.

6. The members of the commission shall have access to all official papers concerning the territories, and they may deliberate on any matter relating thereto and tender their advice thereon to the Prime Minister.

7. Before coming to a decision on any matter relating either to the administration, other than routine, of the territories or to legislation therefor, the Prime Minister shall cause the papers relating to such matter to be deposited with the secretary to the commission, and shall convene a meeting of the commission for the purpose of obtaining its opinion on such matter.

8. Where it appears to the Prime Minister that the dispatch of any communication or the making of any order is urgently required, the communication may be sent or order made, although it has not been submitted to a meeting of the commission or deposited for the perusal of the members thereof. In any such case the Prime Minister shall record the reasons for sending the communication or making the order and give notice thereof to every member.

9. If the Prime Minister does not accept a recommendation of the commission or proposes to take some action contrary to their advice, he shall state his views to the commission, who shall be at liberty to place on record the reasons in support of their recommendation or advice. This record shall be laid by the Prime Minister before the Governor-General-in-Council, whose decision in the matter shall be final.

10. When the recommendations of the commission have not been accepted by the Governor-General-in-Council, or action not in accordance with their advice has been taken by the Governor-General-in-Council, the Prime Minister, if thereto requested by the commission, shall lay the record of their dissent from the decision or action taken and of the reasons therefor before both Houses of Parliament, unless in any case the Governor-General-in-Council shall transmit to the commission a minute recording his opinion that the publication of such record and reasons would be gravely detrimental to the public interest.

11. The Governor-General-in-Council shall appoint a resident commissioner for each territory, who shall, in addition to such other duties as shall be imposed on him, prepare the annual estimates of revenue and expenditure for such territory, and forward the same to the secretary to the commission for the consideration of the commission and of the Prime Minister. A proclamation shall be issued by the Governor-General-in-Council, giving to the provisions for revenue and expenditure made in the estimates as finally approved by the Governor-General-in-Council the force of law.

12. There shall be paid into the Treasury of the Union all duties of customs levied on dutiable articles imported into and consumed in the territories, and there shall be paid out of the Treasury annually towards the cost of administration of each territory a sum in respect of such duties which shall bear to the total customs revenue of the Union in respect of each financial year the same proportion as the average amount of the customs revenue of such territory for the three completed financial years last preceding the taking effect of this Act bore to the average amount of the whole customs revenue for all the Colonies and territories included in the Union received during the same period.

13. If the revenue of any territory for any financial year shall be insufficient to meet the expenditure thereof, any amount required to make good the deficiency may, with the approval of the Governor-General-in-Council, and on such terms and conditions and in such manner as with the like approval may be directed or prescribed, be advanced from the funds of any other territory. In default of any such arrangement, the amount required to make good any such deficiency shall be advanced by the Government of the Union. In case there shall be a surplus for any territory, such surplus shall in the first instance be devoted to the repayment of any sums previously advanced by any other territory or by the Union Government to make good any deficiency in the revenue of such territory.

14. It shall not be lawful to alienate any land in Basutoland or any land forming part of the native reserves in the Bechuanaland Protectorate and Swaziland from the native tribes inhabiting those territories.

15. The sale of intoxicating liquor to natives shall be prohibited in the territories, and no provision giving facilities for introducing, obtaining, or possessing such liquor in any part of the territories less stringent than those existing at the time of transfer shall be allowed.

16. The custom, where it exists, of holding pitsos or other recognized forms of native assembly shall be maintained in the territories.

17. No differential duties or imposts on the produce of the territories shall be levied. The laws of the Union relating to customs and excise shall be made to apply to the territories.

18. There shall be free intercourse for the inhabitants of the territories with the rest of South Africa subject to the laws, including the pass laws, of the Union.

19. Subject to the provisions of this Schedule, all revenues derived from any territory shall be expended for and on behalf of such territory: Provided that the Governor-General-in-Council may make special provision for the appropriation of a portion of such revenue as a contribution towards the cost of defence and other services performed by the Union for the benefit of the whole of South Africa, so, however, that that contribution shall not bear a higher proportion to the total cost of such services than that which the amount payable under paragraph 12 of this Schedule from the Treasury of the Union towards the cost of administration of the territory bears to the total customs revenue of the Union on the average of the three years immediately preceding the year for which the contribution is made.

20. The King may disallow any law made by the Governor-General-in-Council by proclamation for any territory within one year from the date of the proclamation, and such disallowance on being made known by the Governor-General by proclamation shall annul the law from the day when the disallowance is so made known.

21. The members of the commission shall be entitled to such pensions or superannuation allowances as the Governor-General-in-Council shall by proclamation provide, and the salaries and pensions of such members and all other expenses of the commission shall be borne by the territories in the proportion of their respective revenues.

22. The rights as existing at the date of transfer of officers of the public service employed in any territory shall remain in force.

23. Where any appeal may by law be made to the King-in-Council from any court of the territories, such appeal shall, subject to the provisions of this Act, be made to the Appellate Division of the Supreme Court of South Africa.

24. The Commission shall prepare an annual report on the territories, which shall, when approved by the Governor-General-in-Council, be laid before both Houses of Parliament.

25. All Bills to amend or alter the provisions of this Schedule shall be reserved for the signification of His Majesty's pleasure.

### § 2. Central Administration.

1. **General.**—Under the *South Africa Act*, the supreme executive authority in the Union is vested in the King, and may be administered by him in person, or by the Governor-General as his representative. There is an Executive Council to advise the Governor-General. The term Governor-General-in-Council is understood as the Governor-General acting with the advice of the Executive Council, the members of which are chosen by him and hold office during his pleasure. These in practice are the Ministers charged with the administration of the Departments of State (who may not exceed ten in number). They are appointed by the Governor-General; but the mode of the selection of Ministers and the formation of a Ministry conforms with the practice under the British Constitution, as does also the method of Government by a Cabinet possessing the confidence of a majority in Parliament.

2. **The Governor-General.**—The Governor-General (section 9 of the *South Africa Act*), is appointed by the King, represents the King, and is also Commander-in-Chief of the naval and military forces within the Union. The salary, to be paid out of the Consolidated Revenue Fund of the Union, is fixed (section 10 of the *South Africa Act*) at £10,000 annually.

Letters Patent constituting the Office of Governor-General and Commander-in-Chief and Royal Instructions were issued on the 29th December, 1909, and were given in full in the first four issues of this Year Book.\*

The following have been successively Governors-General of the Union:—

Name.	Date of Royal Commission.	Date of Assumption of Office.
Right Hon. Viscount Gladstone, P.C., G.C.B., G.C.M.G., G.B.E.	30th March, 1910....	31st May, 1910.
Right Hon. Viscount (now Earl) Buxton, P.C., G.C.M.G.	14th May, 1914.....	8th September, 1914.
H.R.H. Prince Arthur of Connaught, K.G., K.T., G.C.M.G., G.C.V.O., C.B., A.D.C.	5th August, 1920....	20th November, 1920.

3. **Ministries of the Union.**—The first Ministry of the Union, which assumed office on the 31st May, 1910, upon the establishment of the Union, was constituted as follows:—

#### FIRST MINISTRY OF THE UNION. [31.5.10 to 19.12.12.]

Department.	Minister.	Department.	Minister.
Prime Minister and Agriculture	General the Right Hon. Louis Botha, P.C.	Finance.....	Hon. H. C. Hull.
Railways and Harbours	Hon. J. W. Sauer.	Lands.....	Right Hon. A. Fischer, P.C.
Interior, Mines, and Defence	General the Hon. J. C. Smuts, K.C.	Native Affairs.....	Hon. H. Burton, K.C.
Justice.....	General the Hon. J. B. M. Hertzog.	Commerce and Industries	Right Hon. Sir F. R. Moor, P.C., K.C.M.G.
Education.....	Hon. F. S. Malan.	Public Works and Posts and Telegraphs	Hon. Sir David P. de Villiers Graaff, Bart.
		Without Portfolio....	Senator the Hon. Dr. C. O'Grady Gubbins.

The second Ministry of the Union also was formed by General the Right Hon. Louis Botha, P.C., on the 20th December, 1912. The original constitution of this Ministry, and the constitution of subsequent Ministries, after the death of General Botha, are set out below:—

#### SECOND MINISTRY OF THE UNION AS ORIGINALLY CONSTITUTED. [20.12.12.]

Department.	Minister.	Department.	Minister.
Prime Minister and Agriculture	General the Right Hon. Louis Botha, P.C.	Education.....	Hon. F. S. Malan.
Railways and Harbours	Hon. H. Burton, K.C.	Finance.....	General the Hon. J. C. Smuts, K.C.
Interior.....	Right Hon. A. Fischer, P.C.	Lands.....	Right Hon. A. Fischer, P.C.
Mines and Industries.	Hon. F. S. Malan.	Native Affairs.....	Hon. J. W. Sauer.
Defence.....	General the Hon. J. C. Smuts, K.C.	Public Works and Posts and Telegraphs	Hon. Sir Thos. Watt K.C.M.G.
Justice.....	Hon. J. W. Sauer.	Without Portfolio....	Hon. Sir David P. de Villiers Graaff, Bart.

\* A warrant authorizing the use of a Great Seal for the Union was published in the *Government Gazette* under Government Notice No. 422 of 1911.



**THIRD MINISTRY OF THE UNION AS CONSTITUTED ON 3rd SEPTEMBER, 1910.**

Department.	Minister.	Department.	Minister.
Prime Minister.....	General the Right Hon. J. C. Smuts, P.C., C.H.	Finance.....	Hon. Thos. Orr, C.M.G.
Agriculture.....	Hon. H. C. van Heerden.	Lands.....	Colonel the Hon. H. Mentz.
Railways and Harbours	Hon. H. Burton, K.C.	Native Affairs.....	General the Right Hon. J. C. Smuts, P.C., C.H.
Interior.....	Hon. Sir Thos. Watt, K.C.M.G.	Public Works.....	Hon. Sir Thos. Watt, K.C.M.G.
Mines and Industries.	Hon. F. S. Malan.	Posts and Telegraphs	Hon. Thos. Orr, C.M.G.
Defence.....	General the Right Hon. J. C. Smuts, P.C., C.H.	Public Health.....	Hon. Sir Thos. Watt, K.C.M.G.
Justice.....	Hon. N. J. de Wet, K.C.	Without Portfolio...	Senator the Hon. Sir Jacobus A. C. Graaff, K.C.M.G.
Education.....	Hon. F. S. Malan.		

**FOURTH MINISTRY OF THE UNION AS CONSTITUTED ON 19th MARCH, 1920.**

Department.	Minister.	Department.	Minister.
Prime Minister.....	General the Right Hon. J. C. Smuts, P.C., C.H.	Education.....	Hon. F. S. Malan.
Agriculture.....	Hon. F. S. Malan.	Finance.....	Hon. H. Burton, K.C.
Railways and Harbours	Hon. Sir Thos. Watt, K.C.M.G. (acting).	Lands.....	Colonel the Hon. H. Mentz.
Interior.....	Hon. Sir Thos. Watt, K.C.M.G.	Native Affairs.....	General the Right Hon. J. C. Smuts, P.C., C.H.
Mines and Industries.	Hon. F. S. Malan.	Public Works.....	Hon. Sir Jacobus A. C. Graaff, K.C.M.G.
Defence.....	Colonel the Hon. H. Mentz.	Posts and Telegraphs.	Hon. Sir Jacobus A. C. Graaff, K.C.M.G.
Justice.....	Hon. N. J. de Wet, K.C.	Public Health.....	Hon. Sir Thos. Watt, K.C.M.G.

**FIFTH MINISTRY OF THE UNION AS CONSTITUTED ON 10th MARCH, 1921.**

Department.	Minister.	Department.	Minister.
Prime Minister and Native Affairs	General the Right Hon. J. C. Smuts, P.C., C.H., K.C.	Mines and Industries	Right Hon. F. S. Malan, P.C.
Finance.....	Hon. H. Burton, K.C.	Defence.....	Colonel the Hon. H. Mentz.
Justice.....	Hon. N. J. de Wet, K.C.	Lands.....	Colonel the Hon. Deneys Reitz.
Interior, Public Health, and Education	Hon. Patrick Duncan, C.M.G.	Agriculture.....	Right Hon. Sir Thomas Smartt, P.C., K.C.M.G.
Railways and Harbours	Hon. J. W. Jagger.	Posts and Telegraphs and Public Works	Hon. Sir Thomas Watt, K.C.M.G.

4. **Departments of State and Ministers.**—The subjoined table gives each Department of State which has been constituted from 1910 to 1921, with the name of each Minister of such Department and the date of assumption of office. The number of Ministers in charge of Departments of State must not exceed ten (section 14 of the *South Africa Act*) :—

**DEPARTMENTS OF STATE IN THE UNION AND MINISTERS FROM 31st MAY, 1910.**

Department and Minister.	Date of Assumption of Office.	Department and Minister.	Date of Assumption of Office.
<b>Prime Minister—</b>		Hon. Sir David P. de Villiers Graaff, Bart.	24. 2.15
General the Right Hon. Louis Botha, P.C.	31. 5.10	Hon. H. Burton, K.C.	1. 2.16
General the Right Hon. J. C. Smuts, P.C., C.H.	3. 9.11	Hon. Thos. Orr, C.M.G.	4.10.17
<b>Agriculture—</b>		Hon. H. Burton, K.C.	19. 3.20
General the Right Hon. Louis Botha, P.C.	31. 5.10	<b>Interior—</b>	
Hon. J. W. Sauer.....	25. 6.12	General the Hon. J. C. Smuts, K.C.	31. 5.10
General the Right Hon. Louis Botha, P.C.	20.12.12	Right Hon. A. Fischer, P.C.	25. 6.12
Hon. H. C. van Heerden.....	23. 9.13	Hon. Sir Thos. Watt, K.C.M.G.	1. 2.16
Hon. F. S. Malan.....	19. 3.20	Hon. Patrick Duncan, C.M.G.	10. 3.21
Right Hon. Sir Thomas Smartt, P.C., K.C.M.G.	10. 3.21	<b>Justice—</b>	
<b>*Commerce and Industries—</b>		General the Hon. J. B. M. Hertzog.	31. 5.10
Right Hon. Sir F. R. Moor, P.C., K.C.M.G.	31. 5.10	Hon. J. W. Sauer.....	20.12.12
Colonel the Hon. G. Leuchars, C.M.G., D.S.O.	23. 2.11	Hon. N. J. de Wet, K.C.	23. 9.13
<b>Defence—</b>		<b>Lands—</b>	
General the Right Hon. J. C. Smuts, P.C., C.H.	31. 5.10	Right Hon. A. Fischer, P.C.	31. 5.10
Colonel the Hon. H. Mentz.....	19. 3.20	Hon. H. S. Theron.....	23. 9.13
<b>Education—</b>		Colonel the Hon. H. Mentz.....	1. 2.16
Hon. F. S. Malan.....	31. 5.10	Colonel the Hon. Deneys Reitz.....	10. 3.21
Hon. Patrick Duncan, C.M.G.	10. 3.21	<b>Mines—</b>	
<b>Finance—</b>		General the Hon. J. C. Smuts, K.C.	31. 5.10
Hon. H. C. Hull.....	31. 5.10	Hon. F. S. Malan.....	1. 2.12
General the Hon. J. C. Smuts, K.C.	13. 6.12	<b>Mines and Industries—</b>	
Hon. H. Burton, K.C.	23. 9.13	Hon. F. S. Malan.....	20.12.12
		<b>Native Affairs—</b>	
		Hon. H. Burton, K.C.	31. 5.10
		General the Hon. J. B. M. Hertzog.	25. 6.12
		Hon. J. W. Sauer.....	20.12.12
		General the Right Hon. Louis Botha, P.C.	23. 9.13
		General the Right Hon. J. C. Smuts, P.C., C.H.	3. 9.19

\* Portfolio abolished in 1912.

DEPARTMENTS OF STATE IN THE UNION AND MINISTERS FROM  
31ST MAY, 1910—continued.

Department and Minister.	Date of Assumption of Office.	Department and Minister.	Date of Assumption of Office.
<i>Posts and Telegraphs—</i>			
Hon. Sir David P. de Villiers Graaff, Bart.	31. 5. 10	Hon. Sir Thos. Watt, K.C.M.G.....	20. 12. 12
Hon. Sir Thos. Watt, K.C.M.G....	20. 12. 12	Senator the Hon. Sir Jacobus A. C. Graaff, K.C.M.G.	19. 3. 20
Hon. Sir J. H. Meiring Beck, Kt..	1. 2. 16	Hon. Sir Thomas Watt, K.C.M.G..	10. 3. 21
Hon. Thos. Orr, C.M.G. (Actg.)....	16. 5. 19	<i>Railways and Harbours—</i>	
Hon. Sir J. A. C. Graaff, K.C.M.G....	19. 3. 20	Hon. J. W. Sauer.....	31. 5. 10
Hon. Sir Thomas Watt, K.C.M.G.	10. 3. 21	Hon. H. Burton, K.C.....	25. 6. 12
<i>Public Health—</i>			
Hon. Sir Thos. Watt, K.C.M.G.....	1. 7. 19	Hon. Sir Thos. Watt, K.C.M.G....	19. 3. 20
Hon. Patrick Duncan, C.M.G.....	10. 3. 21	Hon. J. W. Jagger.....	10. 3. 21
<i>Public Works—</i>			
Hon. Sir David P. de Villiers Graaff, Bart.	31. 5. 10	<i>Without Portfolio—</i>	
Colonel the Hon. G. Leuchars, C.M.G., D.S.O.	1. 2. 12	Senator the Hon. Dr. C. O'Grady (Gubbins)	31. 5. 10
		Hon. Sir David P. de Villiers Graaff, Bart.	24. 1. 13
		Senator the Hon. Sir Jacobus A. C. Graaff, K.C.M.G.	23. 9. 13

5. **Functions of Departments.**—The tabular statement given hereunder enumerates the various Departments of State in the Union, and the Departments, Sub-Departments and Branches thereof, the various Laws administered, and the principal matters dealt with in the case of each Department:—

**FUNCTIONS OF DEPARTMENTS OF STATE.**

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
PRIME MINISTER.....	—	Communications between His Excellency the Governor-General-in-Council and the Departments of State, and between the Executive and Parliament. Communications with His Majesty's Government and the British Dominions. Communications with League of Nations and Mandated Territory of South-West Africa.
AGRICULTURE. (a) Veterinary Research. (b) Veterinary Division. (c) Sheep and Wool. (d) Dairy. (e) Botany. (f) Entomology. (g) Chemistry. (h) Viticulture. (i) Tobacco and Cotton. (j) Horticulture. (k) Brands and Fencing. (l) Grain Inspection. (m) Government Guano Islands. (n) Dry-farming. (o) Agricultural Co-operation. (p) Publications. (q) Crop Estimates. (r) Agricultural Education.	Diseases of Stock Acts. Dipping Tanks Advances Act. Agricultural Pests Act. Wine, Spirits and Vinegar Act. Fertilizers, Farm Foods, Seeds and Pests Remedies Act. Fencing Act. Registration of Export Act. Agricultural Produce Export Act. Agricultural Co-operative Societies Act. Dairy Industry Act.	Investigation, control, and eradication of diseases of stock. Issue of vaccines for inoculation of live stock. Inspection of meat, butter, eggs, grain, and other agricultural produce for export. Prevention of adulteration of wine, spirits and vinegar. Control of the sale of fertilizers, farm foods, seeds and pest remedies. Improvement of sheep and wool industry. Eradication of scab. Manufacture and sale of dairy produce and regulation of the dairy industry. Improvement of pastures. Growing of cereals and fodder plants. Control of plant diseases and insect pests. Agricultural chemistry. Viticulture. Tobacco culture. Cotton cultivation. Horticulture. Registration of brands. Collection and distribution of guano. Dry-farming. Agricultural co-operation. Issue of bulletins, etc. Circulation

FUNCTIONS OF DEPARTMENTS OF STATE—*continued.*

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
<b>AGRICULTURE—<i>contd.</i></b>		of publications on agriculture. Crop estimates. Agricultural education (including scholarships and bursaries for agricultural study abroad). Agricultural extension work. Agricultural experiments. Sales of pedigree stock. Household science.
<b>FORESTRY. IRRIGATION.</b>	Forest Acts. Irrigation and Conservation of water.	Forestry. Irrigation. Conservation of water. Water-boring. Meteorology.
<b>DEFENCE.</b> <i>Headquarters—</i> (a) Secretarial Section— General Branch. Financial Branch. (b) General Staff Section— Military School. (c) Adjutant-General's Section— War Records. (d) Quartermaster-General's Section— Ordnance Branch. Ordnance Depots— Pretoria. Cape Town. Bloemfontein. Supplies and Transport Branch. Veterinary Services Branch. (e) Medical Services Section. (f) Director of Air Services Section.  <i>District Headquarters—</i> District Staff Officers— Military District Headquarters— (1) Cape Town. (2) Port Elizabeth. (3) East London. (4) Pietermaritzburg. (5) Durban. (6) Standerton. (7) Potchefstroom. (8) Johannesburg. (9) Pretoria. (10) Kroonstad. (11) Bloemfontein. (12) Calvinia. (13) Kimberley. (14) Worcester. (15) Graaff-Reinet.	Defence Act. Arms and Ammunition Acts.	Establishment and maintenance of the Union Defence Forces and all matters in relation to the defence of the Union.  Control of importation, exportation, sale and possession of arms and ammunition.

FUNCTIONS OF DEPARTMENTS OF STATE—*continued.*

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
<b>EDUCATION (UNION) AND CHILD WELFARE</b>	University Acts, Higher Education Additional Provision Act. Anatomy Act. Children's Protection Act.	Supervision of all Higher Education. Universities of South Africa, Cape Town, Stellenbosch, and the Witwatersrand. University Colleges (8), and South African Native College. Training and certification of teachers. Conduct of technical and commercial examinations. Industrial schools and certified and other institutions under the Children's Protection Acts.
<b>FINANCE.</b> (a) Treasury.	Appropriation, Loans, Pensions, Banking, Insurance, Currency.	Appropriation and supply (except for the services of the Railways and Harbours Administration.) Currency and banking. Insurance. Raising and management of loans. Banker for spending departments. Pensions and gratuities. Financial relations with Provinces. General control of finances of the Union (excepting the finances of the Railways and Harbours Administration).
(b) Customs and Excise.	Customs and Excise, Copyright (Imported articles), Merchandise marks (Imported articles) and Merchant Shipping.	Customs and excise. Registration of shipping. Protection of trade marks and copyrights so far as imported goods are concerned. Protection of public from adulterated food and drink so far as imported goods are concerned.
(c) Inland Revenue.	Income Tax, Estate and Succession Duties, Licence Duties, Native Taxes, Transfer Duties, Taxation of Mining.	Imposition, assessment, and collection of revenues other than customs and excise, and postal.
(d) Public Debt Commissioners.	Public Debt Commissioners.	Investment of trust funds and application of sinking funds for the redemption of debt.
<b>HIGH COMMISSIONER (LONDON).</b>	—	Representation of the Government of the Union in the United Kingdom for such purposes as may be required. Service as agency for the Union in London for financial, commercial, and other purposes. Supervision and direction of the trade interests of the Union in the United Kingdom and elsewhere.
Trade Commissioner.	—	Supervision and direction of the trade interests of the Union on the Continent of Europe.
Commissioner of Commerce on the Continent of Europe.	—	Supervision and direction of the trade interests of the Union on the Continent of Europe.
<b>CONTROLLER AND AUDITOR GENERAL.</b>	Exchequer and Audit Act, No. 21 of 1911, and Exchequer and Audit Act Amendment Act, No. 31 of 1916.	Control of issues from the Exchequer. Audit of the Public Accounts (including those of the Railways and Harbours Administration) and reporting to Parliament thereon.

## FUNCTIONS OF DEPARTMENTS OF STATE—continued.

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
<b>INTERIOR.</b>		
<p>(a) Mental Hospitals and Leper Institutions.</p> <p>(b) Immigration and Asiatic Affairs.</p> <p>(c) Census and Statistics.</p> <p>(d) Archives.</p> <p>(e) Observatories.</p> <p>(f) National Museums, Libraries, and Kindred Institutions.</p> <p>(g) Births, Deaths, and Marriages.</p> <p>(h) Government Printing.</p> <p>(i) Indian Immigration Bureau.</p>	<p>Births and Deaths Registration Acts. Marriage Laws. Leprosy Laws. Mental Disorders Act. Immigrants Regulation Act. Registration of Asiatics and relative Acts. Chinese Exclusion Act. Electoral Act. Naturalization of Aliens Act. Newspaper Registration Laws. Census Acts. Statistics Act. Registration of Architects Act. Indian Immigrations Trust Board Acts. Museums and Libraries Acts.</p>	<p>Mental Hospitals and Leper Institutions and contingent matters. Immigration and Asiatic affairs. Electoral matters. Naturalization. Passports. Consular matters. Newspaper registration. Missing persons. Libraries, museums, and kindred matters. Census and statistics. Union Observatory. Registration of births, marriages, and deaths. Government printing and publications. Archives. Registration of architects in Transvaal. Questions relating to late enemy subjects. General matters involving communication with Public Service Commission. Provincial Administrations. Other miscellaneous matters.</p>
<b>PUBLIC SERVICE COMMISSION.</b>		
	Public Service Acts.	See paragraphs 6, 7, and 8 hereunder.
<b>JUSTICE.</b>		
<p>(a) Superior Courts (including Native High Court [Natal]).</p> <p>(b) Magistrates' Courts.</p> <p>(c) Courts of Special Justice of the Peace.</p> <p>(d) Attorneys-General.</p> <p>(e) Police.</p> <p>(f) Prisons.</p> <p>(g) Master's Offices.</p> <p>(h) Patents, Designs, Trade Marks and Copyright, and Registration of Companies.</p> <p>(i) Sheriffs.</p>	<p>All Acts relating to Superior and Inferior Courts. Police and Prisons Acts. Criminal Procedure and Evidence Act. Acts dealing with the Preservation of Peace and good order. Extradition Act and treaties thereunder. Fugitive Offenders Act and Orders in Council issued thereunder. Liquor Laws. Justices of the Peace and Commissioners of Oaths Act. Administration of Estates Acts. Insolvency Act. Patents, Designs, Trade Marks and Copyright Act. Companies Acts. Inquest Laws. Jury Acts.</p>	<p>Appointment of Judges, Attorneys-General, Magistrates, and Special Justices of the Peace. All matters connected with the Supreme Court, including Appellate, Provincial and Local Divisions, and Magistrates' Courts, and Courts of Special Justices of the Peace. Sheriffs. Capital punishment. Remissions and reprieves. Extradition. Fugitive offenders. Messengers of Courts. Jurors. Inquests. Liquor laws and appointment of licensing courts. Legal advice to Government Departments and conduct of Government litigation. Drafting of Government Bills and publication of Statutes and Statutory Regulations. Appointment of Justices of the Peace and Commissioners of Oaths. Administration of estates. Authentications. Patents, Designs, Trade Marks, and Copyright. Registration of companies. Insolvencies and assignment of estates. Guardians' funds. Inquiries into shipping casualties, railway and harbour accidents. Police administration. Prisons administration, including juvenile and juvenile adult industrial reformatories, road camps, farm colonies, work colonies, refuge or rescue homes, and inebriate reformatories. Suppression of white slave traffic.</p>

FUNCTIONS OF DEPARTMENTS OF STATE—*continued.*

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
<b>LANDS.</b> (a) Surveyors. (b) Deeds.	All acts relative to Crown lands; surveys; registration of deeds.	Administration, control, and disposal of Crown lands. Land surveys. Registration of deeds.
<b>MINES AND INDUSTRIES</b> (a) Government Mining Engineer. (b) Mining Commissioners. (c) Geological Survey. (d) Registrar of Mining Titles. (e) R and Townships Registrar. (f) Miners' Phthisis Board. (g) Miners' Phthisis Medical Bureau. (h) White Labour Department. (i) Industries. (j) Advisory Board of Industry and Science. (k) Research Grant Board. (l) Board of Trade and Industries. (m) Juvenile Advisory Boards. (n) Wages Boards. (o) Factories.	Mineral Acts. Precious Stones Acts. Mines and Works Acts. Explosives Act. Power Act. Registration of Deeds and Titles Act. Townships Amendment Act. Trading on Mining Ground Acts. Miners' Phthisis Acts. Industrial Disputes Prevention Act. Factories Act. Regulation of Wages, Apprentices and Improvers Act. Diamond Cutting Act.	General administration and control of mining and prospecting. Issue of claim licences, prospecting permits, mineral leases, alluvial diamond licences, surface rights, etc., on mining ground. Trading on mining ground. Geological reports and surveys, and geological work generally throughout the Union. Mining engineering and control of mines. Regulations governing underground and surface work on mines. Inspection of mines. Control of explosives generally, including manufacture and storage. Supply of power, and permits to sell power. Miners' training schools. Registration of mining titles, mineral leases, surface rights, etc. Registration work in connection with R and Townships. Control and payment of miners' phthisis compensation. Medical examination of applicants and periodical examination of all mine workers and other matters generally connected with miners' phthisis. Industrial disputes (prevention and settlement). Labour employment bureaus. South African industries. Factory inspection. Wages boards. Diamond cutting.
<b>NATIVE AFFAIRS.</b>	All Acts relating specially to Natives.	Administration of the Native Territories in the Transkei, Zululand, and elsewhere, including native reserves. Direction and supervision of the recruitment of native labour, especially for mining purposes. Control of native taxation and pass system. General supervision of all matters concerning the welfare and interests of the native races of the Union.
<b>POSTS AND TELE-GRAPHS.</b>	The Post Office Administration Act, 1911.	Control of all postal, ocean mail, telegraph and telephone services of the Union, Money Order services and Savings Bank. Control of nomenclature.

FUNCTIONS OF DEPARTMENTS OF STATE—*continued.*

Department and Sub-Departments.	Laws Administered.	Matters Dealt with by the Department.
PUBLIC HEALTH.	Public Health Acts. Food and Drugs Adulteration Acts. Medical, Dental, and Pharmacy Acts. Opium Importation Ordinance. Housing Act.	Public health. Contagious diseases. Food adulteration. Port health matters. Registration of medical practitioners, chemists, dentists, midwives, and trained nurses. Opium permits. Medical and Pharmacy Councils. District surgeons. Bacteriological and chemical laboratories. Vaccination. Inspection of areas of local authorities. Water supplies and drainage schemes. Medical services, including military hospitals. Military Pensions medical work. Leprosy Commissions (in conjunction with Department of the Interior). Medical boards. Medical advice and assistance to other Government Departments, the Public Service Commission, and Provincial Administrations.
PUBLIC WORKS.	—	Design, erection, and maintenance of (a) public buildings for Union and provincial purposes (exclusive of school buildings in the Cape Province) and (b) provincial and inter-provincial bridges. Provision of accommodation and services in connection therewith (including the hiring of all property required) for Union Government purposes. Lettings of Government buildings. Provision and maintenance of mechanical and electrical equipment. Miscellaneous agency and consulting services for Provincial Administrations and university authorities.
District Engineers— (a) Bloemfontein. (b) Cape Town. (c) Johannesburg. (d) King William's Town. (e) Ladysmith, Natal. (f) Middelburg, Transvaal. (g) Pietermaritzburg. (h) Port Elizabeth. (i) Potchefstroom. (j) Pretoria. Electrical Engineer.		

8. **The Public Service.**—The organization and discipline of the Public Service of the Union is provided for by the *Public Service and Pensions Act* passed in 1912 as amended by Act No. 39 of 1914. By this the Public Service is classified in three divisions:—

- (i) *The Administrative and Clerical Division.*—This consists of the secretaries and under-secretaries of the several departments of state; the chief clerks, principal clerks, senior clerks, and clerical assistants of the first, second, and third grades employed in those departments; professional officers; the heads of sub-departments and offices; magistrates; the officers and the clerical assistants of the said grades employed in sub-departments; post and telegraph assistants, postmasters, controllers and other supervising officers and engineering and clerical assistants in the executive branch of the department of posts and telegraphs; and all other persons holding or acting in offices or posts directed by the Governor-General from time to time to be included in the Administrative and Clerical Division.
- (ii) *The General Division.*—This includes all persons in the Public Service who are not included in either (i) above or (iii) below.
- (iii) *The Services.*—These include officers of the permanent Defence Force, the Police Force and subordinate officers of the Prisons Department.  
The following are not included in the Public Service:—  
Administrators of Provinces; the High Commissioner for the Union in the

United Kingdom; the Chief Justice of South Africa or any Judge of the Supreme Court, or a clerk to the Chief Justice or any such Judge; officers of Parliament; the personal staff of His Excellency the Governor-General; any person employed by the Government or by any Provincial Administration whose whole time is not at the disposal thereof or any person remunerated by fees only; any person so employed if by the terms of his appointment made in accordance with law he is not subject to the laws regulating the Public Service; or any teacher serving under any Provincial Administration or any department of education.

**7. Public Service Commission.**—Section 142 of the *South Africa Act* required the appointment of a permanent Public Service Commission. Section 2 of the *Public Service Act* made provision in conformity with such requirement. The Commission appointed consists of three members.

**8. Powers and Duties of Public Service Commission.**—The Commission has certain powers conferred and duties imposed upon it by the Act, relating to the appointment, promotion, discipline, retirement, and superannuation of persons employed in the Public Service, and is required *inter alia* :—

- (i) To keep a register of applicants qualified for employment in the Administrative and Clerical Division.
- (ii) To make recommendations as to appointments and promotions.
- (iii) To prepare and publish annually a Public Service List.
- (iv) To make recommendations as to the retirement for reasons other than superannuation of persons in the Administrative and Clerical Division.
- (v) To inquire into and recommend action in cases of imputed misconduct of a serious character.
- (vi) To make recommendations as to the terms of regulations which it is deemed necessary to frame as to examinations qualifying for admission into the Administrative and Clerical Division, the grading, classification, promotion, transfer, discipline, conduct, powers and duties, hours of attendance, leave of absence of officers, and the conditions of employment; the rates of overtime payments, rates of allowances, and other matters.
- (vii) To frame for the information of Parliament an annual report and such special reports as the Commission considers desirable.

In addition to the powers and duties conferred by the Act of 1912, the Governor-General-in-Council has assigned to the Commission the power to make recommendations—

- (i) as to the grading and classification or regrading and conversion of posts in the Administrative and Clerical Division of the Public Service;
- (ii) as to the control, reorganization, and readjustment of any departments or offices in the Public Service and further as to the retirement from the Public Service of any persons in consequence of any such reorganization or readjustment.

Under the Public Service Regulations the administration of the following regulations is vested in the Public Service Commission :—

- (i) Subsistence and Transport Allowances Regulations.
- (ii) Leave Regulations (by authority delegated to the Commission by the Minister of Finance).
- (iii) Regulations governing payment of extra remuneration and payment in respect of overtime.

In terms of the Financial Regulations framed under Section 61 of the *Exchequer and Audit Act, 1911*, the authority of the Commission is required for the expenditure involved in—

- (i) the appointment of permanent and temporary officials except when the appointment is to certain specified posts in the lower grades;
- (ii) the creation of any new post not provided for in the Estimates of Expenditure approved by Parliament;
- (iii) the alteration of the scale of salary attached to any existing appointment by raising the minimum or maximum of the scale or the rate of annual increment;
- (iv) the payment of any gratuity or extra remuneration to any public servant except where the payment is specifically provided for by regulation.

**9. Public Service Commission of Inquiry.**—A special Commission to inquire into the organization of the Public Service was appointed on the 12th June, 1918, of which the Hon. T. L. Graham, Judge President of the Eastern Districts Court, was chairman. The Commission sat until November, 1920, and presented altogether five reports.

The *First Report*, signed 21st November, 1918, dealt with increased cost of living allowances (war bonus), and made certain recommendations in that regard. The *Second Report*, signed 28th February, 1919, made recommendations respecting the immediate relief of the general body of assistants in the Department of Posts and Telegraphs, of certain



classes of female assistants employed in the same department and in the Public Service generally, and of second and third grade clerks in the Administrative and Clerical Division of the Service, by the provisional adjustment of scales of pay. The *Third Report*, signed 25th October, 1919, dealt in considerable detail with the organization, scales of pay and allowances and general matters affecting the South African Police, the South African Mounted Rifemen, and the Prisons Department of the Union. In the *Fourth Report*, signed 17th November, 1919, the whole question of local allowances was under consideration, and the Commission elaborated a comprehensive scheme for the payment of such allowances on the principle that "so long as local allowances form part of the remuneration of officers stationed in inland provinces, all salaries should be framed on a coastal basis and local allowances should be paid accordingly." The basic remuneration on which allowances were to be calculated was fixed at £306 for the coastal provinces.

The *Fifth Report*, signed on 5th November, 1920, contained a full investigation of all the other questions covered by the terms of reference, and principally dealt with the following matters:—

- (a) Constitution of the Public Service Commission.
- (b) Official recognition to staff associations.
- (c) Advisory Councils.
- (d) Conditions of employment of women in the Public Service.
- (e) Organization of the Public Service and grading and scales of pay.
- (f) Organization of certain departments and offices, viz., Posts and Telegraphs, Customs and Excise, Interior, Agriculture, Chemical Laboratories, and Provincial Auditors.
- (g) Promotions, increments, and interchange of officers.
- (h) Hours of attendance and overtime.
- (i) Pensions.
- (j) Leave.
- (k) Certain allowances (other than local and war).
- (l) Political rights.
- (m) Certain class grievances of pre-Union officers.
- (n) Certain general matters, e.g. disciplinary action, questions affecting magistrates, and devolution of authority.

The following are certain scales of pay recommended by the Commission for posts common to all departments:—

**PUBLIC SERVICE COMMISSION OF INQUIRY—SUMMARY OF RECOMMENDATIONS AS TO SALARY (FIFTH REPORT).**

Post.	Grade.	Scale Previously in Force.	Scale Recommended by Commission.	Scale Adopted.		
Secretary.....	First..	£1,300—£40—£1,500	£1,500—£50—£1,700	Scale increased by £200 with £30 increments to a maximum of £1,550, and £40 on scales beyond that amount.		
".....	Second	£1,200—£30—£1,350				
Under Secretary...	First..	£950—£30—£1,100	£1,150—£50—£1,300	£1,150—£30—£1,300		
".....	Second	£850—£30—£1,000				
Chief Clerk.....	First..	£750—£25—£750	£800—£40—£900	£800—£25—£900		
".....	Special	£600—£20—£700				
".....	Second	£550—£20—£650	£650—£25—£750	£700—£25—£800		
Principal Clerk....	Special	£500—£20—£600				
".....	First..	£450—£20—£550	£525—£25—£600	£550—£25—£650		
".....	Second	£400—£20—£500				
Senior Clerk *.....	—	£380—£20—£440	Same scales as Chief and Principal Clerks	As recommended.		
Accountant.....	—	—				
Clerical Assistant—						
Male.....	First..	£280—£20—£360	£425—£25—£500	"		
".....	Second	£180—£20—£260				
".....	Third..	£100—£15—£160				
".....			£16—£235	"		
Woman †.....	First..	£180—£12—£204	First Grade— £195—£15—£225	£195—£15—£270		
".....	Second	£132—£12—£168			Second Grade— £132—£12—£180	£195—£15—£225
".....	Third..	£90—£10—£120				
Typists—Woman ‡	First..	£132—£12—£168	£195—£15—£270	As recommended.		
".....	Second	£90—£10—£120			£132—£12—£180	

\* Grades merged and designated Senior Clerk.

† Women who possess matriculation standard of education or its equivalent were recommended for same scales of salary as male clerical assistants.

‡ Promotion to grade 1, subject to efficiency test.

**10. Strength of Staff in Government Service.**—The following table gives particulars of the permanent and temporary staff employed in the various Departments of the Union Public Service during the financial years 1918-19 to 1920-21. Particulars of the staffs of the various Provincial Administrations will be found below in § 4 of this chapter, and of the staff of the Railways and Harbours Administration in Chapter XXI.

The authorized European establishment of the Union Public Service, as shown in the Estimates presented each year to Parliament, was:—1912-13, 20,859; 1913-14, 21,412; 1914-15, 22,739; 1915-16, 19,700; 1916-17, 20,878; 1917-18, 20,796; 1918-19, 20,832; 1919-20, 25,005 (including 3,695 in respect of Defence Department, for which no figures had been given since 1914-15); 1920-21, 28,234 (including uniformed staff and Post Office learners); 1921-22, 29,639.

**STAFF EMPLOYED IN THE UNION GOVERNMENT SERVICE,  
1918-19 TO 1920-21.**

Department.	1918-19.			1919-20.			1920-21.		
	Per- manent.	Tem- porary.	Total.	Per- manent.	Tem- porary.	Total.	Per- manent.	Tem- porary.	Total.
Agriculture.....	1,338	212	1,550	1,431	173	1,604	1,448	238	1,686
Agriculture (Education)...	142	7	149	139	6	145	152	10	162
Audit.....	122	90	212	124	40	164	133	21	154
Customs and Excise.....	430	41	540	400	39	529	475	20	495
Defence.....	773	761	1,534	531	478	1,009	408	405	903
Finance.....	111	92	203	123	98	221	138	72	210
Forests.....	228	24	252	236	80	266	243	26	269
Governor-General.....	15	—	15	15	—	15	15	—	15
Inland Revenue.....	150	75	225	161	92	253	195	99	294
Interior.....	181	813	494	193	240	433	173	130	303
Irrigation.....	105	—	113	100	14	114	103	29	132
Justice.....	1,400†	—	1,409	1,528†	—	1,528	1,500†	—	1,500
Lands.....	318	105	423	265	173	438	305	167	472
Mines.....	340	109	449	327	181	508	347	167	514
Native Affairs.....	1,283	211	1,494	1,359	98	1,457	1,370	86	1,462
Police—									
A. and C. Staff.....	115	—	115	145	—	145	187	—	187
Executive.....	7,430	1	7,431	7,380	3	7,389	10,463	12	10,475
Posts and Telegraphs.....	6,477	2,960	9,443	6,587	3,003	9,650	7,556	3,179	10,735†
Prime Minister.....	9	—	9	9	—	9	9	—	9
Prisons.....	2,440	20	2,460	2,445	7	2,452	2,547	5	2,552
Public Works.....	235	453	688	235	550	785	200	601	801
Union Education.....	92	1	93	108	1	109	131	1	132
High Commissioner's Office, London.....	67	103	170	73	126	199	77	132	209
<b>TOTAL.....</b>	<b>23,879</b>	<b>5,592</b>	<b>29,471</b>	<b>24,010</b>	<b>5,412</b>	<b>29,422</b>	<b>28,370</b>	<b>5,400</b>	<b>33,770</b>

\* Excludes Executive Staff: 1918-19, 5,285; 1919-20, 6,888; 1920-21, 1,812.

† Includes a small number of Temporary Staff additional to the authorized establishment.

‡ Increase due to large recruitment of learners, etc.

**11. Chief Officers of the Public Service.**—The following is a list of the Chief Administrative and Professional Officers of the Public Service of the Union:—

OFFICE OF H.R.H. THE GOVERNOR-GENERAL.

Secretary to the Governor-General..... Captain the Hon. B. E. H. Clifford, M.V.O.

DEPARTMENT OF THE PRIME MINISTER.

Secretary to the Prime Minister..... E. F. C. Lane, C.M.G.

Clerk of Executive Council..... H. Gordon Watson, J.S.O.

DEPARTMENT OF NATIVE AFFAIRS.

Secretary for Native Affairs..... E. Barrett.

Under-Secretary..... G. A. Godley, C.B.E.

Director of Native Labour Department... S. A. M. Pritchard, C.M.G.

Assistant Director..... H. S. Cooke, O.B.E.

Chief Magistrate (Transkeian Territories)... W. T. Welsh.

Native Commissioner (Ciskeian Territories) T. W. C. Norton.

Chief Native Commissioner (Natal)..... C. A. Wheelwright, C.M.G.

## DEFENCE DEPARTMENT.

Secretary for Defence.....	*Sir H. R. M. Bourne, K.B.E., C.M.G.
Chief of General Staff.....	Brig.-General A. J. E. Brink, D.S.O.
Adjutant-General.....	Lieut.-Colonel D. O. van Velden, D.S.O.
Quartermaster-General.....	Colonel C. Brink, D.S.O.
Director of Medical Services.....	Lieut.-Colonel Sir E. N. Thornton, K.B.E.
Director of Air Services.....	Colonel Sir H. E. van Ryneveld, K.B.E., D.S.O., M.C.

## DEPARTMENT OF MINES AND INDUSTRIES.

Secretary for Mines and Industries and Chief Inspector of Factories.....	H. Warington Smyth, C.M.G., M.A., LL.M., F.G.S., F.R.G.S., M.I.M.M.
Under-Secretary.....	Vacant.
Registrar of Mining Titles and Rand Townships Registrar.....	F. M. Rhundell.
Government Mining Engineer.....	Sir R. N. Kotzé, Kt.
Chief Inspector of Mines.....	U. P. Swinburne, A.R.S.M., F.G.S., M.I.M.M., M.I.M.E.
Chief Inspector of Explosives.....	A. B. Denne.
Chief Inspector of Machinery.....	J. A. Vaughan, M.I.C.E., M.I.M.E., M.A.S.M.E.
Mine Surveyor.....	A. C. Sutherland, M.A., M.C.E., A.M.I.C.E.
Director of Geological Survey.....	A. W. Rogers, Sc.D., F.R.S.
Superintendent and Chief Inspector of White Labour.....	J. J. Naude.
Deputy Chief Inspector of Factories....	H. C. Fowler.

## DEPARTMENT OF UNION EDUCATION.

Secretary for Education.....	G. M. Hofmeyr, B.A.
Adviser on Technical Education.....	P. Coleman, M.A.
Inspector of Institutions.....	L. van Schalkwijk, Ph.D.

## DEPARTMENT OF FINANCE.

Secretary for Finance.....	E. H. Farrer, C.A., C.M.G.
Under-Secretary.....	J. J. I. Middleton.
Commissioner for Inland Revenue and Taxes.....	A. P. McLoughlin.
Assistant Commissioner.....	E. J. Kay.
Controller and Auditor General.....	J. de V. Roos, B.A., LL.B.
Assistant Controller and Auditor General Secretary to High Commissioner (London).....	R. J. Hunter. Sir R. A. Blankenberg, K.B.E.
General Manager, Land and Agricultural Bank.....	Thos. B. Harold.
Commissioner of Customs and Excise....	G. Owen-Smith.
Deputy-Commissioner.....	B. V. O'Riley.
Superintendent of Excise.....	O. Thiel.
Union Government Agent at Lourenco Marques.....	A. T. Long, C.B.E.

## DEPARTMENT OF JUSTICE.

Secretary for Justice.....	W. E. Bok, Dr. Jur.
Under-Secretary.....	D. D. Keay.
Under-Secretary and Director of Prisons...	W. S. Bateman, O.B.E.
Law Adviser.....	E. L. Matthews, K.C., C.M.G.
Law Adviser.....	L. G. Nightingale, K.C., B.A., B.C.L.
Law Adviser.....	C. W. H. Lansdown, B.A., LL.B.
Attorney-General (Cape).....	F. W. Douglass, K.C.
Attorney-General (Natal).....	J. Barclay Lloyd, K.C., B.A., LL.B.
Attorney-General (Transvaal).....	C. W. de Villiers, K.C., B.A., LL.B.
Attorney-General (Orange Free State)...	S. J. de Jager, K.C.
Crown Prosecutor (Johannesburg).....	A. S. Welsh.
Solicitor-General (Grahamstown).....	W. S. Bigby, K.C., B.A., LL.M.
Commissioner of Police.....	T. G. Truter, C.M.G.
Deputy-Commissioner and Secretary....	H. C. Bredell.

\* See Appendix.

## DEPARTMENT OF THE INTERIOR.

Secretary for the Interior.....	H. B. Shawe, L.S.O.
Under-Secretary.....	H. N. Venn.
Director of Census.....	C. W. Cousins, M.A.
Union Astronomer.....	R. T. A. Innee.
Commissioner of Mentally Disordered and Defective Persons.....	J. T. Dunston, M.D., B.S., L.R.C.P., M.R.C.S.
Government Printer.....	F. W. Knightly.

## PUBLIC SERVICE COMMISSION.

Chairman.....	V. G. M. Robinson.
Commissioner.....	A. B. Hofmeyr.
Commissioner.....	H. C. Fleischher.
Secretary.....	S. Jacklin.

## DEPARTMENT OF PUBLIC HEALTH.

Chief Health Officer and Secretary for Pub- lic Health.....	J. Alexander Mitchell, M.B., Ch.B., D.P.H.
Assistant Health Officers for the Union... Sir	E. N. Thornton, K.B.E., M.R.C.S., L.R.C.P., D.P.H., Hugh Frederick Sheldon, M.C.R.S., L.R.C.P., D.P.H.
Assistant Medical Officers of Health for the Union.....	L. G. Hayden, M.B., C.M., D.P.H.; P. Targett Adams, M.R.C.S., L.S.A., D.P.H.; G. A. Park Ross, M.D., D.P.H.; F. C. Willmot, L.R.C.P., L.R.C.S., D.P.H.
Medical Inspector.....	S. V. van Niekerk, M.D.

## PUBLIC WORKS DEPARTMENT.

Secretary for Public Works.....	C. Murray, A.M.I.C.E., C.M.G.
Under-Secretary.....	J. A. Macphail.
Inspecting Engineer.....	C. J. Gyde, A.M.I.C.E.
Architect.....	J. S. Cleland.

## DEPARTMENT OF AGRICULTURE.

Secretary for Agriculture.....	P. J. du Toit
Under-Secretary.....	Colonel G. N. Williams, D.S.O.
Under-Secretary (Agricultural Education)	E. J. Macmillan, B.S.A.
Chief Conservator of Forests.....	C. E. Legat, B.Sc.
Director of Irrigation.....	A. D. Lewis, M.A., A.M.I.C.E., M.I.M.E.
Assistant Director of Irrigation.....	G. W. Herdman, M.A., B.Sc., M.I.C.E.

## DEPARTMENT OF POSTS AND TELEGRAPHS.

Postmaster-General.....	E. A. Sturman, C.B.E.
Under-Secretary.....	Lieut.-Colonel Norman Harrison, C.M.G., D.S.O.
Assistant Under-Secretary.....	W. Hopkins.
Assistant Under-Secretary.....	S. J. Gold.

## DEPARTMENT OF LANDS.

Secretary for Lands.....	J. Sommerville, O.B.E.
Registrar of Deeds (Cape Town).....	D. Denoon, M.A., LL.B.
Registrar of Deeds (Pietermaritzburg)....	A. N. N. Lloyd.
Registrar of Deeds (Pretoria).....	W. F. Leffer.
Registrar of Deeds (Bloemfontein).....	J. S. Louw.
Surveyor-General (Cape Town).....	A. H. Cornish-Bowden.
Surveyor-General (Pietermaritzburg)....	F. J. Lewis.
Surveyor-General (Pretoria).....	H. E. Schoch.
Surveyor-General (Bloemfontein).....	W. P. Murray.

## § 3. Parliament and Legislation.

1. **Parliament.**—The legislative power of the Union is vested in terms of section 10 of the *South Africa Act* (sec § 1 of this Chapter) in the King, represented by the Governor-General, a Senate, and a House of Assembly. Sessions of Parliament (section 20 of the *South Africa Act*) may be appointed by the Governor-General, who may also prorogue Parliament,

or may dissolve the Senate\* and House of Assembly simultaneously, or the House of Assembly alone. No dissolution of the Senate (see paragraphs 3 and 4 below) can affect those Senators who have been nominated by the Governor-General-in-Council. Cape Town is constituted as the seat of the Legislature (section 23 of the *South Africa Act*). The powers of Parliament are described in sections 59 to 67 of the Act. Parliament has full powers to make laws for the peace, order, and good government of the Union.

**2. Sessions of Parliament.**—A Session of Parliament must be held once at least in every year, so that a period of twelve months shall not intervene between the last sitting of Parliament in one session and its first sitting in the next session. The first Parliament was opened by His Royal Highness the Duke of Connaught and Strathearn on the 4th November, 1910. The following table gives a list of sessions from 1910 to 1922 with the dates of commencement and ending in each case and the duration of each session (Sundays and public holidays included):—

#### SESSIONS OF PARLIAMENT.

Number of Parliament and of each Session.	Year.	Commencement and Ending.	Duration (in Days).
<b>First Parliament—</b>			
1st Session.....	1910-11	31. 10. 10—25. 4. 11	177
2nd Session.....	1912	26. 1. 12—24. 6. 12	151
3rd Session.....	1913	24. 1. 13—16. 6. 13	144
4th Session.....	1914	30. 1. 14—7. 7. 14	159
5th (Extraordinary) Session.....	1914	9. 9. 14—14. 9. 14	6
6th Session.....	1915	26. 2. 15—21. 4. 15	56
[ <i>House of Assembly dissolved by Proclamation No. 96 of 1915, dated 23rd August, 1915.</i> ]			
<b>Second Parliament—</b>			
1st Session.....	1915-16	19. 11. 15—17. 6. 16	212
2nd Session.....	1917	16. 2. 17—3. 7. 17	138
3rd Session.....	1918	18. 1. 18—8. 5. 18	111
Joint Sitting of Both Houses.....	1918	17. 4. 18—24. 4. 18	8
4th Session.....	1919	17. 1. 19—20. 6. 19	165
5th (Special) Session.....	1919	5. 9. 19—17. 9. 19	13
[ <i>House of Assembly dissolved by Proclamation No. 24 of 1920, dated 6th February, 1920.</i> ]			
<b>Third Parliament—</b>			
Session.....	1920	19. 3. 20—17. 8. 20	152
[ <i>Senate expired by effluxion of time on 31st October, 1920, under Sections 24 and 25 of the South African Act, 1909, and Sections 1 and 2 of the Constitution of the Senate Act, 1920.</i> ]			
[ <i>House of Assembly dissolved by Proclamation No. 225 of 1920, dated 31st December, 1920.</i> ]			
<b>Fourth Parliament—</b>			
1st Session.....	1921	11. 3. 21—14. 7. 21	126
2nd Session.....	1922	17. 2. 22—	

**3. The Senate.**—The second Senate of the Union is composed of eight Senators nominated by the Governor-General-in-Council, four of whom are selected on the ground mainly of their thorough acquaintance, by reason of their official experience or otherwise, with the reasonable wants and wishes of the coloured races, and eight Senators elected by each of the four Provinces of the Union.

The second Senate first met on 11th March, 1921, and unless sooner dissolved, which can happen at any time provided it is simultaneous with a dissolution of the House of Assembly, is constituted for ten years. The Provincial element is elected, according to the system of proportional representation with the single transferable vote, by the Members of the House of Assembly and of the Provincial Council for each Province sitting together and presided over by the Administrator of such Province. Vacancies amongst elected Senators are filled in the same manner, but only for the period which the Senator in whose place the new Senator is elected would have held his seat; whereas nominated Senators always sit for the full ten-year period, which is not even affected by the dissolution of the Senate or its expiration by the effluxion of time. In addition to having the qualifications required by Members of the House of Assembly, all Senators must be not less than thirty

\* Under the *South Africa Act* the original Senate held office to 31st May, 1920, and under Act No. 9 of 1920 until 31st October, 1920.

years of age, and, in the case of elected Senators, must own unencumbered, immovable property within the Union of not less value than £500. The Legislative powers of the Senate are co-ordinate with those of the House of Assembly except in regard to the origination and amendment of certain monetary provisions in Bills.

**4. Members of the Senate.**—The following is a list of the members of the Senate:—

NOMINATED SENATORS.

- |   |  |
|---|--|
| The Hon. E. R. Grobler.                               | *Col. the Hon. Sir W. E. M. Stanford,<br>K.B.E., C.B., C.M.G.                            |
| *Brig.-Gen. the Hon. D. J. E. Opperman.               | *The Hon. H. G. Stuart ( <i>Deputy President</i><br>and <i>Chairman of Committees</i> ). |
| *The Hon. A. W. Roberts, D.Sc., F.R.S.E.,<br>F.R.A.S. | The Hon. P. J. van der Walt.   |
| The Hon. C. G. Smith.                                 | The Hon. H. C. van Heerden ( <i>President</i> ).   |

ELECTED SENATORS.

CAPE OF GOOD HOPE.

- The Hon. C. R. Arnold.  
The Hon. A. J. Fuller.  
The Hon. Sir J. A. C. Graaff, K.C.M.G.  
The Hon. C. J. Langenhoven.  
The Hon. J. P. Malan.  
The Hon. O. A. Oosthuizen.  
The Hon. C. A. Schweizer.  
The Hon. A. H. Watkins, M.D.

TRANSVAAL.

- The Hon. N. J. de Wet, K.C. (*Minister of*  
*Justice*).  
The Hon. J. L. Grobler.  
The Hon. R. A. Kerr.  
The Hon. G. Munnik.  
The Hon. F. W. Reitz.  
The Hon. W. K. Tucker, C.M.G.  
The Hon. P. Whiteside.  
The Hon. A. D. W. Wolmarana.

NATAL.

- The Hon. F. O. F. Churchill.  
The Hon. W. F. Clayton.  
The Hon. W. Cochrane.  
The Hon. P. K. Fraser.  
The Hon. F. Greaves.  
The Hon. J. Schofield.  
The Hon. J. J. Uija.  
The Hon. H. D. Winter.

ORANGE FREE STATE.

- The Hon. W. J. C. Brebner.  
The Hon. I. W. B. de Villiers.  
The Hon. W. Ehrlich.  
Gen. the Hon. F. J. W. J. Hattingh.  
The Hon. C. G. Marais.  
The Hon. H. Potgieter.  
The Hon. N. W. Serfontein.  
Gen. the Hon. W. J. Wessela.

**5. The House of Assembly.**—The House of Assembly is composed of members directly chosen by the voters of the Union in electoral divisions as laid down by the *South Africa Act*. Matters relating to the delimitation of such divisions, the qualifications of voters, and the election of members are dealt with in Chapter XII of this Year Book. The number of members which was fixed for the first election is given below. The method of the increase of the numbers of members is dealt with in section 34 of the *South Africa Act*. As the result of the operation of this section, on the issue of the returns for the Census of Population taken in 1911 and 1918, the number of members in the Transvaal was increased. The original and the later constitutions of the House are given hereunder:—

Province.	Number of Members in		
	1910-15 (First Parliament).	1915-19 (Second Parliament.)	1920-21 (Third and Fourth Parliaments).
Cape of Good Hope.....	51	51	51
Natal.....	17	17	17
Transvaal.....	36	45	49
Orange Free State.....	17	17	17
TOTAL.....	121	130	134

The qualifications of a member of the House of Assembly are defined in section 44 of the *South Africa Act*. Every House of Assembly has a duration of five years from the date of its first meeting (but not longer) unless sooner dissolved by the Governor-General. The first business of the House is the election of one of its members as Speaker, who ceases

\* Selected in terms of section 24 (ii) of the *South Africa Act* on the ground mainly of their thorough acquaintance, by reason of their official experience or otherwise, with the reasonable wants and wishes of the coloured races in South Africa.

to be Speaker if he ceases to be a member of the House. A member may resign his seat. The presence of thirty members is necessary to constitute a *quorum*. Each member receives an allowance of £400 \* a year, except the Speaker and Ministers receiving salary under the Crown.

6. *Members of the House of Assembly.*—The following list gives the electoral divisions of the four Provinces, and the member representing each division in the Session of 1922 :—

## MEMBERS OF THE HOUSE OF ASSEMBLY.

## CAPE OF GOOD HOPE.

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Albany.....	F. J. W. van der Riet, K.C.	Ladismith.....	P. J. Jordaan.
Albert and Aliwal..	C. A. A. Sephton.	Liesbeek.....	C. Pearce.
Barkly.....	P. E. Scholtz.	Malmesbury.....	Rt. Hon. F. S. Malan, P.C.
Beaconsfield.....	Col. Sir David Harris, K.C.M.G.	Namaqualand.....	J. P. Mostert.
Beaufort West.....	P. W. le Roux.	Newlands.....	W. P. Buchanan, K.C.
Bechuanaland.....	I. van W. Raubenheimer.	Oudtshoorn.....	Dr. J. A. Raubenheimer.
Border.....	Brig.-Gen. the Hon. J. J. Byron, C.M.G., D.S.O.	Paarl.....	Dr. A. L. de Jager.
Caledon.....	Hon. C. J. Krige.	Piquetberg.....	J. H. H. de Waal.
Calvinia.....	Dr. D. F. Malan.	Port Elizabeth (Central)	Col. the Hon. Deneys Reitz.
Cape Town (Castle)	M. Alexander, K.C.	Port Elizabeth (South-West)	W. Macintosh.
Cape Town (Central)	Hon. J. W. Jagger.	Prieska.....	J. P. Coetzee.
Cape Town (Gardens)	Dr. R. Forayth.	Queenstown.....	L. Moffat.
Cape Town (Harbour)	Maj. G. B. van Zijl.	Riversdale.....	A. L. Badenhorst.
Ceres.....	J. W. J. W. Roux.	Rondebosch.....	R. W. Close, K.C.
Colesberg.....	G. A. Louw.	Salt River.....	W. J. Snow.
Cradock.....	I. P. van Heerden.	Somerset.....	A. P. J. Fourie.
East London.....	J. Stewart.	South Peninsula...	Murray Bisset, K.C.
Fort Beaufort.....	Rt. Hon. Sir Thos. Smartt, P.C., K.C.M.G.	Stellenbosch.....	Rt. Hon. J. X. Merriman, P.C.
George.....	G. F. Brink.	Swellendam.....	J. W. van Eeden.
Graaff-Reinet.....	J. M. Enslin.	Tembuland.....	W. H. Stuart.
Griqualand.....	J. G. King.	Three Rivers.....	D. M. Brown, O.B.E.
Hopetown.....	Capt. P. S. Cilliers.	Uitenhage.....	W. R. Burch.
Humansdorp.....	C. W. Malan.	Victoria West.....	F. J. du Toit.
Kimberley.....	H. A. Oliver, C.M.G.	Wodehouse.....	J. A. Venter.
King William's Town	Maj. R. Ballantyne	Woodstock.....	I. Purcell.
		Worcester.....	C. B. Heatlie.

## NATAL.

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Dundee.....	Hon. Sir Thos. Watt, K.C.M.G.	Pietermaritzburg (North)	T. G. Strachan.
Durban (Berea)...	J. Henderson.	Pietermaritzburg (South)	W. J. O'Brien, O.B.E.
Durban (Central)...	C. P. Robinson.	Stamford Hill.....	†
Durban (Greyville)...	T. Boydell.	Umvoti.....	Col. the Hon. Sir George Leuchars, K.C.M.G., D.S.O.
Durban (Point)....	W. Greenacre, O.B.E.	Vryheid.....	E. G. Jansen.
Durban (Umbilo)...	H. G. Mackeurtan, K.C.	Weenen.....	J. W. Moor.
Illovo.....	J. S. Marwick.	Zululand.....	G. H. Nicholls.
Klip River.....	Hon. H. Burton, K.C.		
Natal (Coast).....	E. G. A. Saunders.		
Newcastle.....	T. J. Nel.		

\* A special temporary allowance of £200 per annum was voted for the financial year 1920-21. This amount was reduced to £137. 10s. per annum for the financial year 1921-22.

† See Appendix.

MEMBERS OF THE HOUSE OF ASSEMBLY—*continued.*

## TRANSVAAL.

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Barberton.....	Lt.-Col. J. C. Fourie, D.S.O.	Pietersburg.....	J. F. Naudé.
Benoni.....	W. B. Madeley.	Potchefstroom.....	J. G. Obermeyer.
Bethal.....	Lt.-Col. H. S. Grobler.	Pretoria (Central).....	E. Rooth.
Bezuidenhout.....	L. Blackwell, M.C.	Pretoria (East).....	C. W. Giovanetti, C.B.E.
Bokaburg.....	R. H. Henderson, C.M.G.	Pretoria (West).....	Lt.-Gen. the Rt. Hon. J. C. Smuts, P.C., C.H., K.C.
Brakpan.....	R. B. Waterston.	Pretoria District (North)	J. A. Joubert.
Christiana.....	A. S. van Hees.	Pretoria District (South)	Gen. C. H. Muller.
Commissioner Street Denver.....	H. Graumann.	Rooдеpoort.....	Rev. J. Mullineux.
Ermelo.....	C. E. Nixon.	Rustenburg.....	P. G. W. Grobler.
Fordsburg.....	Col.-Cdt. W. R. Collins, D.S.O.	Springs.....	F. J. van Aardt.
Germiston.....	J. S. F. Pretorius.	Standerton.....	Lt.-Col. G. M. Claas- son.
Heidelberg.....	H. S. McAlister.	Troyeville.....	W. S. Webber.
Hospital.....	W. W. J. J. Bezui- denhout.	Turfontein.....	Maj. E. W. Hunt, D.S.O., M.C.
Jeppes.....	H. B. Papenfus, K.C.	Ventersdorp.....	Lt.-Col. B. I. J. van Heerden.
Johannesburg (North)	H. W. Sampson, O.B.E.	Von Brandis.....	E. Nathan.
Klerksdorp.....	L. Geldenhuis.	Vrededorp.....	Dr. T. C. Visser.
Krugersdorp.....	J. S. Smit.	Wakkerstroom.....	J. van der Merwe.
Langlaagte.....	Maj. Sir Abe Bailey, Bart., K.C.M.G.	Waterberg.....	P. W. le R. van Niekerk.
Lichtenburg.....	J. Christie.	Witbank.....	A. I. E. de Villiers.
Losberg.....	T. J. de V. Roos.	Witwatersberg.....	S. F. Alberts.
Lydenberg.....	Lt.-Col. T. F. J. Dreyer.	Wolmaranstad.....	Gen. J. C. G. Kemp.
Marioo.....	J. Nieuwenhuize.	Wonderboom.....	B. J. Pienaar.
Middelburg.....	Brig.-Gen. L. A. S. Lemmer.	Yeoville.....	Hon. Patrick Dun- can, C.M.G.
Parktown.....	J. D. Heyns.	Zoutpansberg.....	Col. the Hon. H. Mentz.
	R. Feetham, K.C.		

## ORANGE FREE STATE.

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Bethlehem.....	J. H. B. Wessels.	Heilbron.....	M. L. Malan.
Bloemfontein(North)	A. G. Barlow.	Hoopstad.....	E. A. Conroy.
Bloemfontein(South)	Dr. C. Steyn.	Kroonstad.....	A. J. Werth.
Boeshof.....	C. A. van Niekerk.	Ladybrand.....	C. G. Fichardt.
Edenburg.....	F. W. Beyers, K.C.	Rouxville.....	D. Hugo.
Fauresmith.....	N. C. Havenga.	Smithfield.....	Gen. the Hon. J. B. M. Hertzog.
Ficksburg.....	J. G. Keyter.	Vrededorp.....	J. H. Munnik.
Frankfort.....	J. B. Wessels.	Winburg.....	C. T. M. Wilcocks.
Harrismith.....	A. A. Cilliers.		



**7. Officers of Parliamentary Establishment.**—The following list gives the principal Officers of the Parliamentary Establishment of the Union for the Senate, the House of Assembly, and the Joint Parliamentary Establishment:—

THE SENATE.

President.....	Senator the Hon. H. C. van Heerden.
Chairman of Committees.....	Senator the Hon. H. G. Stuart.
Clerk of the House and Taxing Officer.....	E. M. O. Clough, C.M.G.
Clerk-Assistant and Accountant.....	John Fairbairn, O.B.E.
Gentleman Usher of the Black Rod and Committee Clerk	M. J. Green.

THE HOUSE OF ASSEMBLY.

Speaker.....	The Hon. Christman Jool Krige.
Chairman of Committees and Deputy-Speaker	E. Rooth.
Deputy-Chairman.....	Major G. B. van Zyl.
Clerk of the House and Taxing Officer.....	D. H. Visser.
Clerk-Assistant and Accountant.....	R. Kilpin.
Second Clerk-Assistant.....	C. Wyndham.
Sergeant-at-Arms.....	Lt.-Col. T. L. de Havilland, D.S.O., C.M.G.

JOINT ESTABLISHMENT.

Parliamentary Librarian.....	P. Ribbink.
Parliamentary Draftsman.....	A. v. d. S. Centlivres.

**8. Acts of Parliament.**—A synopsis is given hereunder of the various enactments of the Parliament of the Union in the Sessions 1920 and 1921,\* excluding Appropriation Acts. Similar information in respect of Acts passed during the years 1910 to 1919 will be found in previous issues of this Year Book. Reference is inserted, if necessary, to any amending Act or Acts. The extent to which amendment has been effected has not been shown owing to want of space; but the note will be sufficient to indicate that the original provisions of the Act in question have been varied to some greater or lesser extent.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921.

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1920.</b>		
6. Financial Relations Act Second Extension.	1/4/20	Extending the period for which the Financial Relations Act, 1913 (Act No. 10 of 1913), and the Financial Relations Act Extension Act, 1917 (Act No. 9 of 1917), shall be in operation.
7. Tenants' Protection (Temporary)	5/5/20	Protecting temporary tenants of dwellings from ejection therefrom except for certain reasons.
8. Customs Duties (Suspension)	5/5/20	Validating the action of the Government in suspending temporarily the collection of customs duties on certain grain; indemnifying the customs officers concerned; and providing for the continued suspension of the collection of those duties.
9. Constitution of the Senate	1/6/20	Removing doubts as to the date of the expiry of the period for the present constitution of the Senate.
10. Rand Water Board Statutes, 1903-14, Amendment (Private)	31/3/20	Providing that the Council of the Municipality of Brakpan and the councils of other municipalities hereafter established exclusively out of certain areas within the limits of supply shall become local authorities and constituent authorities within the meaning of the Rand Water Board Statutes, 1903-1914.

\* For Acts passed during the 1922 Session see Appendix.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed ; Number and Title.	Date of Commencement.	Object and Effect.
1920— <i>contd.</i> 11. Natal and Transvaal Marriage Law Amendment	2/6/20	Amending in certain respects the laws in force in Natal and the Transvaal relating to marriage.
12. Appellate Division...	2/6/20	Making further provision as to the constitution of the Appellate Division of the Supreme Court, and further conferring upon such division jurisdiction to hear and determine appeals from the High Court of the Protectorate of South-West Africa.
13. Rents*.....	21/6/20	Constituting boards to control, fix, and reduce rents charged for dwellings, and for other purposes incidental thereto.
14. Wills Ordinance, 1903 (Transvaal), Amendment	5/7/20	Amending section one of Ordinance No. 14 of 1903 (Transvaal).
15. Hlobane Railway Acquisition	5/7/20	Confirming certain agreements between the Railways and Harbours Administration of the Union and the Vryheid (Natal) Railway, Coal and Iron Company, Limited, and providing for other matters incidental thereto.
16. Carnarvon Outer Commage Settlement Act Amendment	5/7/20	Providing for the registration against titles to "opstallen" at Carnarvon of mortgage bonds at present hypothecating the grazing rights originally attached to the village erven.
17. Cape Town Water Supply (Steenbras) Land	5/7/20	Ratifying and confirming a certain agreement providing for the exchange of certain Crown Land in the Divisions of Caledon and Stellenbosch for certain lands in the divisions of the Paarl and the Cape, and providing for certain other matters.
22. Registration of Pedigree Live Stock Act	28/7/20	Providing for the incorporation of the South African Stud Book Association and of societies affiliated thereto and for the registration and publication of records of the pedigrees of farm live stock.
23. Native Affairs Act...	5/8/20	Providing for the constitution of a Native Affairs Commission, for the establishment of local and general councils of natives, and for convening native conferences.
24. Native Registered Voters' Relief Act, 1887 (Cape), Amendment Act	5/8/20	Amending Act No. 39 of 1887 (Cape).

\* Amended by Act No. 30 of 1921.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1920</b> <i>contd.</i>		
25. Eastern Province Guardian Loan and Investment Com- pany Amendment Indemnity and Further Powers (Private) Act	5/8/20	Legalizing the reduction of capital, extending the objects and powers of the Eastern Province Guardian Loan and Investment Company and Amending Act, No. 20 of 1863 (Cape).
26. Huguenot College Act, 1907 (Cape), Amendment (Pri- vate) Act	5/8/20	Amending Act No. 28 of 1907 (Cape).
27. Profiteering Act.....	7/8/20	Providing for the establishment of a Board of control and of local committees for the restriction of profits on the sale of necessary commodities, and for the investigation of the development of trusts, combinations, etc.
28. Land Settlement Acts Further Amend- ment Act	19/8/20	Amending Acts No. 12 of 1912 and No. 23 of 1917.
29. Speculation in Food- stuffs Prevention Act *	19/8/20	Providing for the licensing of dealers and brokers in foodstuffs and for the prevention of speculation in foodstuffs.
30. Matriculation Exemp- tion Act	19/8/20	Conferring certain privileges on holders of certificates of exemption from the joint matriculation examination of the Universities of the Union.
31. Currency and Bank- ing Act	19/8/20	Providing for the conservation of the specie supplies of the Union by the issue of gold certificates, for the establishment of a central reserve bank, and for the regulation of the issue of bank notes and the keeping of bank reserves.
32. Railways and Har- bours Regulation, Control, and Man- agement Act Amendment Act	1/8/19	Amending Act No. 22 of 1916.
33. University of Cape Town (Medical School) Act	19/8/20	Providing for the establishment and maintenance of a hospital to be used in connection with the faculty of medicine of the University of Cape Town.

\* Repealed by Act No. 28 of 1921.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1920—<i>contd.</i></b>		
34. Railways and Harbours Strike and Service Amendment Act	19/8/20	Providing for the condonation of the break in service of certain servants of the Railways and Harbours Administration and for certain other matters.
35. Housing Act.....	19/8/20	Providing for loans of public moneys for the construction of dwellings and conferring upon local authorities further powers in respect of such construction.
38. Public Welfare and Moratorium Further Extension Act	24/8/20	Extending the period of operation of Act No. 1 of 1914.
40. Financial Adjustments Act	24/8/20	Making special provision for certain matters involving charges upon or expenditure of the public revenue of the Union or Provinces.
41. War Special Pensions Act Amendment Act	1/4/19	Amending Act No. 42 of 1919 and making further provision for the payment of benefits or awards.
42. Universities and Higher Education Acts Amendment Act *	24/8/20	Amending Acts Nos. 12, 13, and 14 of 1916, and 20 of 1917.
43. Indian Immigration Trust Board (Natal) Transfer Act	1/4/21	Providing for the transfer of the powers, duties, functions, assets, and liabilities of the Indian Immigration Trust Board to the Government, and repealing certain provisions of laws relating to Indian immigration into Natal.
44. Customs and Excise Duties Act	1/7/20	Amending the tariffs of customs and excise duties and amending in certain other respects the Customs Tariff Act, No. 26 of 1914.
45. Income Tax (Consolidation) Act Further Amendment Act	1/7/20	Fixing the rates of normal tax and super-tax for the year ended 30th June, 1920, and the rate of excess profits duty for the year ended 30th June, 1910, and thereafter, and amending in certain respects Acts No. 41 of 1917 and No. 39 of 1919.

\* Amended by Act No. 15 of 1921.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1920—<i>contd.</i></b>		
46. Prisons and Reformatories Act Amendment Act	24/8/20	Amending Act No. 13 of 1911, making provision for the detention of prisoners in police cells and lock-ups; authorizing the detention of juvenile offenders and others in certified hostels, and authorizing the reception and detention in the Union of persons sentenced by courts of adjacent territories.
47. Post Office Administration and Shipping Combinations Discouragement Amendment Act	24/8/20	Amending Act No. 10 of 1911.
<b>1921.</b>		
5. Financial Relations Acts Further Extension	3/5/21	To extend further the period for which the Financial Relations Act, 1913 (Act No. 10 of 1913), and the Financial Relations Extension Act, 1917 (Act No. 9 of 1917), shall be in operation; to modify those Acts in certain respects in their continued operation; and to make further provision as to the legislative powers of provincial councils.
6. South African Public Library (Board of Trustees), 1921	28/5/21	To increase the representation of the Council of the City of Cape Town under certain conditions on the Board of Trustees of the South African Public Library.
7. Grey Collection.....	28/5/21	To vest the ownership of the collection of books and manuscripts known as the Grey Collection in the Board of Trustees of the South African Public Library and to confer certain powers upon that board in regard to that collection.
8. Bills of Exchange (Time of Noting) Act Amendment	28/5/21	To amend the Bills of Exchange (Time of Noting) Act, 1919 (No. 23).
9. Natal Native High Court	28/5/21	To amend the law relating to the salaries and tenure of office of the Judges of the Native High Court of Natal.
10. Rand Water Board Statutes 1903-1920 Amendment (Private)	28/5/21	To amend the Rand Water Board Statutes 1903-1920 in respect of the definition of fixed charges contained in section <i>twenty-six</i> of the Rand Water Board Supplementary Water Supply (Private) Act, 1914.

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1921—<i>contd.</i></b>		
11. Administration of Justice (O.F.S.) Amendment	28/5/21	To amend in certain respects the law relating to the administration of justice in the Orange Free State.
13. Magistrates' Courts Act Amendment	1/6/21	To amend the Magistrates' Courts Act, 1917 (Act No. 32 of 1917).
14. Restriction on the Importation of Wine and Spirits	8/6/21	To prohibit the importation into the Union of wine or spirits from certain territories and to make provision for matters incidental thereto.
15. University of the Witwatersrand, Johannesburg (Private)	1/3/22	To provide that the University College, Johannesburg, in the Province of the Transvaal, shall become and be incorporated as a University, and further to provide for the constitution, rights, powers, privileges and duties of that University, and to amend in certain respects certain laws relating to university and higher education.
17. Marriage Law Amendment	8/6/21	To amend the law relating to marriage.
18. Natives Advances Regulation	8/6/21	To regulate the amounts of advances which may be made to natives in respect of contracts of employment.
19. Admission of Advocates	15/6/21	To amend the law relating to the admission of advocates.
20. Transvaal Liquor Licensing Ordinance 1902 Amendment	27/6/21	To amend sections <i>thirty-five</i> and <i>forty-eight</i> of Ordinance No. 32 of 1902 (Transvaal) and amendments thereof in relation to licensed premises on public roads and outside townships and to the punishment of the offence of being in unlawful possession of liquor.
23. Zuidafrikaanse Akademie voor Taal, Letteren en Kunst (Private)	1/7/21	To incorporate "De Zuidafrikaanse Akademie voor Taal, Letteren en Kunst" as an academy for maintaining and promoting the Dutch language and literature and South African history, archaeology, and art, and to provide for the constitution, rights, powers, and duties thereof, and for other matters incidental thereto.

## SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—continued.

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<b>1921—contd.</b>		
24. Durban Waterworks Consolidation (Private)	1/7/21	To provide for an additional supply of water from the river Umlaas for the Town Council of the Borough of Durban, to confer further powers upon the said Council in relation thereto, and to amend, amplify, and consolidate the laws relating to the taking and supply by it of water from the said river.
25. Potchefstroom University College (Private)	1 7 21	To incorporate "Het Potchefstroom Universiteitskollege voor Christelik Hoger Onderwijs" under the name of "The Potchefstroom University College," to raise its status to that of a college capable of being proclaimed a constituent college of the University of South Africa, and to provide for the management and control of the affairs of the College, for the regulation of its work, and for other matters incidental thereto.
26. Children's Protection Act Amendment	1/7/21	To amend in certain respects the Children's Protection Act, 1913 (Act No. 25 of 1913), to authorize the committal of certain children to auxiliary homes and to make further provision for the support and maintenance of certain children.
27. Messina Railway Further Amendment	1/7/21	To confirm an agreement made between the Railways and Harbours Administration of the Union and the Messina (Tranavaal) Development Company, Limited.
28. Speculation in Foodstuffs Prevention (Repealing).	1/7/21	To repeal the Speculation in Foodstuffs Prevention Act, 1920 (Act No. 29 of 1920).
29. Income Tax (Consolidation) Act Further Amendment	—	To fix the rates of normal tax and super tax in respect of the twelve months ended the thirtieth day of June, 1921, and to amend further the Income Tax (Consolidation) Act, 1917 (Act No. 41 of 1917).
30. Rents Act Extension and Amendment	5/7/21	To extend the period for which the Rents Act, 1920 (Act No. 13 of 1920), shall be in operation and to amend that Act in certain respects in its continued operation.
31. Stamp Duties and Fees Act Further Amendment	5/7/21	To impose certain additional stamp duties and to amend in certain respects the Stamp Duties and Fees Act, 1911 (Act No. 30 of 1911).

SYNOPSIS OF ACTS OF PARLIAMENT, 1920 AND 1921—*continued.*

Year in which Act was passed; Number and Title.	Date of Commencement.	Object and Effect.
<p><b>1921—<i>contd.</i></b> 32. Treaties of Peace....</p>	<p>5/7/21</p>	<p>To facilitate the carrying into effect, in so far as concerns the Union of South Africa of certain treaties of peace between His Majesty the King and certain other Powers and to extend the operation of Act No. 49 of 1919.</p>
<p>33. Juveniles.....</p>	<p>7/1/21</p>	<p>To make provision for the establishment of boards to deal with matters affecting the employment, training, welfare, and supervision of juveniles, and for the furnishing of certain information to such boards.</p>
<p>34. Bethelsdorp Settlement</p>	<p>7/7/21</p>	<p>To provide for the settlement of certain matters in dispute at Bethelsdorp between the London Missionary Society and its successors the Congregational Union Church Aid and Missionary Society of South Africa and the Bethelsdorp Board of Supervisors.</p>
<p>35. Customs and Excise Duties Amendment</p>	<p>7/7/21</p>	<p>To amend further the tariffs of customs and excise in force in the Union; to impose excise duties on tobacco manufactured in the Union, and customs duties on tobacco imported into the Union from certain states and territories in South Africa; to regulate the export of opium or derivatives thereof; and to declare the mandated territory of South-West Africa a part of the Union for customs and excise purposes; and for other matters incidental thereto.</p>
<p>36. Land Bank Act Further Amendment</p>	<p>15/7/21</p>	<p>To authorize the Land and Agricultural Bank of South Africa to borrow money for the purposes of its business; to provide for the repayment by the bank of the sums advanced out of the Consolidated Revenue Fund; to amend further the Land Bank Act, 1912; and to enable the bank established thereunder to extend its operations to the mandated territory of South-West Africa.</p>
<p>38. Financial Adjustments</p>	<p>—</p>	<p>To make special provision for certain financial matters and in respect of matters involving charges upon or expenditure of the public revenues of the Union; to facilitate the administration of various statutes imposing taxation, charges or fees, and to amend those statutes in certain respects.</p>

8. **Subjects of Legislation by Parliament.**—The subjoined table gives a synopsis of the enactments of the Union Parliament from its first session (1910) to 1921, arranged according to the subject dealt with. Appropriation Acts and Acts which have been repealed or are of no further effect have been omitted.



**SYNOPSIS OF LEGISLATION, 1910 to 1921, CLASSIFIED ACCORDING  
TO SUBJECTS.**

Subject.	No. of Act.	Year.	Subject.	No. of Act.	Year.
<b>A.—GOVERNMENT.</b>			<b>B.—THE PEOPLE—contd.</b>		
<b>(a) Parliament.</b>			University of the Witwatersrand, Johannesburg (Private)		
Powers and Privileges of Parliament.....	19	1911	Higher Education.....	20	1917
Private Bills Procedure.....	20	1912	Anatomy.....	32	1911
Payment of Members.....	21	1916	Universities' Acts Amendment	9	1918
Treaty of Peace and South-West Africa Mandate.....	49	1919	"	42	1920
Constitution of the Senate....	9	1920	Huguenot College Act, 1907 (Cape), Amendment.....	26	1920
<b>(b) Administration.</b>			Matriculation Exemption....	30	1920
Crown Liabilities.....	1	1910	University of Cape Town (Medical School).....	33	1920
High Commissioner (London).	3	1911	Zuidafrikaanse Akademie voor Taal, Letteren en Kunst (Private).....	23	1921
Post Office Management.....	10	1911	Potchefstroom University College (Private).....	25	1921
" (Amendment).....	47	1920	<b>(d) Labour, Wages, etc.</b>		
Customs Management.....	9	1913	Native Labour.....	15	1911
" (Amendment).....	27	1919	Railways and Harbours' Strike	7	1914
Public Debt Commissioners....	18	1911	Workmen's Wages, Protection of.....	15	1914
Public Service and Pensions...	29	1912	Workmen's Compensation....	25	1914
" " Commissioners.	39	1914	" " (Industrial Diseases)	13	1917
" " " "	15	1918	Miners' Phtisis.....	40	1919
" " " "	14	1918	Public Holidays.....	3	1910
Public Servants (Military Service).....	25	1919	Commissioner's (Cost of Living) Powers.....	6	1918
Fiscal Divisions—Maclear and Elliot.....	12	1913	Factories.....	28	1918
" " Oudtshoorn, Ladismith, and Calitzdorp.....	26	1913	Wages.....	29	1918
<b>(c) Statistics.</b>			Tenants' Protection (Temporary).....	7	1920
Census.....	2	1910	Rents.....	13	1920
" " " "	15	1918	Rents Act Extension and Amendment.....	30	1921
Statistics.....	38	1914	<b>(e) Social Condition.</b>		
" (Amendment).....	5	1919	Children, Protection of.....	25	1918
<b>B.—THE PEOPLE.</b>			Children's Protection Act, Amendment.....	26	1921
<b>(a) Status.</b>			Girls, Protection of.....	3	1916
Marriage Laws.....	20	1913	Corruption, Prevention of....	4	1918
Marriage Law Amendment....	17	1921	Housing.....	35	1920
Marriage Officers.....	43	1916	Juveniles Act.....	33	1921
Marriages Registers and Certificates.....	4	1919	<b>(f) Natives.</b>		
Immigrants, Regulation of....	22	1913	Native Labour.....	15	1911
Indians, Relief of.....	22	1914	Natal Native Trusts.....	1	1912
Undesirables, Deportation of..	1	1914	Natal Native High Court....	9	1921
Insolvency.....	32	1916	Natal Poll Tax, Suspension of	30	1914
Disabilities (War and Rebellion)	10	1915	Native Lands.....	27	1913
Electoral Laws.....	12	1918	Native, Definition of (Cape)...	1	1916
Electoral Divisions Redelimitation.....	31	1918	Native Reserve Locations Acts (Cape of Good Hope), Further Amendment.....	48	1919
Asiatics (Land and Trading (Amendment)).....	37	1919	Native Affairs.....	23	1920
Indian Immigration Trust Board Transfer.....	43	1920	Natives Advances Regulation.	18	1921
Native Registered Voters' Relief Act (Amendment)....	24	1920	Native Registered Voters' Relief Act, 1887 (Cape), Amendment.....	24	1920
Natal and Transvaal Marriage Law Amendment.....	11	1920	<b>C.—PUBLIC JUSTICE.</b>		
<b>(b) Health.</b>			<b>(a) Courts.</b>		
Medical Practitioners and Dentists Registration (Amendment).....	21	1919	Appellate Court, Jurisdiction of	1	1911
Public Health.....	36	1919	Judges' Salaries and Pensions	18	1912
Lunacy and Leprosy.....	14	1914	Cape Superior Courts.....	10	1917
Mental Disorders.....	38	1916	Magistrates' Courts.....	32	1917
Miners' Phtisis.....	40	1919	Magistrates' Courts Act (Amendment).....	13	1921
<b>(c) Education.</b>			Appellate Division.....	12	1920
Gill College.....	6	1912	Natal Native High Court Act	9	1921
University of South Africa....	12	1916			
" Stellenbosch.....	13	1916			
" Cape Town....	14	1916			

SYNOPSIS OF LEGISLATION, 1910-21, CLASSIFIED ACCORDING TO SUBJECTS—*continued.*

Subject.	No. of Act.	Year.	Subject.	No. of Act.	Year.
<b>C.—PUBLIC JUSTICE—<i>contd.</i></b>			<b>E.—LAND AND PROPERTY—<i>contd.</i></b>		
<b>(b) Administration.</b>			<b>(a) Lands.</b>		
Justice, Administration of....	27	1912	Crown Lands and Settlement.	2	1911
Justice, Administration of (O.F.S.), Amendment.....	11	1921	" " " ".....	12	1912
Justices of the Peace and Commissioners of Oaths.....	16	1914	" " " " (Amendment).....	23	1917
Justices of the Peace, Special	2	1918	" " " ".....	28	1920
<b>(c) Law.</b>			Crown Land Disposal (Cape of Good Hope) Amendment....		
Admission of Advocates.....	19	1921		6	1919
Legal Procedure (Rebellion).....	24	1916	<b>D.—DEFENCE AND SPECIAL WAR MEASURES.</b>		
Criminal Procedure and Evidence.....	31	1917	Defence.....	13	1912
Law Society (Cape).....	20	1916	Public Welfare and Moratorium....	1	1914
Insolvency.....	32	1916	" " " (Amendment).....	(Sp. Session)	
Special Tribunals (War and Rebellion).....	11	1915	" " " ".....	37	1917
Interpretation of Language of Statutes.....	6	1910	Disabilities (War and Rebellion).....	10	1915
Natal and Transvaal Marriage Law Amendment.....	11	1920	Amnesty.....	40	1919
Wills Ordinance, 1903 (Transvaal), Amendment.....	14	1920	Indemnity and Special Tribunals..	11	1915
<b>(d) Suppression and Prevention of Crime.</b>			War Stores, Commission on.....		
Prisons and Reformatories....	13	1911	Persons on Active Service, Relief of	26	1915
" " (Amendment).....	46	1920	War Special Pensions.....	43	1917
Police.....	14	1912	" " " ".....	25	1918
Criminal Procedure and Evidence.....	31	1917	" " " (Amendment).....	42	1919
Undesirables, Deportation of	22	1915	Legal Procedure (Rebellion).....	24	1916
" " " ".....	27	1914	Trading with the Enemy.....	39	1916
Riotous Assemblies.....	2	1914	Public Servants (Military Service)...	25	1919
Protection of Children.....	25	1913	Treaties of Peace.....	32	1921
Children's Protection Act, Amendment.....	24	1921	<b>E.—LAND AND PROPERTY.</b>		
Protection of Girls.....	3	1916	<b>(a) Lands.</b>		
Fugitive Offenders (Occupied Territories).....	3	1918	Crown Lands and Settlement.	2	1911
Corruption, Prevention of.....	4	1918	" " " ".....	12	1912
Inquests.....	12	1919	" " " " (Amendment).....	23	1917
Transvaal Liquor Licensing Ordinance, 1902 (Amendment).....	33	1919	" " " ".....	28	1920
" " " ".....	20	1921	Crown Land Disposal (Cape of Good Hope) Amendment....	6	1919
<b>(b) Property.</b>			<b>(b) Property.</b>		
Administration of Estates....	24	1913	Transvaal and Orange Free State Lands (Settlement)... ..	15	1912
Transfer Duty, Reduction of Transvaal Transfer Duty Amendment.....	11	1913	Land Surveyors, Recognition of Native Lands.....	16	1916
Removal of Restrictions on Immovable Property.....	28	1919	Land Surveyors, Recognition of Native Lands.....	25	1917
Titles Amendment (Gubensa and Embokotwa).....	2	1916	Asiatics (Land and Trading) Amendment (Transvaal)....	37	1919
Rhodes' Will (Groote Schuur).....	1	1917	Land Bank.....	18	1912
Insolvency.....	9	1910	" " " ".....	30	1916
" " " ".....	32	1916	Commonage, Carnarvon.....	19	1913
<b>(c) Irrigation and Water Conservation.</b>			" " " " North Barrow and Weenen... ..		
Irrigation.....	8	1912	Mapochs Gronden.....	29	1913
Oliphants River Irrigation Scheme.....	26	1916	Riparian Land (Erven and Commonages).....	40	1916
Crocodile River Irrigation Scheme.....	28	1917	Commonages (Cape of Good Hope).....	11	1919
Loans for Irrigation.....	32	1914	Carnarvon Outer Commonage Settlement Act Amendment	17	1919
Hartebeestpoort Irrigation Scheme.....	18	1917		16	1920
Bedford Additional Water Supply.....	23	1918	<b>(b) Property.</b>		
Rand Water Board Statutes, 1903-14, Amendment (Private).....	13	1919	Administration of Estates....	24	1913
Rand Water Board Statutes, 1903-20, Amendment (Private).....	10	1920	Transfer Duty, Reduction of Transvaal Transfer Duty Amendment.....	11	1913
Caps Town Water Supply (Steenbras) Land.....	17	1920	Removal of Restrictions on Immovable Property.....	28	1919
Durban Water Works Consolidation (Private) Act.....	24	1921	Titles Amendment (Gubensa and Embokotwa).....	2	1916
<b>F.—INDUSTRIES.</b>			Rhodes' Will (Groote Schuur).....		
<b>(a) Agriculture.</b>			Insolvency.....		
Fencing.....	17	1912	<b>(c) Irrigation and Water Conservation.</b>		
Fertilizers, Farm Foods, Seeds, and Pest Remedies.....	21	1917	Irrigation.....	8	1912
Agricultural Pests.....	11	1911	Oliphants River Irrigation Scheme.....	26	1916
Land Bank.....	18	1912	Crocodile River Irrigation Scheme.....	28	1917
" " " ".....	30	1916	Loans for Irrigation.....	32	1914
Land Bank Act Further Amendment.....	36	1921	Hartebeestpoort Irrigation Scheme.....	18	1917
Fruit, Export of.....	17	1914	Bedford Additional Water Supply.....	23	1918
Agricultural Produce, Export of Wine, Spirits, and Vinegar... ..	35	1917	Rand Water Board Statutes, 1903-14, Amendment (Private).....	13	1919
Sale of Agricultural Produce on Mines.....	19	1917	Rand Water Board Statutes, 1903-20, Amendment (Private).....	10	1920
Forests.....	16	1914	Caps Town Water Supply (Steenbras) Land.....	17	1920
" " " " Denarcation of.....	14	1917	Durban Water Works Consolidation (Private) Act.....	24	1921
Dairy Industry.....	16	1918	<b>F.—INDUSTRIES.</b>		
Factories.....	28	1915	<b>(a) Agriculture.</b>		

## SYNOPSIS OF LEGISLATION, 1910-21, CLASSIFIED ACCORDING TO SUBJECTS—continued.

Subject.	No. of Act.	Year.	Subject.	No. of Act.	Year.
<b>F.—INDUSTRIES—contd.</b>			<b>G.—COMMERCE AND TRADE.—contd.</b>		
Agricultural Pests (Citrus Canker).....	10	1919	Bills of Exchange (Non-Business Days).....	30	1913
Agricultural Holdings (Transvaal) Registration.....	22	1919	Dairy Industry.....	16	1918
Co-operative Societies, Transvaal and Orange Free State	21	1914	Factories.....	28	1918
"    "    "    "    "    "	17	1917	Wages.....	29	1918
Co-operative " Agricultural Societies Act Amendment...	29	1919	Asiatics (Land and Trading) Amendment (Transvaal).....	37	1919
Restriction on the Importation of Wine and Spirits.....	14	1921	Profiteering.....	27	1920
			Restriction on the Importation of Wines and Spirits Act.....	14	1921
<b>(b) Stock.</b>			<b>H.—RAILWAYS AND HARBOURS.</b>		
Diseases of Stock.....	14	1911	Railways, Construction and Working of.....	83	1911
"    "    "    "    "    "	25	1918	"    "    "    "    "    "	23	1918
Cattle Cleansing (Cape).....	11	1910	"    "    "    "    "	2	1914
Dipping of Stock.....	30	1911	"    "    "    "    "    "	41	1916
"    "    "    "    "    "	14	1913	Durban Harbour (Extension of Wharf at Congella).....	34	1917
"    "    "    "    "    "	17	1915	Imperial Cold Storage (Branch Line) Messina Railway Amendment.....	15	1915
Land Bank.....	18	1912	"    "    "    "    "    "	24	1919
"    "    "    "    "    "	30	1918	Messina Railway Further Amendment.....	27	1921
Registration of Pedigree Live Stock.....	22	1920	Hlobane Railway Acquisition.....	15	1920
<b>(c) Mines and Minerals.</b>			<b>Railways and Harbours Administration.</b>		
Mines and Machinery.....	12	1911	Railway Service.....	29	1912
Precious and Base Metals (Transvaal).....	18	1918	"    "    "    "    "    "    "	83	1917
Precious Stones (Alluvial) Amendment.....	15	1919	"    "    "    "    "    "	22	1916
Diamonds, Export of.....	36	1916	"    "    "    "    "    "	32	1920
"    "    "    "    "    "	27	1917	"    "    "    "    "    "	7	1914
"    "    "    "    "    "    "	34	1919	"    "    "    "    "    "	34	1920
Diamond Cutting.....	88	1919	"    "    "    "    "    "	17	1916
Miners' Phtalsia.....	40	1911	<b>I.—FINANCE.</b>		
Explosives.....	8	1911	<b>(a) General.</b>		
Transvaal Mining Leases.....	30	1918	Finance.....	18	1915
Rand Mines Power Supply Company Water Supply....	14	1919	"    "    "    "    "    "	42	1916
			Exchequer and Audit.....	21	1911
			Financial Relations with Provinces.....	31	1916
			Financial Adjustments.....	10	1918
			"    "    "    "    "    "	9	1917
			Financial Act Second Extension.....	42	1917
			"    "    "    "    "    "	43	1919
			"    "    "    "    "    "	40	1920
			"    "    "    "    "    "	38	1921
			<b>(b) Loans and Public Debt.</b>		
			Loans.....	83	1914
			"    "    "    "    "    "	22	1917
			"    "    "    "    "    "	20	1919
			"    "    "    "    "    "	38	1913
			"    "    "    "    "    "	29	1911
			"    "    "    "    "    "	33	1913
			"    "    "    "    "    "	18	1917
			Public Debt Commissioners.....	18	1911
			Local Stock, Registration of.....	19	1916
			Trustee Investments in Government Securities.....	6	1918
<b>G.—COMMERCE AND TRADE.</b>					
Customs Management.....	9	1913			
"    "    "    "    "    "    "	27	1919			
Customs and Excise.....	16	1911			
"    "    "    "    "    "	7	1913			
"    "    "    "    "    "	37	1913			
"    "    "    "    "    "	13	1914			
"    "    "    "    "    "	26	1914			
"    "    "    "    "    "	22	1915			
"    "    "    "    "    "	37	1916			
"    "    "    "    "    "	36	1917			
"    "    "    "    "    "	20	1918			
"    "    "    "    "    "	32	1919			
Customs and Excise Duties, Amendment.....	35	1921			
Customs Duties (Suspension).....	8	1920			
Public Welfare and Moratorium.....	1	1914			
"    "    "    "    "    "    "	(Sp. Session)				
"    "    "    "    "    "	37	1917			
"    "    "    "    "    "	47	1919			
"    "    "    "    "    "	38	1920			
"    "    "    "    "    "	39	1916			
Trading with the Enemy.....					
Sale of Agricultural Produce on Certain Mines.....	19	1917			
Wine, Spirits, and Vinegar.....	15	1913			
Fruit, Export of.....	17	1914			
Agricultural Produce, Export of..	35	1917			
Diamonds, Export of.....	36	1916			
"    "    "    "    "    "	27	1917			
"    "    "    "    "    "	34	1919			
Insolvency.....	32	1916			
Patents, Designs, and Copyright..	9	1916			
Telegraph Messages, Protection of Public Holidays.....	26	1917			
	3	1910			

SYNOPSIS OF LEGISLATION, 1910-21, CLASSIFIED ACCORDING TO SUBJECTS—*continued.*

Subject.	No. of Act.	Year.	Subject.	No. of Act.	Year.
<b>I.—FINANCE—<i>contd.</i></b>			<b>I.—FINANCE—<i>contd.</i></b>		
(c) <i>Banking and Currency.</i>			Licences (Liquor)—Cape.....	10	1914
Natal Bank.....	7	1912	" " Transvaal....	11	1916
Bank Notes.....	7	1917	" " " " " " " "	33	1916
Land Bank.....	18	1912	Bewaarplaats Moneys.....	24	1917
" " " " " " " " " "	30	1916	Transvaal Transfer Duty (Amendment).....	28	1919
Land Bank Act Further Amendment.....	36	1921			
Bills of Exchange (Non-Business Days).....	30	1913	<b>K.—MISCELLANEOUS.</b>		
Bills of Exchange (Time of Noting).....	23	1919	Rhodes' Will (Groote Schuur)....	9	1910
Bills of Exchange (Time of Noting) Act (Amendment).....	8	1921	Bushman-Relles, Protection of....	22	1911
Public Holidays.....	3	1910	Dutch Reformed Church Union....	23	1911
Pretoria Mint.....	45	1919	Cruelty to Animals, Prevention of..	8	1914
Currency.....	4	1914	Prescription (Transvaal).....	9	1914
" (Public Welfare and Moratorium).....	(Sp Session)		Rand Water Supply.....	18	1914
" and Banking.....	31	1920	Imperial Cold Storage.....	15	1915
			South African Mutual Life Assurance Society.....	16	1915
(d) <i>Taxation.</i>			Law Society (Cape).....	20	1916
Customs and Excise (see under COMMERCE AND TRADE above)			Drought and Flood Distress, Relief of.....	28	1916
Diamond Export Duty.....	36	1916	Lord's Day Act (Natal).....	3	1917
" " " " " " " " " "	27	1917	Telegraph Messages, Protection of..	26	1917
" " " " (Amendment).....	34	1919	Commission's (Crst of Jiving) Powers.....	6	1918
Income Tax, Consolidating... ..	41	1917	Pretoria Mint.....	45	1919
" " " " " " " " " "	26	1918	Deeds Registries.....	13	1918
" " " " (Amend.).....	39	1919	Inquests.....	12	1919
" " " " " " " " " "	45	1920	Medical Practitioners and Dentists' Registration (Amendment).....	21	1919
Income Tax (Consolidation Act) Further Amendment... ..	29	1921	Eastern Province Guardian Loan and Investment Company.....	25	1920
Stamp Duties.....	30	1911	South African Public Library (Board of Trustees).....	6	1921
" " " " " " " " " "	31	1918	Grey Collection Act.....	7	1921
Stamp Duties and Fees Act Further Amendment.....	31	1921	Bethelsdorp Settlement.....	34	1921
Poll Tax (Natal), Suspension of	30	1914			

§ 4. Provincial Administration.

1. **Administrators of the Provinces.**—The *South Africa Act* provides that in each of the four Provinces there shall be a chief executive officer appointed by the Governor-General-in-Council, and styled the Administrator of the Province. All executive acts relating to Provincial affairs are done in the name of this officer. In the appointment of an Administrator preference is, as far as possible, given to a person resident in the Province. Administrators are appointed for five years, and their salaries are provided by Parliament. The present Administrators of the several Provinces are:—

ADMINISTRATORS.

Cape of Good Hope.....	The Hon. Sir FREDERIC DE WAAL, K.C.M.G.
Natal.....	The Hon. G. T. FLOWMAN, C.M.G.
Transvaal.....	The Hon. A. G. ROBERTSON.
Orange Free State.....	The Hon. Sir C. H. WESSELS.

2. **Executive Committees of the Provinces.**—Each Provincial Council elects at its first meeting, from among its members, or otherwise, four persons to form with the Administrator an Executive Committee for the Province, the Administrator acting as chairman. A member of a Provincial Executive Committee who is not also a member of the Provincial Council is entitled to take part in the proceedings of the Council but has not the right to vote. The function of Executive Committees is to carry on the administration of Provincial affairs on behalf of the Provincial Council. Executive Committees have the power, subject to certain considerations, to appoint officers to the Provincial Services. The present Provincial Executives are composed as under:—

## EXECUTIVE COMMITTEES OF THE PROVINCES.

*Cape of Good Hope.*

S. A. EDDY.

D. RETIEF.

J. DYSON.

*Natal.*

J. McAUSLIN.

G. H. GELDENHUYS.

L. J. STEYTLER.

F. C. HOLLANDER.

J. P. WHYTE.

*Transvaal.*

G. H. KRETZSCHMAR.

Dr. H. REITZ.

E. A. VAN DER WALT.

F. D. du Toit.

B. D. PIENAAR.

T. C. STOFFBERG.

D. J. DE VILLIERS.

D. J. J. MALAN.

*Orange Free State.*

**3. Functions of Provincial Administrations.**—(i) *General.*—The functions of the Administrations of the several Provinces are concerned with the matters in respect of which Provincial Councils possess the power of legislation and with those matters the administration of which has been specially assigned to the Provinces. (Cf. paragraph 2 of § 5 of this Chapter). The control of primary and secondary education comprises an important part of those functions, and references to this subject will be found in Chapter VI, which deals with Education. The establishment, maintenance, and management of hospitals and charitable institutions are controlled by the Provinces, and these phases of Provincial supervision are treated of in Chapter V and Chapter IX respectively. Similarly the question of the control of municipal institutions, divisional councils, and other local governing bodies of a similar nature, with which the Provinces are concerned, is referred to in Chapter XXIV, which deals with Local Government. Roads, outspans, ponds, and bridges (other than bridges connecting two Provinces) moreover come under Provincial control.

(ii) *Roads.*—In the Province of the *Cape of Good Hope* the roads are divided into main, divisional, and public roads, in terms of Ordinance No. 13 of 1917, which delegates certain functions with regard to roads to divisional and municipal councils. Main and divisional roads in this Province comprise roads which are proclaimed as such in terms of the Ordinance referred to, or established by or under other enactments of the Cape of Good Hope, whereas public roads are those, not being proclaimed roads, over which a right-of-way exists in favour of the public. The Ordinance provides for the construction of main roads out of Provincial revenue, but divisional roads must be made by divisional councils. In both cases, however, it is the duty of divisional councils to maintain the roads, unless the expenditure or maintenance is, owing to special circumstances, beyond the resources of such councils, when the Administrator may contribute to the expenditure. Similar functions are delegated to municipal councils in regard to proclaimed roads within their control. In the case of public roads, no liability devolves upon a council to make or maintain such roads, but it has the power to do so. Special contributions are made out of Provincial revenue towards the maintenance of certain roads and mountain passes. In the case of roads connecting two divisions, the councils of both divisions may agree to contribute to the construction and maintenance of such roads. The Administrator of the Province has the power to proclaim roads in terms of the Ordinance or to divert or close roads, and it is the duty of councils to determine the width of roads within the area under their control. An Inspector of Roads is charged with the duty of inspecting roads, bridges, pontoons, and ferries.

In *Natal* the maintenance of Government roads is under the control of an Engineer Superintendent, and the system is purely departmental. Since the establishment of the Union some 750 miles of Government roads have been constructed, the total mileage now being 6,150 miles. The average annual expenditure on main roads since the constitution of the Union, including new construction and salaries, exceeds £153,000. The total number of bridges erected on main roads in the Province is 204, of which 104 have been erected between the date of the establishment of the Union and March, 1921, at an approximate cost of £340,700.

In the Province of *Transvaal* the main problem which faces the authorities relates to country roads. Owing to the large sum of money that would be necessary to undertake a comprehensive programme of road construction in the true sense of the word, it has not been possible to do more than maintain existing veld tracks in a passable state, and at the same time gradually lay down certain permanent lines of road, and harden and drain the worst sections by degrees. By these methods permanent lines of communication are gradually being established, more especially in areas where railway development has so advanced as to create certain definite market and forwarding centres.

The farming development, too, has the beneficial effect of hastening the closing of a large number of superfluous tracks, because as land becomes occupied the owner is naturally anxious to have all public roads defined, and by this means traffic is gradually being forced on to permanent lines of branch road as well as on to similar lines of more important road.

Ordinance No. 5 of 1912 takes the place of all previous laws governing country roads. The various municipal authorities have control of their own roads (under Ordinance No. 11 of 1912), but a grant is made by the Administration in respect of certain main roads which pass through municipal areas when funds are available. The one exception to the above arrangement is that of the Main Reef Road. In this case the Provincial Administration

is responsible for the construction and maintenance of the road (Section 59 of Ordinance No. 9 of 1912).

Control of roads is vested in the Administrator in Executive Committee. This control is exercised through a superintendent, having district road inspectors in various areas. In each Magisterial District there is a *Road Board* appointed by the Administrator (in terms of Sections 8, 9 and 10 of Ordinance No. 5 of 1912) to assist and advise on road matters generally, thus maintaining a close connection with local requirements.

The approximate mileage of roads within the Province (exclusive of those in municipal areas) is—

Main Reef road.....	30 miles.
Main roads.....	6,000 "
Branch roads.....	12,000 "
Bridle paths.....	100 "

For the financial year 1920-21, in furtherance of an extensive scheme of road development, a sum of £75,000 was placed on the estimates for the construction of permanent roads in the Province, in addition to an amount of £195,000 designed for the maintenance and repair of country roads.

In the *Orange Free State* the roads are divided into three classes:—Proclaimed main roads with a width of 100 feet; proclaimed district roads with a width of 100 feet, and farm roads with a width of 50 feet. These farm roads are not proclaimed, nor is any complete registration or record kept of them; they become public roads through undisturbed and uninterrupted use by the public for a period of fifteen years. Further modifications of this general principle are embodied in the *Roads Ordinance, 1912*.

No public road, whether proclaimed or not, may be closed or deviated without formal application to and the consent of the local road authorities. The construction and maintenance of such roads as are constructed and maintained in the Province is done departmentally under the supervision of the Superintendent of Roads and Local Works, who reports to the Provincial Secretary. Only the proclaimed main roads are regularly maintained. The greater proportion of the roads in the Province are the so-called dirt- or veld-roads, but considerable lengths of new roads are constructed each year.

In 1916-17 the principle of instituting a local tax for the repair of local (mostly farm) roads was adopted. A wheel tax was introduced from which an income of approximately £38,000 was derived, two-thirds of which was spent in the repair of the smaller roads within the magisterial districts in which the funds were raised, while the remaining one-third was allocated to the maintenance of main roads throughout the Province.

In 1917-18 it was recognized that each village, with the business area round it, formed a separate unit for road communication purposes. A reduced wheel tax was levied which realized annually an amount of approximately £20,000, and this was allocated, according to the amount derived from each business area, to the fifty-six business areas into which the Province has been divided. The present wheel tax (1921-22) is estimated to yield approximately £45,000.

With regard to future developments it is proposed to lay down a checker board system of through or main roads over the entire Province, which will permit of rapid and easy communication by road within the Province and with the adjoining Provinces. It is also hoped that the policy of road districts which has been adopted will tend to provide an efficient radial system of roads concentrating on the various villages and thereby facilitating communication between farm and village. Road boards have been instituted in each of the various road areas and the local knowledge of these boards, whose duty is to advise the Administrator, will be of great assistance in the adoption of an efficient radial system in each of their respective districts.

There are 3,725 miles of main roads and 7,350 miles of district roads in the Province. For the financial year 1920-21 the estimated expenditure on construction was approximately £60,000, and that on maintenance £40,000.

(iii) *Fish Preservation*.—The *South Africa Act* empowers the Provincial Councils to make Ordinances (*inter alia*) relative to fish preservation. For an account of the fishing industry of the Union, see Chapter XVI.

(iv) *Game Preservation*.—The preservation of game is likewise dealt with by the Provincial Administrations. In the *Cape of Good Hope* the preservation of game is regulated by Act No. 11 of 1909, those parts of the First Schedule to Ordinance No. 16 of 1920 entitled "Game" and "Wild Ostriches" Ordinance, No. 10 of 1911, Ordinance No. 17 of 1918, and Ordinance No. 7 of 1920. Game is fully protected in the Province, and the close seasons, which vary as to period according to area, occur generally within the interval 1st July to 30th April. Any person desirous of shooting or capturing Royal or Big Game (except such as may be exempted under Act No. 11 of 1909) is required to obtain an ordinary game licence, a Royal Game licence, and a special permit from the Administrator. The following species of Royal Game are found in certain areas:—Elephant, eland, zebra, buffalo, bontebok, blesbok, gemsbok, hartbeest, koodoo, rietbok, wildebeest, and klipspringer. Permits to shoot or capture elephants, elands, or zebras are only issued under the most exceptional circumstances. The undermentioned birds and animals are specially included as game with

respect to certain districts:—Namaqua partridge, wild duck and geese, snipe, coot, flamingo, ant-bear (*Orycteropus capensis*). The shooting of game is prohibited in the Game Preserves situated in the Province.

In Natal the first game law was enacted in the year 1866, the close season being fixed from the 15th August to the 30th November in each year. Eighteen years later the close season was altered so as to commence on the 1st July and terminate on the 31st December. Law No. 16 of 1891 enacted that the close season should be from the 18th August to the 30th April, and heavy penalties were provided for trapping game, while a law promulgated in 1894 limited the discretion of the Governor to permit the destruction of Royal Game to the open season only.

In Zululand a close season for game from the 1st August to the 31st March was established in 1890, and in 1897 the first game reserves were demarcated, though hunting in them was allowed by permit. In 1903 the Giant's Castle Game Reserve was established with the special object of preserving the few eland still to be found in Natal. The Natal and Zululand game laws were consolidated in 1904, and a uniform close season from the 16th August to the 30th April was fixed, the destruction of all but the smallest game with a shot gun being prohibited. The employment of natives to hunt game otherwise than as beaters was made illegal; stamp duties on licences for certain game were imposed, and the Governor no longer exercised the function of issuing permits for the destruction of absolutely protected or Royal Game.

In 1911 a Game Conservator for Zululand was appointed with headquarters at Nongoma.

An Ordinance to amend the laws relating to game was passed in 1912 and practically consolidated all previous legislation on the subject. The game was divided into three classes, viz., ordinary or small game which can be shot during the open season (1st May to 15th August) on payment of the sum of £1; specially protected game in respect of which varying fees for the different animals are payable, and Royal Game which may not be destroyed at any time, except for scientific or certain public purposes on special permit. Special provision is made by the Ordinance for the destruction by owners or occupiers of land of ordinary or specially protected game during the close season, where damage to standing crops, plants, or trees can be proved, and for the killing by residents in Zululand of a limited number of game for food, more especially during times of scarcity due to failure of crops.

In the game reserves no hunting is allowed, and the Administrator is empowered to establish or abolish such reserves from time to time. Five such reserves are at present demarcated, of which the principal are the Giant's Castle where eland are to be found, the Umfolosi mainly for the protection of the almost extinct white rhinoceros but also for other large game, and the Mkuzi which shelters the inyala (a buck which at one period was threatened with extinction), the impala, the Zululand suni or Livingstone antelope, and other game.

In addition to those already mentioned, game reserves have been established at the request of the owners on two farms in the Klip River Division and one in the Umgeni Division.

The penalties involved for contraventions of the *Game Ordinance* range from fines of £20 to £200, with the alternative of periods of imprisonment extending from one month to two years.

Owing to the existence of the tsetse fly or Nagana disease in cattle the provisions of the *Game Ordinance* have been relaxed considerably in Zululand since the year 1915, and the fees payable in respect of specially protected game much reduced. The country has been divided into open areas, special shooting areas, and game reserves.

The animals classed as Royal Game and which may not be captured or destroyed except by special permit for approved scientific institutions or to serve some public purpose comprise the white rhinoceros, elephant, roan antelope, tsessebe, blebok, springbok, and females of the eland, impala, and inyala, as well as the crested crane and Stanley crane, and the klipspringer and oribi (in Zululand only).

In the *Transvaal* game legislation restricting and regulating the destruction of wild animals and birds is contained in Ordinance No. 6 of 1905, as amended by Acts Nos. 13 and 30 of 1907 and Act No. 11 of 1909.

The Big Game of the Transvaal Province comprises the larger and rarer animals and birds, including roan and sable antelope, inyala antelope, gemsbok, sassaby, koodoo, hartbeest, zebra, wildebeest, ostrich, and crested crane. The elephant, rhinoceros, hippopotamus, buffalo, and eland are now practically unknown in the Transvaal except in the game reserves.

Lions and leopards are not classed as game, but are regarded as vermin. Ordinary game consists of all Transvaal varieties of the smaller and more common kinds of buck, hare, and the warthog; also the following birds:—All Transvaal varieties of pheasant or francolin, partridge, sandgrouse, guinea-fowl, wild duck, and wild goose. No game

may be shot or hunted without a game licence by any one except the owner or lessee of a farm on which the game is pursued. Big game may not, under severe penalties, be shot or hunted without a special big game licence issuable only by the Administrator. A game licence only entitles the holder to shoot game during the open season. There is a uniform open season throughout the Province. A game licence may restrict the holder to destroying only a given number of either or both sexes of any kind of game. The destruction of any particular kind of game may be restricted throughout the Province or in any particular district for a given period. The possession of a game licence does not give the right to pursue or destroy any game so protected; neither can the owner or lessee of a farm destroy game so protected on his farm. Certain areas are proclaimed as game reserves in which shooting and hunting are entirely prohibited.

Wild ostriches are classed as Big Game, and their destruction is absolutely forbidden.

There are three game reserves in the Province where shooting and hunting are absolutely prohibited. They are the Pretoria Reserve, the Shingwedzi Reserve, and the Sabi Reserve.

In the *Orange Free State*, Ordinance No. 13 of 1914, which took effect on the 21st August, 1914, consolidated and amended the laws with reference to the protection of the several kinds of wild animals commonly known as *buck*, comprehending the whole antelope species and including the wildebeest or gnu, the several kinds of birds, not being domesticated, known as ostrich, paauw, korhaan (bustard), guinea fowl, partridge (francolin), pheasant, dikkop, goose, duck, coot, plover, lapwing, snipe, and other water fowl and any other wild animals or birds which the Administrator may, from time to time by proclamation, declare to be game. The period between and including the first day of August in any year and the last day of March in the succeeding year is the close season for game. The Administrator is also empowered to prohibit the hunting of any kind of game or of any other wild animals or birds for any period not exceeding three years in any district of the Province.

As to Royal game, no person, whether an owner of land or not, is allowed to hunt at any time any locust bird or, without the written permission of the Administrator, any hartebeest, koodoo, or eland or any other animal or bird which the Administrator may at any time by proclamation declare to be Royal Game.

(v) *Miscellaneous*.—The Provincial Administrations also deal, among other matters, with the destruction of vermin, the eradication of noxious weeds, and the regulation of shop hours and public entertainments.

4. *Staff in the Service of the Provincial Administrations*.—Particulars are given hereunder of the authorized establishments of the Provincial Administrations in respect of the financial year 1921-22, together with a statement of the temporary staff actually employed by them at 31st December, 1921:—

**NUMBER OF PERSONS IN THE SERVICE OF THE PROVINCIAL ADMINISTRATIONS, 1921-22.**

Administration.	Permanent Staff Authorized, 1921-22.			Temporary Staff Employed, 31st December, 1921.			Grand Total.
	Male.	Female.	Total.	Male.	Female.	Total.	
Cape.....	249	46	295	80	21	101	396
Natal.....	120	5	125	8	12	20	145
Transvaal.....	196	27	223	28	14	42	265
Orange Free State.	96	8	104	19	0	28	132
TOTAL.....	661	86	747	135	56	191	938

5. *Chief Officers of the Provincial Administrations*.—The following is a list of the Chief Administrative Officers of the several Provinces:—

**CAPE OF GOOD HOPE.**

Provincial Secretary.....	C. L. W. MASSBACH, I.S.O.
Superintendent-General of Education.....	W. J. VILJOEN, M.A., Ph.D.
Chief Clerk and Chief Local Government Inspector...	A. S. WEISSBOKER.
Director of Valuations.....	H. P. SOLOMON.
Controller of Educational Finance.....	J. P. J. BRUNT.
Chief Inspector of Roads.....	W. L. TROLLIP.



## NATAL.

Provincial Secretary.....	JOHN M. HERGENROTHER.
Superintendent of Education.....	H. R. DUKES.
Secretary, Education Department.....	H. BRYAN, M.A.
Engineer-Superintendent of Roads.....	H. B. JAMESON.
Principal Fisheries Officer.....	W. H. BELL-MARLEY.

## TRANSVAAL.

Provincial Secretary.....	D. E. VAN VELDEN.
Director of Education.....	J. E. ADAMSON, M.A.
Secretary, Education Department.....	H. S. SCOTT.
Superintendent of Roads and Local Works.....	A. D. HOLMWOOD.

## ORANGE FREE STATE.

Provincial Secretary.....	A. M. N. DE VILLIERS.
Director of Education.....	C. F. SCHMIDT, B.A.
Secretary, Education Department.....	J. GRAY.
Superintendent of Roads.....	R. J. VAN REENEN.

## § 5. Provincial Councils and Legislation.

1. **Provincial Councils.**—The Provincial Council of each Province consists of the same number of elected members (sections 70-7 of the *South Africa Act*) as there are electoral divisions of the House of Assembly, unless that number is under twenty-five as is the case in Natal and the Orange Free State, when the number of members of the Provincial Council is fixed at twenty-five. Each Council has a duration of three years and is subject to dissolution only by effluxion of time. The times for sessions and their prorogation are fixed by the Administrator. There must be a session of the Council once in every year: so that a period of twelve months shall not intervene between the last sitting of a Council in one session and its first sitting in the next. Members receive allowances of £120 each annually, subject to deductions for absences. There is freedom of speech, and members are not liable to action at court for any speech or vote in a Council.

2. **Powers of Provincial Councils.**—The legislative powers of Provincial Councils under the *South Africa Act*, are as follows:—

- (i) Direct taxation within the Province in order to raise a revenue for provincial purposes.
- (ii) The borrowing of money on the sole credit of the Province with the consent of the Governor-General-in-Council and in accordance with regulations to be framed by Parliament.
- (iii) Education, other than higher education, for a period of five years and thereafter until Parliament otherwise provides.
- (iv) Agriculture to the extent and subject to the conditions to be defined by Parliament.
- (v) The establishment, maintenance, and management of hospitals and charitable institutions.
- (vi) Municipal institutions, divisional councils, and other local institutions of a similar nature.
- (vii) Local works and undertakings within the Province, other than railways and harbours and other than such works as extend beyond the borders of the Province, and subject to the power of Parliament to declare any work a national work and to provide for its construction by arrangement with the Provincial Council or otherwise.
- (viii) Roads, outspans, ponds, and bridges, other than bridges connecting two Provinces.
- (ix) Markets and pounds.
- (x) Fish and game preservation.
- (xi) The imposition of punishment by fine, penalty, or imprisonment for enforcing any law or any ordinance of the Province made in relation to any matter coming within any of the classes of subjects enumerated in this section.
- (xii) Generally all matters which, in the opinion of the Governor-General-in-Council, are of a merely local or private nature in the Province.
- (xiii) All other subjects in respect of which Parliament shall by any law delegate the power of making ordinances to the Provincial Council.

By the *Financial Relations Act*, No. 10 of 1913, the undermentioned sources of revenue, together with the power to legislate in respect thereof, were transferred to the Provinces:—

- (i) Hospital fees, and fees received in respect of such education as, under section eighty-five (iii) of the *South Africa Act*, 1909, is within the jurisdiction of a Provincial Council.
- (ii) The duty payable under any law upon the takings of any instrument, machine, or contrivance (commonly known as totalizator) by the licensee thereof.

- (iii) Auction dues.
- (iv) Licences required for dogs outside urban areas; licences to take, catch, or kill game, fish or other animals; licences to pick or sell wild flowers.
- (v) All other payments in respect of licences save such as are mentioned in sections thirteen and fifteen of this Act, required for the carrying on or exercise of any trade, business, calling, vocation or profession.
- (vi) Miscellaneous receipts connected with matters entrusted to a Province.
- (vii) Liquor licences (under Act No. 5 of 1922).

Legislative provision has been made in a series of Financial Relations Acts for transferring to the Provinces the administration of the following additional matters and the power to legislate in regard thereto:—

- (i) The destruction of noxious weeds and vermin and the registration and control of dogs, outside the area of jurisdiction of any municipal or local authority which has powers by law or by-law in respect of such destruction, registration or control.
- (ii) The experimental cultivation of sugar, tea, and vines, save in so far as it concerns the administration of laws or regulations relating to plant diseases.
- (iii) The provision of grants in respect of agricultural and kindred societies, other than societies registered under any law.
- (iv) The administration of libraries, museums, art galleries, herbaria and botanic gardens, except the South African Library, Museum, and Art Gallery, Cape Town, and the Government Library and Transvaal Museum, Pretoria.
- (v) The control and management of such places upon Crown Land as the Governor-General may reserve as being places of public resort, of public recreation, or of historical or scientific interest.
- (vi) The administration of cemeteries and casualty wards.
- (vii) The distribution of poor relief.
- (viii) The regulation of the hours of opening and closing of shops and the restriction of hours of work of shop assistants.
- (ix) The administration of the Labour Colonies Act, 1909 (Cape of Good Hope), in so far as it relates to industrial institutions.
- (x) The establishment and administration of townships.
- (xi) The licensing and control of vehicles and of any other conveyances or means of transport whatsoever using those roads and bridges which under paragraph (viii) of section eighty-five of the *South Africa Act, 1909*, are matters as to which a Provincial Council may make Ordinances, and of the drivers of any such vehicles or means of conveyance or transport.
- (xii) The regulation of horse-racing and betting within the Province and the licensing of any instrument, machine or contrivance, commonly known as a totalisator, and the imposition of duty in respect of the takings thereof, upon the licensees.
- (xiii) The licensing, regulation, and control of places of amusement and recreation within the Province and the imposition of a duty upon the licensee in respect of the takings thereof or of a charge based upon the payments for admission thereto; and the control and regulation of posters, pictures, and advertisements in that connection.

In the *Financial Relations Act Further Extension Act, No. 5 of 1921*, it is laid down that—

- (i) a Provincial Council shall not have power to make an ordinance which imposes direct taxation in respect of the product of, or the incomes and profits derived from, any mining operations or in respect of rights in or to mines or minerals, and any such ordinance which was in operation in any Province on the 31st March, 1921, was, in terms of the Act to cease to be in operation on the expiry of the 31st March, 1922;
- (ii) a Provincial Council shall not have power to make an ordinance imposing direct taxation on natives unless the ordinance also imposes taxation at a like rate and with like incidence on persons other than natives, or to make an ordinance imposing direct taxation within the Province on persons or habitations, unless it is provided that in so far as such taxation is payable to any native, an abatement shall be granted to him equal to the amount payable by him to the Union Government by way of similar taxation.\*

Any ordinance made by a Provincial Council has effect in and for the Province as long and as far as it is not repugnant to any Act of Parliament. Assent to ordinances passed by a Provincial Council must be obtained from the Governor-General-in-Council (Section 90 of the *South Africa Act*). Provincial Councils may recommend to Parliament the passing of any law relating to any matter in respect of which Councils are not competent to make ordinances. A Provincial Revenue Fund is constituted in favour of each Provincial Council.

\* The direct taxation of natives by Provincial Councils has been altogether prohibited by Act No. 5 of 1922.

3. *Members of the Provincial Councils.*—The following list gives the name of the member representing each Provincial electoral division together with the name of such division:—

### MEMBERS OF THE PROVINCIAL COUNCILS.

#### (i) *Cape of Good Hope.*

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Albany.....	W. H. Pigott.	Ladismith.....	J. I. Mann.
Albert and Aliwal....	L. J. Steytler.	Liesbeek.....	A. Palmer.
Barkly.....	H. D. Roux.	Malmesbury.....	J. A. Smuts.
Beaconsfield.....	Hon. W. Ross.	Namaqualand.....	C. A. Lageen.
Beaufort West.....	G. P. Steyn.	Newlands.....	W. H. D. Pearce.
Bechuanaland.....	P. J. du Plessis.	Oudtshoorn.....	J. E. Potgieter.
Border.....	Capt. J. C. Morrison.	Paarl.....	D. Retief.
Oaledon.....	J. Z. le Roux.	Piquetberg.....	P. J. van Zyl.
Calvinia.....	W. P. Louw.	Port Elizabeth (Central)	M. Gumpert.
Cape Town (Castle)....	J. D. Cartwright.	Port Elizabeth (S-West)	K. B. Mellwraith.
Cape Town (Central)...	H. G. Legg.	Priska.....	S. S. Grove.
Cape Town (Gardens)...	W. H. Low.	Queenstown.....	W. F. de Wet.
Cape Town (Harbour)...	C. M. Gibbs.	Riversdale.....	H. Muller.
Ceres.....	B. Muller.	Rondebosch.....	S. A. Eddy.
Colerberg.....	F. J. du Toit.	Salt River.....	J. Lomax.
Craddock.....	A. J. Oelliffe.	Somerset.....	L. J. Vosloo.
East London.....	Rev. H. Thompson.	South Peninsula.....	Maj. S. Cowper, C.M.G.
Fort Beaufort.....	F. Sheppard.	Stellenbosch.....	J. Rawbons.
George.....	H. D. van Huyssteen.	Swellendam.....	J. D. Albertyn.
Graaf-Reinet.....	K. Bremer.	Tembuland.....	A. O. B. Payn.
Griqualand.....	J. J. Malherbe.	Three Rivers.....	J. T. Harvey.
Hope Town.....	C. P. Mathewson.	Ultenhage.....	J. J. H. Bellingas.
Humansdorp.....	G. F. Zondagh.	Victoria West.....	C. H. Goldenhuys.
Kimberley.....	W. Gasson.	Wodehouse.....	S. C. J. van Niekerk.
King William's Town...	F. Ginsberg.	Woodstock.....	Dr. A. Abdurahman.
		Worcester.....	W. J. de Wet.

#### (ii) *Natal.*

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Dundee.....	J. Dyson.	Pietermaritzburg (West)	J. McAulain.
Durban (Berea Road)...	F. J. Fahey.	Pietermaritzburg (Zwart-	A. J. McGibbon.
Durban (Congella).....	J. H. Nicolson.	kop Valley)	
Durban (Essenwood Rd.)	W. A. D. Russell.	Stamford Hill.....	F. C. Hollander.
Durban (Greyville)....	J. W. Coleman.	Umbilo.....	Capt. L. Byron.
Durban (Point).....	A. H. Haycock.	Umgeni.....	C. L. Lund.
Durban (Tollgate)....	A. E. Green.	Umvoti.....	G. T. van Rooyen.
Durban (West Street)...	J. P. Whyte.	Umsinkulu.....	Lt.-Col. J. F. Retb-
Isopo.....	Maj. W. Comrie.		man.
Ladysmith.....	D. Sparks.	Utrecht.....	P. J. Wessels.
Melmoth.....	J. F. Muller.	Victoria County.....	C. F. Clarkson.
Newcastle.....	G. Langley.	Vryheid.....	C. J. van der Merwe.
North Coast.....	G. H. Hulett.	Weenen.....	W. P. Bawden.
Pietermaritzburg (East)	W. Cox.		

#### (iii) *Transvaal.*

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Barberton.....	J. P. Jooste.	Pietersburg.....	C. Hofmeyr.
Benoni.....	I. Kuper.	Potchefstroom.....	B. D. Pienaar.
Bethal.....	N. Smth.	Pretoria (Central)....	A. Davis.
Beuldenhout.....	G. H. Kretschmar.	Pretoria (East).....	Sir J. G. van Roo-
Boksburg.....	E. Goodman.		schoeten.
Brakpan.....	R. V. Acton.	Pretoria (North)....	H. Oost.
Christiana.....	H. H. Moll.	Pretoria (South)....	J. F. Ludorf.
Commissioner Street...	J. A. Clark.	Pretoria (West)....	J. Ramsay.
Denver.....	H. Wilson.	Rodepoort.....	N. Toomey.
Ermelo.....	W. A. Joubert.	Rustenburg.....	J. A. du Plessis.
Fordsburg.....	M. J. Green.	Springs.....	W. A. Jessop.
Germiston.....	S. A. van Lingaen.	Standerton.....	P. B. du Plessis.
Heldberg.....	F. W. B. Robertson.	Troyville.....	G. A. Hay.
Hospital.....	J. Weightman.	Turfontein.....	C. A. Hadley.
Jeppes.....	J. Wilson.	Ventersdorp.....	T. C. Stoffberg.
Johannesburg North...	G. J. J. Theron.	Von Brandis.....	W. H. Stucke.
Klerksdorp.....	D. F. H. Fleming.	Vrededorp.....	Rev. B. R. Hattingh.
Krugersdorp.....	S. J. de Swardt.	Wakkerstroom.....	G. Maasdorp.
Langlaagte.....	O. Hills.	Waterberg.....	B. H. Schonken.
Lichtenburg.....	D. G. v. d. Merwe.	Witbank.....	C. A. van Niekerk.
Losberg.....	C. H. Moertel.	Witwatersberg.....	P. W. A. Mulder.
Lydenburg.....	E. de Souza.	Wolmaransstad.....	N. W. Fourie.
Marico.....	A. W. de Waal.	Wonderboom.....	Dr. H. Beit.
Middelburg.....	C. J. Coetzee.	Yeoville.....	H. J. Lamb.
Parktown.....	J. F. Brown, C.M.G.	Zoutpansberg.....	W. Vorster.

(iv) Orange Free State.

Electoral Division.	Name of Member.	Electoral Division.	Name of Member.
Bethlehem.....	D. J. J. Malan.	Kroonstad (East).....	J. G. Vorster.
Bloemfontein District.....	J. J. P. Vermaak.	Kroonstad (West).....	H. F. Rheeder.
Bloemfontein (East).....	"	Ladybrand.....	J. F. van Zyl.
Bloemfontein (West).....	P. J. v. B. Faure.	Lindley.....	Dr. D. G. Conradie.
Boshof.....	G. P. J. Lotz.	Parls.....	G. F. de Villiers.
Edenburg.....	J. O. D. du Toit.	Rouxville.....	H. F. de Wet.
Fanreemith.....	E. A. v. d. Walt.	Senekal.....	A. H. Lamprecht.
Ficksburg.....	D. J. de Villiers.	Tuaba 'Nchu.....	F. D. du Toit.
Frankfort.....	P. J. Schubart.	Vrede.....	C. F. H. Meintjes.
Harrysmith.....	C. H. Ochsé.	Vrededorp.....	B. Gilliers.
Heilbron.....	M. J. Vermeulen.	Wepener.....	N. G. M. Hoffmann.
Hoopstad.....	S. J. Theron.	Winburg.....	P. G. Steyn.
Jacobedal.....	J. A. D. Serfontein.		

4. **Provincial Ordinances.**—Particulars of ordinances passed by the several Provincial Councils in recent years to the latest available date in each case are given below (Appropriation Ordinances are excluded). For the years preceding those specified hereunder reference should be made to previous issues of this Year Book.

**PROVINCIAL ORDINANCES.**

(i) *Cape of Good Hope.*

No. of Ordinance.	Title.
1920.	
3	Motor-car Amendment.
4	Local Authorities (Public Health Rating.
5	Municipal (Provision of Homes) Amendment.
6	Cape Hospitals and Charitable Institutions (Amendment).
7	Game Laws (Amendment).
8	Education (Classification of Schools and Teachers' Salaries).
9	Nurses (Military Service and Salaries).
10	Vermin Extermination (Amendment).
11	School and Hospital Board Officials' Salaries.
12	Indigent Children (Boarding-House) Amendment.
13	Local Authorities (Government Employees' Qualification).
14	Divisional Councils (Pension Scheme).
15	Provincial Immovable Property Tax.
16	Licences Amendment.
17	Provincial Companies' Tax.
18	Crayfish Canning Companies Tax.
19	Betting Taxation.
20	Camp's Bay Tramways Act Amendment (Private).
23	Disused Cemeteries.
24	City of Cape Town Unification (Amendment).
25	Cape Municipal (Amendment).
26	Coloured and Native Educational Institutions.
27	Education.
28	Uitenhage and East London (High Schools).
29	Divisional Councils and Roads (Amendment).
30	The Fisheries.
31	Allwal North Municipal (Loan).
32	Camp's Bay Tramways Act Further Amendment

No. of Ordinance.	Title.
1921.	
3.	Education (Payment of School Fees).
4.	Payment of Subsidies.
5.	Consolidated Education.
7.	Provincial Immovable Property Tax.
8.	Betting Regulation and Taxation.
9.	Licences (Further Amendment).
10.	Village Management Boards.
11.	Local Boards.
12.	Provincial Professional Tax.
13.	Cape Municipal Law Amendment.
14.	Divisional Councils and Roads (Further Amendment).
15.	Electric Power (Amendment).
17.	George (High School).
18.	Cango Caves.
19.	Valuation (Further Amendment).
20.	Hankey Commonage.
21.	Nurses' Salaries and Pensions (Further Amendment).
22.	Provincial Crayfish Canning Profits Tax.
23.	Poor Relief and Charitable Institutions (Payment of Subsidies).
24.	Cape Municipal (Amendment).
25.	Village Management Boards (Amendment).
26.	Motor Car (Amendment).
27.	Nieuwoudville Public School.
28.	Graaff-Reinet Schools.
29.	Licences Amendment (Further Amendment).
30.	City of Cape Town (Municipal).
31.	Cape Hospitals and Charitable Institutions (Further Amendment).

(ii) *Natal.*

1920.	
4.	Shop Hours Amendment.
5.	Altering Polling Hours at Municipal Elections.
6.	Pietermaritzburg Lands (Dorp Spruit).
7.	Boroughs and Townships Indemnity.
8.	Permitting Trout Fishing Licences to continue throughout the season.
9.	Entertainments Duty Amendment.
10.	Townships Laws Amendment.
11.	Ladysmith Water Works Consolidation Loan.
12.	South Barrow Loan and Extended Powers.

1920—contd.	
13.	Verulam Loan and Waterworks Amendment.
14.	Durban Corporation Financial Powers.
15.	Durban Corporation Abattoir.
16.	Greytown Extended Loans and Electric Light and Power Extension.
17.	Vryheid Additional Loans.
18.	The Keshwe Town Lands Exchange and Alienation.
19.	Durban Corporation Extended Powers.
20.	The South Shepstone Loan and Extended Powers.
22.	Durban Tramways Consolidated Laws.

\* See Appendix.

(ii) *Natal*—continued.

No. of Ordinance.	Title.	No. of Ordinance.	Title.
1921.		1921—contd.	
3.	Shop Hours Amendment.	8.	The Motor Car.
4.	The Local Advisory Committees.	9.	Rural Dealers' Licensing.*
5.	The Villages Water Supply and Public Works.	11.	Township Franchise.*
6.	To Increase the Tax on Dogs.	12.	The Entertainments Duty Amendment.
7.	To Increase the Tax upon the Use of Totalisators.	13.	The Land Sales and Auction Duties. * Assent withheld.

(iii) *Transvaal*.

1920.		1921.	
1.	Public Entertainments.	4.	Horse Racing and Betting Restriction Amendment.
4.	Local Government (Housing) Amendment.	5.	Licensing of Bookmakers and Taxation Amendment.
5.	Provincial Gold Profits Tax Amendment.	6.	Betting Taxation Amendment.
7.	Increment Value Duty (Repeal).	7.	Poll Tax.
8.	Dwelling-house and Bachelor Tax (Repeal).	9.	Local Authorities Rating (Agricultural) Amendment.
10.	Local Government Amendment.	10.	Fish Preservation.
		12.	Local Government Amendment.

(iv) *Orange Free State*.

1920.		1921—contd.	
5.	Roads Commissions Abrogation.	6.	Entertainment Tax and Licences Amendment.
6.	Noxious Weeds Amendment.	7.	Dogs.
7.	Local Government Further Powers and Duties.	8.	Wheel Tax and Road Board Consolidation.
8.	Teachers' Pensions.	9.	Additional Wheel Tax.
9.	Education Laws Consolidation.	10.	Vermin Destruction (Further Amendment).
10.	Free Education.	11.	Education Tax.
11.	Half Holiday Amendment.	12.	Ramblers Loan Guarantee.
12.	Local Government Further Amendment.	13.	Teachers' Pensions and Gratuity Amendment.
1921.		14.	Game Protection Amendment.
4.	Legalization.	15.	Licences Consolidation.
5.	Roads (Further Amendment).	16.	Local Government Further Amendment.

§ 6. *Miscellaneous*.

## A. NAVAL DOCKYARDS (SIMONSTOWN).

The headquarters of the Africa Naval Station are established at Simonstown, where extensive dockyards (including a large graving dock) have been formed for Admiralty purposes. The buildings belonging to the station provide a full equipment of naval offices, stores, and workshops, and a hospital. The tidal basin has an area of 28½ acres. The graving dock—known as the Selborne Dock—is 780 feet long, 94 feet wide, and has a depth over sill of 34 feet 5 inches (high water ordinary neap tides).

The dock and dockyard are available, on application to the Captain-in-Charge, Simonstown, for the docking and repairs of merchant ships, provided that the facilities desired are not available at the time elsewhere in Union waters, and that men-of-war have priority.

## B. ROYAL OBSERVATORY, CAPE TOWN.

The Royal Observatory at Cape Town was instituted by an Order-in-Council, dated the 20th October, 1820, as the result of a memorial presented by the Lords Commissioners of the Admiralty. The present buildings erected on grounds covering twenty-seven acres consist of the Meridian Observatory and ten other detached observatories for use with various instruments; together with residences for the staff and other necessary buildings. The following instruments form the present equipment:—

- (i) A transit circle.
- (ii) A reversible transit circle.
- (iii) The McClean telescope (aperture 24 inches).
- (iv) Two equatorials (7 inches and 6 inches aperture) each with Repsold micrometer.
- (v) A heliometer (7 inches aperture).
- (vi) A theodolite (3 feet diameter).
- (vii) A zenith telescope (4 inches aperture).
- (viii) A photo-heliograph.
- (ix) A photographic telescope (13 inches aperture), and other physical, meteorological and geodetic apparatus.

The following are the names of H.M. Astronomers from the date of institution:—

1820—Rev. F. Fallows.	1870—E. J. Stone.
1832—Thos. Henderson.	1879—Sir David Gill, K.C.B.
1833—Sir Thos. Maclear.	1907—S. S. Hough, M.A., F.R.S.

The names of Maclear and Gill are intimately associated with the most important geodetic operations carried out in South Africa.

The observatory is under the control of the Admiralty and, in addition to carrying out its original task of observing southern stars for the purpose of assisting navigation, has developed into one of the chief observatories of the world. The fundamental instrument is the transit circle, which is used for accurate determinations of positions of stars and incidentally for giving South African Standard Time throughout the Cape Province. Special time signals are also sent daily to the various ports, and every evening a wireless time signal is transmitted to ships at sea through the medium of the wireless station at Slangkop. It was at the Cape Observatory that the idea of employing the telescope for the determination of accurate star positions by means of stellar photography first took practical shape in 1882. The development of this resulted in (i) the Cape Photographic Durchmusterung, a photographic catalogue of nearly 400,000 stars and (ii) the international survey of the heavens, in which many of the principal observatories of the world are co-operating. The Cape contribution to the *Carte du Ciel* is a catalogue of about half a million stars. The Victoria telescope is used for the spectroscopic determination of the motions of stars in the line of sight. It has also afforded a further determination of the solar parallax, confirming previous Cape results derived by older methods for this most important astronomical constant. Observation of comets, of occultations of stars by the moon, and heliometer observations of planets are undertaken regularly. Photographs of the sun and meteorological observations are also taken and a continuous record of earthquakes is obtained on the seismograph.

The staff is constituted as follows:—

H.M. Astronomer,.....	S. S. Hough, M.A., F.R.S.
Chief Assistant.....	J. K. E. Halm, Ph.D.
Assistants.....	J. Lunt, D.Sc.; W. H. Cox; R. Woodgate.
Secretary.....	A. Pilling, B.A.

There are also seven junior assistants and five temporary clerks, three artificers and a carpenter; with three Kroomen, detached from H.M. Naval Yard.

#### C. UNION GOVERNMENT COMMISSIONS, ETC.

The following table gives particulars regarding the principal Commissions and kindred bodies appointed by the Union Government since the constitution of the Union. Figures relating to the cost of maintenance are not available subsequent to the 31st March, 1921, and therefore, where the cost is given in the case of any Commission sitting beyond the 31st March, 1921, the figure represents expenditure up to that date only. The details in the last column of the table refer to Acts or portions of Acts which were passed by Parliament as the more or less direct result of the activities of the Commissions in question, or which stand in close relationship to the subject-matter of any Commission's inquiries.

#### PARTICULARS OF UNION GOVERNMENT COMMISSIONS, 1910 TO 1922.

Description.	Date of Appointment.	Date of Report.	Cost of Maintenance (to 31/3/21).	Relevant Union Legislation (Direct).
<b>A.—ADMINISTRATION.</b>				
			£	
Delimitation Commission No. 1. <i>Chairman</i> : The Hon. Sir P. M. Laurence, K.C.M.G., LL.D.	1909	May, 1910	3,799	—
Delimitation Commission No. 2. <i>Chairman</i> : The Hon. Sir P. M. Laurence, K.C.M.G., LL.D.	March, 1912	February, 1913	736	—
Delimitation Commission No. 3. <i>Chairman</i> : Sir Johannes Lange, Kt.	July, 1919.	December, 1919.	4,009	—
Public Service Reorganization Commission. <i>Chairman</i> : H. C. Campbell, I.S.O. (Later, Sir A. Stockenström, Bart.)	August, 1910	<i>Final Report</i> , March, 1912	6,466	Public Service and Pensions Act, 1912, and Public Service Amendment Act, 1914.
Financial Relations Commission. <i>Chairman</i> : The Hon. Sir G. H. Murray, P.C., G.C.B., I.S.O.	February, 1911	<b>JANUARY</b> , 1912	3,516	Financial Relations Act, 1913, and Extension Act, 1917.
Provincial Administration Commission. <i>Chairman</i> : J. W. Jagger, M.L.A.	June, 1915	<i>Min. Report</i> , December, 1916; <i>Maj. Report</i> , January, 1917	3,478	—

PARTICULARS OF UNION GOVERNMENT COMMISSIONS, 1910 TO 1922—*contd.*

Description.	Date of Appointment.	Date of Report.	Cost of Maintenance (to 31/3/21).	Relevant Union Legislation (direct).
<b>A.—ADMINISTRATION—(contd.)</b>			£	
Public Service Commission of Inquiry. <i>Chairman</i> : The Hon. Mr. Justice T. L. Graham, K.C.	June, 1918	<i>First Report</i> , Novem., 1918; <i>Second Report</i> , February, 1919 <i>Third Report</i> , August, 1919 <i>Fourth Report</i> , October, 1919 <i>Fifth Report</i> , Nov., 1920	16,828	—
Future Government of South-West Africa. <i>Chairman</i> : The Hon. Nicolaas J. de Wet, K.C., M.L.A.	October, 1920.	—	920	—
<b>B.—SOCIAL MATTERS.</b>				
Sunday Observance Commission. <i>Chairman</i> : H. J. Hofmeyr	August, 1911	October, 1913	3,034	—
Tuberculosis and Pneumonia Commission. <i>Chairman</i> : Dr. A. J. Gregory.	February, 1912	May, 1914	9,692	Immigrants' Regulation Act, 1913 [84 (i) (h)].
Assaults on Women. <i>Chairman</i> : The Hon. Melius de Villiers, B.A., LL.B.	June, 1912	May, 1913	4,511	—
Economic Commission. <i>Chairman</i> : Prof. S. J. Chapman.	Sept., 1913	Jan., 1914	2,023	—
University Commission. <i>Chairman</i> : The Hon. Sir P. M. Laurence, K.C.M.G., LL.D.	Nov., 1913	July, 1914	3,164	University Acts, 1916 (Nos. 12, 13, and 14).
Inquiries into Cost of Living. <i>Commissioner</i> : G. Owen-Smith.	May, 1916	August, 1916	168	—
University Statutes Commission. <i>Chairman</i> : The Hon. Melius de Villiers, B.A., LL.B.	October, 1916	—	2,110	—
Advisory Committee on Control of Foodstuffs and other necessities. <i>Chairman</i> : Howard Pim.	March, 1917	—	444	—
Cost of Living Commission (Old). <i>Chairman</i> : Howard Pim.	Nov., 1917	<i>Interim Reports</i> (Wheat), Dec., 1917, to Jan., 1918; <i>Interim Reports</i> (Miscel.), Sep., 1917, to Feb., 1918; <i>Interim Reports</i> (Rand Trading), April, 1918; <i>General Report</i> , October, 1918; <i>Profits Report</i> , November, 1918	1,721	Commission's (Cost of Living) Powers Act, 1918. Wheat Conservation Act, 1918.
Commission of Inquiry into Strike of Municipal Employees, Johannesburg. <i>Commissioner</i> : H. O. Buckle.	May, 1918	—	207	—
Cost of Living Commission (New). <i>Chairman</i> : G. Owen-Smith.	November, 1919	—	3,809	—
Unemployment Commission. <i>Chairman</i> : H. L. Lindsay.	September, 1920	March and May, 1921 <i>Final Report</i> , May, 1922	4,456	—
Influenza Epidemic Commission. <i>Chairman</i> : Paul D. Cluver, M.B.E.	December, 1918	February, 1919	1,567	Public Health Act, 1919 (Chapter III)
Kakama Labour Colony Commission. <i>Chairman</i> : A. M. Conroy, M.L.A.	July, 1919	Oct., 1919	345	—

PARTICULARS OF UNION GOVERNMENT COMMISSIONS, 1910 TO 1922—*contd.*

Description.	Date of Appointment.	Date of Report.	Cost of Maintenance (to 31/3/21).	Relevant Union Legislation (direct).
<b>B.—SOCIAL MATTERS—<i>contd.</i></b>			£	
Housing Commission..... <i>Chairman</i> : V. G. M. Robinson.	July, 1919	December, 1919	1,688	—
Meat Trade Commission..... <i>Chairman</i> : Henry Latham Currey.	November, 1919	1920	1,342	—
Repatriation Commission..... <i>Commissioner</i> : T. A. Kelly, <i>vice</i> L. Esselen (resigned).	August, 1918	—	1,892	—
<b>C.—INDUSTRIES AND COMMERCE—GENERAL.</b>				
Commerce and Industries Commission. <i>Chairman</i> : Sir T. M. Cullinan, Kt.	October, 1910	1912	5,506	Customs (Tariff) Act, 1914 (S 8).
Ostrich Feather Industry..... <i>Chairman</i> : H. C. Becker, M.J.A.	June, 1917	Nov., 1917	865	—
Grain Elevators Committee..... <i>Chairman</i> : G. C. S. Clark, C.M.G., V.D.	January, 1918	July, 1918	1,165	—
Grading and Pooling of Coal for Export. <i>Chairman</i> : Sir R. N. Kotzé, Kt.	October, 1920.	July, 1921	893	—
Sugar Industry in Natal..... <i>Chairman</i> : W. D. Baxter.	December, 1921.	—	—	—
<b>D.—MINING INDUSTRY.</b>				
Miners' Phthisis Commission.... <i>Chairman</i> : Dr. S. V. van Niekerk.	June, 1911	Feb., 1912	2,053	Miners' Phthisis Acts, 1912 and 1914.
Small Holdings Commission.... <i>Chairman</i> : H. C. Fleischer.	July, 1912	Oct., 1913	859	Agricultural Holdings (Transvaal) Regulation Act, 1919.
Witwatersrand Disturbances Commission. <i>Chairman</i> : The Hon. Sir J. W. Wessels, Kt.	July, 1913	Sept., 1913	809	Riotous Assemblies and Criminal Law Amendment Act, 1914.
Commission on State Mining.... <i>Chairman</i> : P. Ross Frances.	Sept., 1916	<i>First Reports</i> , Feb., to March, 1917; <i>Final Reports</i> , Dec., 1917, Dec., 1918	3,170	Transvaal Mining Leases and Mineral Law Amendment Act, 1918.
Miners' Phthisis Commission (Inquiry into working of Acts). <i>Chairman</i> : Sir W. van Hulsteyn, Kt.	June, 1918	Dec., 1918	1,527	Miners' Phthisis Act, 1919.
Low Grade Mines Commission.... <i>Chairman</i> : Sir R. N. Kotzé, Kt.	June, 1919	<i>Interim Report</i> , Sept., 1919. <i>Final Report</i> , April, 1920	3,513	—
Miners' Phthisis Commission, No. 3. <i>Chairman</i> : The Hon. Mr. Justice V. de Villiers.	September, 1920	April, 1921	2,497	—
Mining Industry Board..... <i>Chairman</i> : Sir W. H. Solomon, K.C.S.I., K.C.M.G.	March, 1922	—	—	—
Marital Law Commission..... <i>Chairman</i> : Sir T. L. Graham, K.C.	April, 1922	—	—	—
<b>E. NATIVE AND ASIATIC AFFAIRS.</b>				
Natives' Land Commission.... <i>Chairman</i> : The Hon. Sir W. H. Beaumont.	August, 1913	March, 1916	7,529	—
Indian Judicial Inquiry Commission. <i>Chairman</i> : Sir W. H. Solomon, K.C.S.I., K.C.M.G.	December, 1913	March, 1914	737	Indians' Relief Act 1914.



PARTICULARS OF UNION GOVERNMENT COMMISSIONS, 1910 TO 1922—*contd.*

Description.	Date of Appointment.	Date of Report.	Cost of Main tenance (to 31/3/21).	Relevant Union Legislation (direct).
Asiatic Inquiry Commission.... <i>Chairman</i> : Sir J. Lange, Kt.	February, 1920	<i>Interim Report</i> , May, 1920; <i>Final Report</i> , March, 1921	£ 2,935	—
Commission of Inquiry: Native Disaffection, "Israelite" Movement, and Native Religious Bodies. <i>Chairman</i> : Senator the Hon. A. W. Roberts, D.Sc., F.R.A.S.	August, 1921	—	—	—
F.—MISCELLANEOUS.				
Dominions Royal Commission... <i>Union Representative</i> : Sir J. W. S. Langerman, Kt.	May, 1912	Feb., 1917	5,423	—
Rebellion Losses Commission... <i>Chairman</i> : M. S. Evans, C.M.G.	Jany., 1915	Sept., 1916	5,076	Indemnity and Special Tribunals Act, 1915 (Chapter III).
War Stores Commission..... <i>Chairman</i> : H. O. Buckle.	May, 1915	April, 1916	3,173	—
Rebellion Inquiry Commission... <i>Chairman</i> : The Hon. Sir J. H. Lange, Kt.	Nov., 1915	Dec., 1916	2,434	—
Committee of Inquiry: Taxation of Incomes from Farming Operations. <i>Chairman</i> : Sir W. van Hulsteyn, Kt.	Oct., 1917	Dec., 1918	1,023	—
Inquiry into Allegations of Bribery and Corruption. <i>Commissioner</i> : O. W. Staten.	June, 1918	<i>First Report</i> , Sept., 1918; <i>Second Report</i> , Mar., 1919	—	—
Gold Conference..... <i>Chairman</i> : The Hon. H. Burton.	October, 1919	April, 1920	140	—
Pre-1914 South African Wars Penalon Board. <i>Chairman</i> : G. C. J. L. F. Haesemann.	1919	—	5,777	—
Drought Investigation Commission. <i>Chairman</i> : H. S. du Tolt.	September, 1920	<i>Interim</i> , June, 1922.	1,330	—
Survey Commission..... <i>Chairman</i> : Sir J. C. Beattie, D.Sc., F.R.S.E., A.M.I.E.E.	January, 1921	July, 1921	593	—
Currency Conference..... <i>Chairman</i> : W. H. Clerk.	October, 1921	May, 1922	—	—
Egg Export Commission..... <i>Chairman</i> : A. H. Harrison.	January, 1922	—	—	—

## D.—REPRESENTATION OF THE UNION GOVERNMENT IN UNITED KINGDOM AND EUROPE.

(i) *The High Commissioner in London and Principal Subsidiary Officers.*—The Office of "High Commissioner for the Union of South Africa" in the United Kingdom was created by Act No. 3 of 1911. The first occupant of the post was Sir Richard Solomon, K.C.B., K.C.M.G., K.C.V.O., who, on his decease in 1914, was succeeded by the Right Hon. W. P. Schreiner, P.C., C.M.G., K.C. On the death of the latter in June, 1919, Mr. (now Sir) Reginald Blunkenberg, the Secretary to the High Commissioner's Office, acted as High Commissioner until the appointment, in April, 1921, of Sir Edgar Harris Walton, K.C.M.G., the present High Commissioner.

The principal sub-offices attached to the High Commissioner's office are: The Union Trade Commissioner and the Commissioner of Commerce on the Continent of Europe (for particulars of whom see Chapter XIX), the Publicity Agent and the Adviser on Land Settlement (who is referred to in Chapter XIV).

## OFFICE OF HIGH COMMISSIONER IN LONDON—CHIEF OFFICERS.

Secretary.....	Sir R. A. Blankenberg, K.B.E.
Trade Commissioner.....	A. Canham.
Commissioner of Commerce on Continent of Europe.....	Karl A. Spilhaus.

The offices of the High Commissioner are in Trafalgar Square, London, W.C.2. The Commissioner of Commerce on the Continent of Europe has his headquarters in Rotterdam.

(ii) *The Publicity Agent's Branch.*—The Government, recognizing the necessity for making more widely known the agricultural and industrial potentialities and the natural attractions of South Africa, has entrusted to the Administration of the South African Railways and Harbours the organization and development of an overseas publicity campaign. In addition to funds provided by the Government, substantial financial support has been given to the scheme by municipalities, public companies, and other interested bodies. A Publicity Agent was permanently appointed to the office of the High Commissioner for the Union in August, 1920. Arising from the first year's active operation of the campaign over 10,000 written inquiries and numerous personal inquiries were received. As a result it is known that a number of persons, possessed of considerable capital, have migrated to South Africa.

## E.—AGENCY OF THE UNION GOVERNMENT AT LOURENCO MARQUES.

UNION AGENT: A. T. LONG, C.B.E.

The inevitably close connection existing commercially and in numerous official ways between the Union and the neighbouring Portuguese colony of the Province of Mozambique renders it necessary to maintain at Lourenco Marques an Agency of the Union Government which directly represents all Union Government departments in their relations with the Portuguese authorities, and relieves the British Consulate of functions previously executed by the latter. In the absence of the British Consul-General, the Union Agent acts as Vice-Consul. The Agency is also available to the general public in the Union as a source of commercial and similar intelligence regarding the Province.

Destitute subjects of the Union are taken charge of by the Agency and either relieved or repatriated. In connection with the native labour supply of the Transvaal, nearly 6,000 Portuguese natives passed through the agency during 1921, on their way to the Witwatersrand. The Union Agent is in liaison with the Union and Portuguese Criminal Investigation Departments. The Union Agency (subject to the Controller of Imports and Exports for the Union) deals entirely with the control of exports to Portuguese East Africa, and with the export through Delagoa Bay of Union coal—an important item, and one which is rigidly supervised. At the end of 1921 the system of permits for the export of goods from the Union to Mozambique was abolished.

An Immigration Office for the Union and a Union Customs establishment also exist at Lourenco Marques, in order to eliminate delays which could not be avoided if all business had to be transacted at the Border station of Komatipoort. During 1921 nearly 2,000 Asiatics and a large number of Europeans were dealt with. Weekly health statistics are furnished to the Union and Portuguese authorities.

## F.—CONSULS OF FOREIGN COUNTRIES IN THE UNION.

Country and Rank.	Name.	Station.
<b>Argentine Republic—</b>		
Consul-General.....	W. MacCarthy.....	Cape Town.
Consular Agent.....	Adolfo Scilingo.....	Cape Town.
Vice-Consul.....	H. Bowers.....	Port Elizabeth.
Vice-Consul.....	Alex. Dey.....	Durban.
<b>Belgium—</b>		
Consul-General.....	G. Stadler.....	Johannesburg.
Vice-Consul.....	Leon Genis.....	Johannesburg.
Second Vice-Consul.....	Marcel Gallet.....	Johannesburg.
Consul.....	F. Moulin.....	Cape Town.
Vice-Consul.....	H. Janssens.....	Cape Town.
Vice-Consul.....	E. A. Nothard.....	East London.
Vice-Consul.....	W. MacFarlane.....	Port Elizabeth.
Consul.....	H. Moumal.....	Durban.
Hon. Consul.....	Dr. A. M. Heymans.....	Pretoria.
Hon. Consul.....	I. H. Haarburger.....	Bloemfontein.
Vice-Consul.....	A. de Beys.....	Johannesburg.

F. CONSULS OF FOREIGN COUNTRIES IN THE UNION— *continued.*

Country and Rank.	Name.	Station.
<b>Brazil—</b>		
Acting Consul.....	H. W. Blackburn.....	Cape Town.
Consul.....	Ralph Cobhan.....	Durban.
<b>Chile—</b>		
Consul.....	A. D. Hinde.....	Durban.
<b>China—</b>		
Consul-General.....	Liu Ngai.....	Johannesburg.
<b>Denmark—</b>		
Consul.....	Julius Otto Jeppe.....	Cape Town.
Vice-Consul.....	J. G. Patterson.....	Port Elizabeth.
Vice-Consul.....	M. T. Flemmer.....	East London.
Hon. Consul.....	Sir George Albu, Bart.....	Johannesburg.
Consul.....	Carl Ludwig Storm.....	Durban.
<b>Finland—</b>		
Hon. Vice-Consul.....	Vacant.....	Cape Town.
<b>France—</b>		
Consul-General.....	L. de Franqueville.....	Johannesburg and Pretoria.
Consul.....	P. M. Suzor.....	Cape Town.
Vice-Consul.....	F. de Fontnouvelle.....	Cape Town.
Consular Agent.....	E. M. Searle.....	Port Elizabeth.
Consular Agent.....	John Carrington.....	East London.
Vice-Consul.....	B. H. Hugo.....	Simonstown.
Consul.....	H. P. Armand.....	Durban.
Vice-Consul.....	M. E. Genoyer.....	Johannesburg.
	E. Batezat.....	Cape Town.
<b>Germany—</b>		
Consul-General.....	A. Haug.....	Pretoria.
Hon. Consul.....	Dr. J. H. Hammann.....	Cape Town.
<b>Greece—</b>		
Consul-General.....	Julius O. Jeppe.....	Cape Town.
Consul.....	Emile Nathan, M.L.A.....	Johannesburg.
<b>Italy—</b>		
Consul-General.....	Cavaliere Natale Labia.....	Cape Town.
Hon. Vice-Consul.....	J. H. Astrop.....	Cape Town.
Consular Agent.....	Alexander Keith.....	Port Elizabeth.
Vice-Consul.....	A. H. Rennie.....	Durban.
Vice-Consul.....	C. W. Giovanetti.....	Pretoria.
Vice-Consul.....	Sir David Harris, K.C.M.G., V.D., M.L.A.....	Kimberley.
Vice-Consul.....	J. Laini.....	Johannesburg.
Vice-Consul.....	T. F. Allen, O.B.E.....	Johannesburg.
<b>Japan—</b>		
Consul.....	Tadanao Imai.....	Cape Town.
<b>Netherlands—</b>		
Consul-General.....	Dr. H. A. Lorentz.....	Pretoria.
Acting Consul-General.....	H. M. J. Fein.....	Cape Town.
Consul.....	P. C. Baerveldt.....	Johannesburg.
Vice-Consul.....	J. M. Pons.....	Potchefstroom.
Vice-Consul.....	O. Plantema.....	Port Elizabeth.
Vice-Consul.....	R. Hamilton.....	East London.
Consul.....	C. J. A. de Lange.....	Durban.
Vice-Consul.....	J. Loopuyt.....	Cape Town.
Consul.....	J. C. G. Kamphaath.....	Bloemfontein.
Vice-Consul.....	J. van Sieghem.....	Pretoria.
Consul.....	Dr. F. E. H. Groenman.....	Cape Town.

F. CONSULS OF FOREIGN COUNTRIES IN THE UNION—*continued.*

Country and Rank.	Name.	Station.
Norway—		
<b>Consul-General (with jurisdiction over the Union)</b>	J. G. J. Raeder.....	Cape Town.
Hon. Consul.....	J. W. C. Kittleson.....	Johannesburg.
Hon. Vice-Consul.....	C. S. Forbes.....	Port Elizabeth.
Hon. Vice-Consul.....	T. Harries.....	East London.
Hon. Vice-Consul.....	J. W. Cowie.....	Port Nolloth.
Hon. Consul.....	J. J. Egeland.....	Durban.
Hon. Vice-Consul.....	J. C. J. Norman.....	Pretoria.
Peru—		
Consul.....	J. C. Kemsley.....	Port Elizabeth.
Portugal—		
<b>Consul-General for Transvaal and Orange Free State</b>	B. d'Alpoim.....	Johannesburg.
Vice-Consul.....	V. L. L. de Waegenaere.....	Pretoria.
Vice-Consul.....	Salomon Serruya.....	Johannesburg.
Consul-General at Cape Town...	Jose da Rocha Prista.....	Cape Town.
Vice-Consul.....	Joao de Howarth.....	Cape Town.
Hon. Vice-Consul.....	W. MacFarlane.....	Port Elizabeth.
Vice-Consul.....	W. H. Kitching.....	Mossel Bay.
Vice-Consul.....	W. Runciman.....	Simonstown.
Vice-Consul.....	H. C. Peacock.....	East London.
Consul.....	V. F. Vordades de Faria.....	Durban.
Hon. Vice-Consul.....	Edward Serruys.....	Durban.
Siam—		
<b>Consul-General.....</b>	Karl Lithmann.....	Cape Town.
Spain—		
Consul.....	J. P. y Alvarez.....	Cape Town.
Hon. Vice-Consul.....	A. Keith.....	Port Elizabeth.
Vice-Consul.....	Dr. Albert Heymans.....	Pretoria.
Vice-Consul.....	Don M. Torrente.....	Johannesburg.
Vice-Consul.....	Alec. Rennie.....	Durban.
Hon. Vice-Consul.....	Carlos Bothner.....	Cape Town.
Sweden—		
<b>Consul-General.....</b>	C. G. H. Rosenlund.....	Cape Town.
Vice-Consul.....	O. J. Oosthuizen.....	Port Elizabeth.
Vice-Consul.....	R. C. Dent.....	East London.
Vice-Consul.....	E. Wadner.....	Mossel Bay.
Consul.....	Vilhelm Frykberg.....	Johannesburg.
Vice-Consul.....	C. R. MacGillivray.....	Johannesburg.
Vice-Consul.....	A. J. Landholm.....	Durban.
Switzerland—		
Acting Consul.....	C. Bothner.....	Cape Town.
Consul.....	M. Paul Pettavel.....	Johannesburg.
United States of America—		
<b>Consul-General.....</b>	A. A. Winslow.....	Cape Town.
Vice-Consul.....	A. H. Cawston.....	Cape Town.
Vice-Consul.....	C. J. Pisar.....	Cape Town.
Vice-Consul.....	C. W. Allen.....	Cape Town.
Vice-Consul.....	M. McS. Sellers.....	Cape Town.
Consul.....	M. B. Davis.....	Port Elizabeth.
Consular Agent.....	G. C. Starkey.....	East London.
Consular Agent.....	A. F. Williams.....	Kimberley.
Consul.....	C. K. Moser.....	Johannesburg.
Vice-Consul.....	R. S. Townsend.....	Johannesburg.
Vice-Consul.....	J. R. Minter.....	Johannesburg.
Consul.....	L. V. Boyle.....	Durban.
Vice-Consul.....	H. S. Hood.....	Port Elizabeth.
Consular Agent.....	A. E. Fichardt.....	Bloemfontein.

## CHAPTER III.

## POPULATION.

## § 1. Population of the Union.

1. **General.**—The census taken in 1904 in each of the four Colonies which subsequently (in 1910) were incorporated in the Union was the first simultaneous census taken in South Africa. Section 1 of the introductory chapter gives the dates of the various censuses which have been taken in the states of South Africa now comprised in the Union; but, while comparisons are possible in respect of the numbers of the population of separate Provinces for earlier periods than 1904, full comparison is only possible in respect of the whole area of the Union for the years 1904, 1911, and 1921—1911 being the year in which the first Union census was taken; and for the year 1918 as to the European population only. The summaries of the population returns for the 1904 and subsequent censuses are given hereunder in tables (i), (ii), and (iii); while the mean estimated population for the years 1910 to 1922 is shown in table (iv). The returns of the 1918 census given in the tables do not include persons absent from the Union on active service or for other purposes connected with the War. A special absentee census was taken in respect of males under the *Electoral Census Further Provision Act* of 1918, simultaneously with the main census of the European population in the Union, and 28,312 persons were enumerated; particulars of these will be found in *Official Year Book No. 4*. The figures given in this chapter for the census of 1921 are *preliminary and unaudited*. The term White is used here and throughout this book to indicate persons of European descent, and the term Coloured where used in a general sense comprises aboriginal natives (Bantu), Asiatics, and the mixed and other coloured population of the Union.

## (i) CENSUSES OF 1904, 1911, 1918, AND 1921—GENERAL SUMMARY OF RESULTS.

YEAR.	ALL RACES.		WHITE.		COLOURED.		
	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1904..	5,175,824	635,117	481,689	1,116,806	2,047,118	2,011,900	4,059,018
1911..	5,973,394	685,164	591,078	1,276,242	2,384,228	2,312,924	4,697,152
1918..	—	728,866	692,915	1,421,781	—	—	—
*1921..	6,926,992	783,185	739,257	1,522,442	2,753,821	2,650,729	5,404,550

## (ii) COLOURED POPULATION OF THE AREA OF THE UNION, (CENSUS) 1904, AND OF THE UNION, (CENSUSES) 1911 AND 1921.

YEAR.	ALL COLOURED PERSONS.			BANTU.		ASIATIC.		OTHER COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1904	4,059,018	2,047,118	2,011,900	1,737,119	1,753,937	82,809	39,925	227,190	218,038
1911	4,697,152	2,384,228	2,312,924	2,022,949	1,996,057	96,201	58,108	265,078	260,759
*1921	5,404,550	2,753,821	2,650,729	2,384,624	2,314,809	99,295	67,601	272,902	268,319

Preliminary unaudited figures

(iii) **POPULATION OF EACH PROVINCE OF THE UNION, (GENSUS) 1911, 1918 (WHITE ONLY), AND 1921.**

PROVINCE.	1911.			1918, White.	1921.*			
	White.	Coloured.	All Races.		White.		Coloured.	
					Male.	Female.	Male.	Female.
Cape of Good Hope.....	582,377	1,982,588	618,825	2,782,712	330,035	321,831	1,018,450	1,112,396
Natal.....	98,114	1,095,929	121,931	1,427,706	70,789	86,906	630,090	653,321
Transvaal.....	420,562	1,265,850	499,347	2,087,772	284,337	259,336	875,432	668,667
Orange Free State	175,189	352,985	181,078	628,802	98,024	91,184	223,249	216,345
<b>UNION.....</b>	<b>1,276,242</b>	<b>4,697,152</b>	<b>1,421,781</b>	<b>6,926,902</b>	<b>783,185</b>	<b>739,257</b>	<b>2,753,821</b>	<b>2,050,729</b>

\* Preliminary unaudited figures.

(iv) *Population of the Union, 1904 to 1922.*—The estimates of population which are given hereunder have been framed on the assumption that the rate of increase between any two censuses is uniform, but special allowances have been made for the influenza epidemic of 1918, and for the male absentees specially enumerated in that year (see paragraph 1 above). The estimated figures are based (a) for 1910 (all races), on the rate of increase between the censuses of 1904 to 1911; (b) for 1911 to 1917 (white population), on the rate of increase between 1911 and 1918 censuses; (c) for 1918 to 1922 (white population), on the rate of increase between 1918 and 1921 censuses; and (d) for 1911 to 1922 (coloured population), on the rate of increase between 1911 and 1921 censuses.

**POPULATION RETURNS FOR 1904, 1911 AND 1921, MEAN ESTIMATED POPULATION OF THE UNION IN EACH YEAR, 1910 TO 1922, AND WHITE POPULATION OF THE UNION, 1918.**

YEAR.	TOTAL POPULATION.	WHITE POPULATION.			COLOURED POPULATION.		
		Male.	Female.	Total.	Native and other Coloured.	Asiatic.	Total.
1904 (Census).....	5,175,824	635,117	481,889	1,116,806	3,086,284	122,734	4,059,018
1910.....	5,877,076	676,590	578,955	1,255,545	4,470,420	151,111	4,621,531
1911 (Census)...	5,973,394	685,164	591,078	1,276,242	4,544,843	152,309	4,697,152
1911 (Mean).....	5,991,745	686,878	593,503	1,280,381	4,558,816	152,548	4,711,364
1912.....	6,101,853	697,166	608,051	1,305,217	4,642,652	153,984	4,796,636
1913.....	6,211,902	707,454	622,599	1,330,053	4,726,488	155,421	4,881,909
1914.....	6,322,072	717,742	637,147	1,354,889	4,810,325	156,858	4,967,183
1915.....	6,432,182	728,030	651,695	1,379,725	4,894,162	158,295	5,052,457
1916.....	6,542,292	738,318	666,243	1,404,561	4,977,999	159,732	5,137,731
1917.....	6,652,402	748,606	680,791	1,429,397	5,061,836	161,169	5,223,005
1918 (Census)*...	728,866	692,915	1,421,781	—	—	—	—
1918 (Mean).....	6,762,392	758,623	695,490	1,454,113	5,145,673	162,606	5,308,279
1919.....	6,725,590	767,292	710,938	1,478,230	5,086,139	161,221	5,247,360
1920.....	6,835,444	775,960	726,384	1,502,344	5,170,420	162,680	5,333,100
1921 (Census)†...	6,926,992	783,185	739,257	1,522,442	5,240,654	163,996	5,404,550
1921 (Mean).....	6,945,302	784,630	741,832	1,526,462	5,254,701	164,139	5,418,840
1922.....	7,055,168	793,299	757,279	1,550,578	5,338,982	165,598	5,504,580

\* Excluding male absentees specially enumerated under Act No. 15 of 1918 (see paragraph 1 above). † Preliminary unaudited figures.

(v) *Increase in the Population of the Union.*—The average annual rate of increase in the population of the Union as shown in the following table, was lower for the period 1911 to 1921 than between 1904 and 1911, and notably so in the case of the mixed races and the Asiatics. The former suffered severely in the influenza epidemic of 1918, and in the case of the latter the decline in the average annual increase was due to the considerable emigration of Indians, of whom approximately 29,000 were repatriated between 1911 and 1921. In Natal the number of Indian males decreased by 1,261 during the ten years, while the number of females showed an increase of 7,048, giving a total increase of 5,787 in the Indian population of that Province, equivalent to an annual rate of .44 per cent.

## INCREASE IN THE POPULATION OF THE UNION, 1904 TO 1921.

RACE.	Census, 1904.	1911.				1921.*			
		Number.	Increase over 1904.	Increase per cent. over 1904.	Average Annual Rate of Increase.	Number.	Increase over 1911.	Increase per cent. over 1911.	Average Annual Rate of Increase.
White Persons	1,116,806	1,276,242	159,436	14.28	2.04	1,522,442	246,200	19.29	1.93
Natives (Bantu)	3,491,056	4,019,006	527,950	15.12	2.16	4,699,433	680,427	16.90	1.69
Asiatics...	122,734	152,309	29,575	24.10	3.44	163,896	11,587	7.61	0.76
Mixed and Other Coloured	445,228	525,837	80,609	18.11	2.59	541,221	15,384	2.93	0.29
TOTAL.	5,175,824	5,973,394	797,570	15.41	2.20	6,926,992	953,598	15.96	1.60

2. Proportions of the Race in British South Africa.—The following table gives for purposes of comparison with other parts of British South Africa the proportions of the white population to the coloured population in the Union as returned at the Censuses of 1904, 1911, and 1921:—

**NUMBERS OF WHITE AND COLOURED POPULATION IN BRITISH SOUTH AFRICA AND PROPORTION PER CENT. OF EACH RACE TO TOTAL POPULATION, 1904, 1911, AND 1921.**

TERRITORY.	POPULATION.			PROPORTION PER CENT. OF TOTAL POPULATION.	
	Total.	White.	Coloured.	White.	Coloured.
<b>1904.</b>					
Union of South Africa.....	5,175,824	1,116,806	4,059,018	21.58	78.42
Basutoland.....	348,848	895	347,953	0.26	99.74
Bechuanaland Protectorate...	120,776	1,004	119,772	0.83	99.17
Swaziland.....	85,491	890	84,601	1.04	98.96
Southern Rhodesia.....	906,033	12,596	893,437	2.08	97.92
<b>TOTAL—BRITISH SOUTH AFRICA</b>	<b>6,336,972</b>	<b>1,132,101</b>	<b>5,204,781</b>	<b>17.87</b>	<b>82.13</b>
<b>1911.</b>					
Union of South Africa.....	5,973,394	1,276,242	4,697,152	21.37	78.63
Basutoland.....	404,507	1,396	403,111	0.35	99.65
Bechuanaland Protectorate...	125,350	1,602	123,658	1.35	98.65
Swaziland.....	99,959	1,083	98,876	1.08	98.92
Southern Rhodesia.....	771,077	23,606	747,471	3.06	96.94
<b>TOTAL—BRITISH SOUTH AFRICA</b>	<b>7,374,287</b>	<b>1,304,019</b>	<b>6,070,268</b>	<b>17.68</b>	<b>82.32</b>
<b>1921.</b>					
* Union of South Africa.....	6,926,992	1,522,442	5,404,550	21.98	78.02
South-West Africa.....	228,048	19,432	208,616	8.52	91.48
Basutoland.....	498,781	1,603	497,178	0.32	99.68
Bechuanaland Protectorate...	152,983	1,743	151,240	1.14	98.86
Swaziland.....	106,961	2,205	104,756	2.06	97.94
Southern Rhodesia.....	882,460	33,620	848,840*	3.81	96.19
<b>*TOTAL—BRITISH SOUTH AFRICA</b>	<b>8,796,225</b>	<b>1,581,045</b>	<b>7,215,180</b>	<b>17.97</b>	<b>82.03</b>

\* Preliminary unaudited figures.

3. **Proportions of the Races in the Provinces of the Union.**—The proportion per cent. of white persons to the total population of each Province at the various censuses is shown in the subjoined table. It should be noted that between 1865 and 1891 the population of the Cape Colony was affected by the annexation of areas thickly populated by natives. Between 1891 and 1904, in spite of the annexation of Pondoland and Bechuanaland with 10,300 white persons and 276,522 of the coloured races, the proportion of white population to coloured slightly increased. In the Orange Free State the proportion of white to coloured population is highest, in Natal lowest, but the former figure has declined from census to census, while the latter shows a rise between 1911 and 1921. The Transvaal occupies an intermediate position, with a constantly rising ratio in favour of the white population.

**PROPORTION PER CENT. OF WHITE PERSONS TO TOTAL POPULATION OF EACH PROVINCE AT EACH CENSUS.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.
1865.....	36.58	—	—	—
1875.....	32.84	—	—	—
1880.....	—	—	—	45.70
1890.....	—	—	—	37.45
1891.....	24.68	—	—	—
1904.....	24.06	8.76	23.41	36.84
1911.....	22.71	8.22	24.94	33.19
1921*.....	23.43	9.64	26.04	30.09

4. **Population of Cape of Good Hope.**—The first of the following tables gives the number of the population of the Cape of Good Hope at each census, distinguishing between white and coloured, and giving the increase per cent. over the preceding census. A brief analysis of the figures up to the census of 1911 is given in the fourth and previous issues of this Year Book. Between 1911 and 1918 the white population increased by 36,448 persons, of whom 72 per cent. were females—an indication of the abnormal conditions at the time of the 1918 census. Between 1911 and 1921 the male white population of the Cape increased by 28,000, and the female white population by 40,000. These figures reflect not only a natural tendency, but also the fact that there has been a steady flow of male migration from the Cape to other parts of the Union, chiefly the Transvaal.

(i) **POPULATION OF THE CAPE OF GOOD HOPE AT EACH CENSUS AND INCREASE PER CENT.**

Census Year.	POPULATION.			Increase per cent. over Preceding Census.	
	Total.	White.	Coloured.	White.	Coloured.
1865.....	496,381	181,502	314,789	—	—
1875.....	720,984	236,783	484,201	23.35	19.07
1891.....	1,527,224	376,987	1,150,237	42.30	27.96
1904.....	2,409,804	579,741	1,830,063	51.05	35.06
1911.....	2,564,965	582,377	1,982,588	0.46	8.33
1918.....	—	618,825	—	9.41	—
1921*.....	2,782,712	651,866	2,130,846	11.93†	7.48

\* Preliminary unadjusted figures.

† Between 1911 and 1921.



## (ii) POPULATION OF THE CAPE OF GOOD HOPE AT EACH CENSUS, ACCORDING TO SEX AND RACE.

CENSUS YEAR.	ALL RACES.			WHITE.		COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.
1865...	496,381	255,760	240,621	95,410	80,182	160,350	154,439
1875...	720,984	369,828	351,356	123,910	112,873	245,718	238,483
1891...	1,527,224	767,327	759,897	195,956	181,031	571,371	578,866
1904...	2,409,804	1,218,940	1,190,864	318,544	261,197	900,396	929,667
1911...	2,564,965	1,255,671	1,309,294	301,268	231,109	954,403	1,028,185
1918...	—	—	—	311,312	307,513	—	—
1921*...	2,782,712	1,348,485	1,434,227	330,035	321,831	1,018,450	1,112,396

(iii) *Coloured Population of the Cape of Good Hope.*—The table given below shows the classification of the coloured population of the Cape of Good Hope at each census (excepting that of 1865, when no classification was effected), and shows also the number of those of the Pantu race, the number of Asiatics, and the number of other coloured, including those of mixed race:—

## CAPE OF GOOD HOPE.—COLOURED POPULATION AT EACH CENSUS.

CENSUS YEAR.	ALL COLOURED PERSONS.			BANTU.		ASIATIC.		MIXED AND OTHER COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1875	484,201	245,718	238,483	146,252	141,387	Not distinguished		99,466	97,096
1891	1,150,237	571,371	578,866	415,201	422,935	1,365	395	154,865	155,536
1904	1,830,063	900,396	929,667	692,728	732,059	3,316	926	198,552	196,682
1911	1,982,588	954,403	1,028,185	721,441	798,498	6,005	1,085	226,357	228,662
1921*	2,130,846	1,018,450	1,112,396	769,733	869,806	5,683	2,087	243,034	240,503

5. *Population of Natal.*—Between the years 1891 and 1904 the white population of Natal, excluding Zululand (annexed in 1897), and the districts of Vryheid, Utrecht, and part of Wakkerstroom transferred from the Transvaal in 1903, increased from 46,788 to 87,776, i.e. by 87·60 per cent. The 1891 figures include *mixed races* not specified separately. The number of these was small, and its inclusion would not affect materially the rate of increase. During the period 1904 to 1911 the white population was practically stationary, there having been a decrease of 4,263 males (of which number 1,300 are accounted for by the reduction of military garrisons) and an increase of 5,268 females. Between 1911 and 1921 the white population increased by 39,000, of whom 46 per cent. were males. The Asiatic increase of 7,419 in the same period was composed entirely of females. The male Asiatic population declined by 541 and the male Indian population by 1,261. The following tables show the population and the numbers of each race and sex according to the Censuses of 1891, 1904, 1911, and 1921, and the white population according to the Census of 1918:—

## (i) NATAL.—POPULATION AT EACH CENSUS.

CENSUS YEAR.	ALL RACES.			WHITE.		COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.
1891.....	543,913	268,062	275,851	25,787	21,001	242,275	254,850
1904.....	1,108,754	550,631	558,123	56,758	40,351	493,873	517,772
1911.....	1,194,043	564,648	629,395	52,495	45,619	512,153	583,776
1918.....	—	—	—	62,745	59,186	—	—
1921*.....	1,427,706	707,479	720,227	70,789	66,906	636,690	653,321

\* Preliminary unaudited figures.

## (ii) NATAL—COLOURED POPULATION AT EACH CENSUS.

CENSUS YEAR.	ALL COLOURED PERSONS.			BANTU.		ASIATIC.		MIXED AND OTHER COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1891.....	497,125	242,275	254,850	216,589	239,394	25,686	15,456	—	—
1904.....	1,011,645	493,873	517,772	426,766	477,275	63,197	37,421	3,610	3,076
1911.....	1,095,929	512,153	583,776	427,061	526,337	80,490	52,949	4,602	4,490
1921*....	1,290,011	638,630	651,321	551,316	537,467	79,949	60,909	5,425	4,945

6. **Population of Transvaal.**—In 1890 the European population of the Transvaal as now constituted was 113,713. In 1904 the number had risen to 297,277, and in 1911 it stood at 420,562. The figures for 1904 and 1911 include respectively about 8,200 and 5,000 men of the military garrison. The normal population for the years 1904 and 1911 was therefore 289,000 and 416,000 respectively, marking increases as follows between the various census dates to 1921:—

1890 to 1904 .....	175,000, equal to 153·51 per cent.
1904 „ 1911 .....	127,000, „ 43·94 „
1890 „ 1911 .....	302,000, „ 264·91 „
1911 „ 1921 .....	128,000, „ 30·76 „
1890 „ 1921 .....	430,000, „ 378·23 „

The Districts of Benoni, Springs, Boksburg, Germiston, Johannesburg, and Krugersdorp form the Witwatersrand gold-mining area, which showed the largest increase, and accounts for more than half of the numerical increase of the Province.

The following tables give the returns of population at the various censuses classified according to race and sex:—

## (i) TRANSVAAL—POPULATION AT EACH CENSUS.

CENSUS YEAR.	ALL RACES.			WHITE.		COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.
1890.....	—	—	—	66,498	52,630	—	—
1904.....	1,269,951	702,569	567,382	178,244	119,033	524,325	448,349
1911.....	1,686,212	971,555	714,657	236,913	183,649	734,642	531,008
1918.....	—	—	—	260,840	238,507	—	—
1921*.....	2,087,772	1,159,769	928,003	284,337	259,336	875,432	668,667

## (ii) TRANSVAAL—COLOURED POPULATION AT CENSUSES OF 1904, 1911, AND 1921.

CENSUS YEAR.	ALL COLOURED PERSONS.			BANTU.		ASIATIC.		MIXED AND OTHER COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1904.....	972,674	524,325	448,349	499,719	437,408	9,799	1,522	14,807	9,419
1911.....	1,265,650	734,642	531,008	705,862	513,983	9,018	2,054	19,762	14,971
1921*....	1,544,099	875,432	668,667	849,353	649,313	10,524	4,528	15,555	14,826

\* Preliminary unaudited figures.

7. **Population of Orange Free State.**—The first census of the Orange Free State was taken in 1880, when the white population was returned as 61,022. According to the next census in 1890 the population had increased to 77,716, an increase of 16,694, or 27·36

per cent. in ten years. Making allowance for troops stationed in the Province in 1904 and 1911, the figures for those two years are 135,000 and 171,000 respectively, showing increases as follows between the various census dates to 1921:—

1890 to 1904 ..	an increase of 57,000, equal to	73.08 per cent.
1904 to 1911 ..	"	36,000, " 26.67 "
1890 to 1911 ..	"	93,000, " 119.23 "
1911 to 1921 ..	"	14,000, " 8.00 "
1890 to 1921 ..	"	107,000, " 137.68 "

The following tables give the returns of population at the censuses of 1890, 1890, 1904, 1911, and 1921, classified according to race and sex, and of the white population at the census of 1918:—

(i) **ORANGE FREE STATE.—POPULATION AT EACH CENSUS.**

CENSUS YEAR.	ALL RACES.			WHITE.		COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.
1890.....	193,518	70,150	63,368	31,906	29,116	38,244	34,252
1890.....	207,503	108,362	99,141	40,571	37,145	67,791	61,996
1904.....	387,316	210,095	177,220	81,571	61,108	128,524	116,112
1911.....	528,174	277,518	250,656	94,488	80,701	183,030	169,955
1918.....	—	—	—	93,989	87,709	—	—
1921*.....	628,802	321,273	307,529	98,024	91,184	223,249	216,345

(ii) **ORANGE FREE STATE.—COLOURED POPULATION AT EACH CENSUS.**

CENSUS YEAR.	ALL COLOURED PERSONS.			BANTU.		ASIATIC.		MIXED AND OTHER COLOURED.	
	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1890.....	72,496	38,244	34,252	—	—	—	—	—	—
1890.....	129,787	67,791	61,996	—	—	—	—	—	—
1904.....	244,636	128,524	116,112	117,906	107,195	197	56	10,421	8,861
1911.....	352,985	183,030	169,955	168,585	157,239	88	20	14,357	12,696
1921*.....	430,594	223,249	216,345	214,222	208,223	139	77	8,888	8,045

\* Preliminary unaudited figures.

§ 2. **Analysis of Population of Union.**

1. **Density of the Population.**—The total area of the Union is 473,089 square miles, divided between the Provinces as follows:—

**AREA OF UNION AND PROVINCES.**

PROVINCE.	Area in Square Miles.	Proportion per Cent. of Total Area of Union.	Proportion per Cent. of Total Population, Census, 1911.	Proportion per Cent. of Total Population, Census, 1921.†
Cape of Good Hope.....	276,966	58.54	42.94	40.17
Natal.....	35,284	7.46	19.99	20.62
Transvaal.....	110,450	23.35	28.23	30.14
Orange Free State.....	50,389	10.65	8.84	9.07
UNION.....	473,089	100.00	100.00	100.00

† Figures subject to modification when final results are available.

The Cape, although the largest, was in 1921\* the most thinly populated Province, while Natal with the smallest area had the largest number of persons to the square mile, each individual having only 15·82 acres, compared with 66·70 in the Cape Province, 51·29 in the Orange Free State, and 33·86 in the Transvaal. The number of persons to the square mile for the Union was 14·64, of whom 3·22 were of European race and 11·42 of other races. The density of the population in each of the four Provinces in census years was as follows:—

**DENSITY OF POPULATION, 1921. AND PREVIOUS CENSUS YEARS.**

(Number per square mile.)

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Union.
<b>WHITE PERSONS.</b>					
1865.....	0·92	—	—	—	—
1875.....	1·18	—	—	—	—
1880.....	—	—	—	1·21	—
1890.....	—	—	1·05	1·54	—
1891.....	1·70	2·29	—	—	—
1904.....	2·09	2·74	2·69	2·83	2·36
1911.....	2·10	2·78	3·81	3·48	2·70
1918.....	2·23	3·45	4·51	3·60	3·01
1921*.....	2·36	3·90	4·92	3·76	3·22

<b>COLOURED PERSONS.</b>					
1865.....	1·60	—	—	—	—
1875.....	2·42	—	—	—	—
1880.....	—	—	—	1·44	—
1890.....	—	—	—	2·58	—
1891.....	5·20	24·30	—	—	—
1904.....	6·61	28·60	8·81	4·86	8·56
1911.....	7·16	31·05	11·46	7·00	9·93
1921*.....	7·69	36·56	13·98	8·72	11·42

<b>TOTAL—ALL RACES.</b>					
1865.....	2·52	—	—	—	—
1875.....	3·60	—	—	—	—
1880.....	—	—	—	2·65	—
1890.....	—	—	—	4·12	—
1891.....	6·90	26·59	—	—	—
1904.....	8·70	31·34	11·50	7·69	10·92
1911.....	9·26	33·83	15·27	10·48	12·63
1921*.....	10·05	40·46	18·90	12·48	14·64

\* Figures subject to modification when the final results are available.  
 † Census of Europeans only.

**2. Densely and Sparsely Populated Districts.**—The subjoined table gives (a) the ten most thickly populated and (b) the ten most sparsely populated districts of the Union according to the preliminary returns of the Census of 1921:—

**(a) DENSELY POPULATED DISTRICTS. (b) SPARSELY POPULATED DISTRICTS.**

District.	Persons to the Sq. Mile.			District.	Persons to the Sq. Mile.		
	All Races.	White.	Colo'ed.		All Races.	White.	Colo'ed.
Johannesburg.....	1597·85	832·94	764·91	Gordonia.....	0·73	0·26	0·47
Durban.....	1481·69	540·79	940·90	Fraserburg.....	0·95	0·50	0·45
Benoni.....	676·92	198·85	478·07	Kenhardt.....	1·00	0·54	0·46
Boksburg.....	508·04	166·23	341·81	Namaqualand.....	1·22	0·35	0·87
Germiston.....	460·69	188·87	271·82	Calvinia.....	1·25	0·58	0·67
Cape.....	419·10	224·11	194·09	Sutherland.....	1·30	0·72	0·58
Wynberg.....	412·11	183·23	228·88	Carnarvon.....	1·31	0·58	0·73
Port Elizabeth.....	306·01	147·85	158·16	Prieska.....	1·47	0·61	0·86
Springs.....	191·49	42·69	148·80	Van Rhynsdorp.....	1·67	0·87	0·80
Inanda.....	160·26	9·09	151·17	Vryburg.....	1·74	0·35	1·39

**3. Density Compared with other Countries.**—The table given hereunder shows for the purposes of comparison with the Union the density of population in various countries at the latest available dates :—

**DENSITY OF POPULATION IN VARIOUS COUNTRIES.**

Country.	Density.*	Country.	Density.*
Belgium (1919).....	665·12	Swaziland (1921).....	16·02
United Kingdom (1921).....	481·89	New Zealand (1921).....	11·61
Italy (1920).....	319·63	Argentina (1914).....	6·83
German Empire (1910).....	310·96	Southern Rhodesia (1921).....	5·92
British India (1921).....	226·09	Canada (1911).....	1·90
France (1921).....	176·14	Commonwealth of Australia (1921)	1·82
Spain (1914).....	103·49	South-West Africa (1921).....	0·71
Basutoland (1921).....	42·57	UNION OF SOUTH AFRICA (1921)	14·64
United States of America (1920)	35·50		
Sweden (1920).....	34·11		

\* Number of persons to the square mile.

**4. Distribution of Races in Urban and Rural Areas.**—The table hereunder shows the distribution of races between urban and rural areas in the Union according to the returns at the Censuses of 1911, 1918, and 1921, the races being distinguished as White and Coloured, the latter being subclassified as Bantu and Mixed and Other Coloured (including Asiatica) :—

**DISTRIBUTION OF POPULATION BETWEEN URBAN AND RURAL AREAS ACCORDING TO RACES AND SEX, 1911, 1918, AND 1921.**

UNION.	URBAN AREAS.			RURAL AREAS.		
	Male.	Female.	Total.	Male.	Female.	Total.
White Population, 1911.....	353,380	304,906	658,286	331,784	286,172	617,956
Coloured Population, 1911.....	570,111	249,471	819,582	1,814,117	2,063,453	3,877,570
<b>TOTAL, ALL RACES, 1911</b>	<b>923,491</b>	<b>554,377</b>	<b>1,477,868</b>	<b>2,145,901</b>	<b>2,349,625</b>	<b>4,495,526</b>
White Population, 1918.....	382,458	384,391	766,849	346,408	308,524	654,932
White Population, 1921*.....	422,937	423,394	846,331	360,248	315,863	676,111
Coloured Population, 1921*.....	588,025	296,114	884,139	2,165,796	2,354,015	4,520,411
<b>TOTAL, ALL RACES, 1921*</b>	<b>1,010,962</b>	<b>719,508</b>	<b>1,730,470</b>	<b>2,526,044</b>	<b>2,670,478</b>	<b>5,196,522</b>

\* Preliminary figures.

5. **Proportions of Races in Urban and Rural Areas.**—Details of the proportions of the four main race divisions of the population in the urban and rural areas of the Union are given in the subjoined table as returned at the Census of 1921:—

**PROPORTIONS OF RACES IN URBAN AND RURAL AREAS, UNION, 1921.\***

RACE.	PROPORTION PER CENT. OF EACH RACE.		PERCENTAGE DISTRIBUTION OF RACES.	
	Urban Population.	Rural Population.	Urban Areas.	Rural Areas.
White.....	48·91	13·01	51·58	48·42
Bantu.....	33·92	79·14	12·49	87·51
Asiatic.....	2·90	2·19	30·59	69·41
Mixed and Other Coloured.....	14·27	5·66	45·65	54·35
TOTAL.....	100·00	100·00	24·98	75·02

The percentage of the urban population returned as White varied from 46·55 in Transvaal to 52·88 in the Orange Free State. The percentage of the rural population similarly returned presented marked contrasts, the Cape and Transvaal Provinces being almost on a level with 14·14 and 15·42 per cent. respectively, while Natal had only 4·47 per cent. and the Orange Free State had 23·47 per cent.

6. **Population Returns for Principal Towns.**—The following table gives a list of all towns (including suburbs) in the Union with a population of 2,000 White persons and over as returned at the Census of 1921.

Columns have been added to show the relative order of the towns, according to their white populations, at the censuses of 1911, 1918, and 1921. In 1911 there were 35 towns with a white population of over 2,000; in 1918 the number was 46; and in 1921 it was 54. Jagersfontein, which in 1911 and 1918 had a white population of more than 2,000, in 1921 fell below that number, and is not shown in the table.

**PRINCIPAL TOWNS (INCLUDING SUBURBS) IN THE UNION CLASSIFIED ACCORDING TO THE NUMBER OF INHABITANTS OF WHITE RACE, CENSUS, 1911, 1918, AND 1921.**

TOWN.	PROVINCE.	POPULATION, 1921.*			RELATIVE ORDER. CENSUS OF		
		White.	Coloured.	All Races.	1921.	1918.	1911.
<b>OVER 20,000—</b>							
Johannesburg.....	Transvaal.....	149,853	132,005	281,658	1	1	1
Cape Town.....	Cape.....	112,915	94,078	206,993	2	2	2
Durban.....	Natal.....	55,891	87,182	143,073	3	3	4
Pretoria.....	Transvaal.....	45,103	28,607	73,770	4	4	3
Port Elizabeth.....	Cape.....	25,940	19,987	45,927	5	5	5
East London.....	Cape.....	20,340	14,251	34,591	6	8	8
<b>OVER 10,000 AND LESS THAN 20,000—</b>							
Bloemfontein.....	Orange Free State.	19,333	19,532	38,865	7	11	10
Kimberley.....	Cape.....	18,225	21,095	39,320	8	9	6
Pietermaritzburg.....	Natal.....	17,472	17,005	35,077	9	6	9
Germiston.....	Transvaal.....	15,083	26,535	42,218	10	10	7
Benoni.....	Transvaal.....	14,474	33,078	47,552	11	7	13
Krugersdorp.....	Transvaal.....	13,494	29,031	42,525	12	12	11
Boksburg.....	Transvaal.....	12,408	25,709	38,115	13	13	12
<b>OVER 5,000 AND LESS THAN 10,000—</b>							
Potchefstroom.....	Transvaal.....	8,221	5,157	13,378	14	14	14
Uitenhage.....	Cape.....	7,815	6,368	14,183	15	16	17
Grahamstown.....	Cape.....	7,214	7,657	14,871	16	17	16
Roo-depoort-Maraisburg	Transvaal.....	7,145	10,855	24,000	17	15	15
Brakpan.....	Transvaal.....	7,108	17,023	24,729	18	↑	↑
King William's Town..	Cape.....	5,968	3,649	9,617	19	18	18
Paarl.....	Cape.....	5,799	6,636	12,435	20	19	20
Oudtshoorn.....	Cape.....	5,560	5,129	10,689	21	20	19
Queenstown.....	Cape.....	5,220	7,595	12,815	22	21	22

\* Preliminary figures.

† Not yet an urban area.

**PRINCIPAL TOWNS (INCLUDING SUBURBS) IN THE UNION CLASSIFIED ACCORDING TO THE NUMBER OF INHABITANTS OF WHITE RACE, CENSUSES 1911, 1918 AND 1921—continued.**

TOWN.	PROVINCE.	POPULATION, 1921.*			RELATIVE ORDER, CENSUS OF		
		White.	Coloured.	All Races.	1921.	1918.	1911.
<b>OVER 2,000 AND LESS THAN 5,000—</b>							
Graaff-Reinet.....	Cape.....	4,504	4,738	9,242	23	23	21
Springs.....	Transvaal.....	4,474	14,827	19,301	24	28	†
Kroonstad.....	Orange Free State	4,259	5,033	9,292	25	25	26
Worcester.....	Cape.....	3,901	4,730	8,631	26	24	24
Stellenbosch.....	Cape.....	3,701	3,606	7,307	27	26	27
Bethlehem.....	Orange Free State	3,555	2,939	6,494	28	34	†
Craddock.....	Cape.....	3,272	3,519	6,791	29	27	25
Klerksdorp.....	Transvaal.....	3,192	2,500	5,692	30	37	29
Ladysmith.....	Natal.....	3,191	3,468	6,659	31	29	31
Simonstown.....	Cape.....	3,026	2,374	5,400	32	32	26
Beaufort West.....	Cape.....	3,004	3,136	6,140	33	30	34
George.....	Cape.....	2,931	1,875	4,806	34	35	33
Ermenlo.....	Transvaal.....	2,742	1,804	4,546	35	40	†
Middelburg.....	Transvaal.....	2,694	2,322	5,016	36	38	†
Wellington.....	Cape.....	2,668	2,490	5,158	37	33	32
Parls.....	Orange Free State	2,651	1,012	3,663	38	41	†
Mossel Bay.....	Cape.....	2,649	4,053	5,702	39	36	†
Robertson.....	Cape.....	2,606	1,815	4,421	40	31	30
Harrismith.....	Orange Free State	2,549	3,684	6,233	41	32	23
Allwal North.....	Cape.....	2,432	3,855	6,287	42	39	†
Pietersburg.....	Transvaal.....	2,412	3,588	6,000	43	42	†
Bloemhof.....	Transvaal.....	2,292	1,161	3,453	44	†	†
Malmesbury.....	Cape.....	2,248	1,830	4,078	46	†	†
Volksrust.....	Transvaal.....	2,193	1,086	3,279	46	†	†
Somerset East.....	Cape.....	2,161	2,896	5,057	47	44	†
Middelburg.....	Cape.....	2,093	2,278	4,371	48	†	†
Standerton.....	Transvaal.....	2,089	1,913	4,002	49	†	†
Heldeberg.....	Transvaal.....	2,084	1,317	3,401	50	†	†
Ladybrand.....	Orange Free State	2,080	1,614	3,694	51	†	†
Vryheid.....	Natal.....	2,075	1,935	4,010	52	†	†
Newcastle.....	Natal.....	2,055	2,219	4,274	53	43	†
Ficksburg.....	Orange Free State	2,027	1,295	3,322	54	45	†

\* Preliminary figures. † Not yet constituted an urban area. ‡ Below 2,000.

**7. Population of Each District in the Union.**—Particulars are given in the subjoined tables as to the population of each district in the Union, classified according to race, as returned at the Censuses of 1911, 1918, and 1921. The area in square miles of each district is given.

**POPULATION IN EACH DISTRICT OF THE UNION, CLASSIFIED ACCORDING TO RACE, CENSUSES 1911, 1918, AND 1921.**

District.	Area in Square Miles.	White.			Native and Other Coloured.		All Races.	
		1911.	1918.	1921.*	1911.	1921.*	1911.	1921.*
<b>CAPE OF GOOD HOPE.</b>								
Aberdeen.....	2,661	4,772	4,229	3,680	4,706	3,896	9,538	7,578
Adelaide.....	610	2,324	2,137	2,052	7,558	6,721	9,882	8,773
Albany.....	1,645	10,666	9,861	9,747	21,737	20,800	32,403	30,347
Albert.....	1,958	6,625	6,095	5,966	8,084	9,628	14,709	15,594
Alexandria.....	947	2,803	2,850	2,740	12,287	10,507	15,090	15,247
Allwal North.....	1,330	6,795	6,417	6,357	9,630	11,246	16,425	17,603
Barkly East.....	1,564	4,286	3,729	3,517	5,291	6,109	9,577	9,626
Barkly West.....	4,024	6,848	7,888	8,120	30,010	27,804	36,858	35,924
Bathurst.....	573	2,025	2,342	2,508	10,377	11,001	12,492	13,507
Beaufort West.....	6,374	5,198	5,565	5,923	6,784	8,124	11,982	14,047
Bedford.....	1,000	1,950	1,971	1,994	8,481	7,650	10,431	9,644
Bredasdorp.....	1,577	4,933	5,798	5,852	3,854	4,660	8,787	10,512
Britatown.....	2,949	2,524	2,502	2,268	2,965	3,012	5,489	5,280
Caledon.....	1,768	9,456	10,451	11,106	7,928	10,391	17,384	21,497
Calvinia.....	13,894	7,115	7,997	8,101	6,801	9,305	14,005	17,406
Cape.....	364	64,619	72,180	81,577	60,725	70,976	125,344	152,553

\* Preliminary figures.

POPULATION IN EACH DISTRICT OF THE UNION, CLASSIFIED ACCORDING TO RACE, CENSUSES 1911, 1918, AND 1921—*continued.*

District.	Area in Square Miles.	White.			Native and Other Coloured.		All Races.	
		1911.	1918.	1921.*	1911.	1921.*	1911.	1921.*
<i>CAPE OF GOOD HOPE—continued.</i>								
Carnarvon.....	6,286	3,860	3,614	3,634	4,256	4,609	8,116	8,243
Cathcart.....	995	2,430	2,348	2,270	10,088	11,040	12,516	14,225
Ceres.....	3,871	3,420	3,418	3,623	4,337	4,723	7,757	8,346
Clanwilliam.....	2,899	5,208	5,705	5,861	6,104	6,290	11,307	12,151
Colesberg.....	2,394	3,728	3,571	3,708	6,497	7,733	10,225	11,441
Craddock.....	2,256	6,128	5,919	5,948	11,000	12,409	17,128	18,357
De Aar.....	1,043	1,510	2,520	2,923	2,595	4,417	4,106	7,340
East London.....	682	18,146	21,223	24,053	29,565	37,289	47,711	61,342
Elliot.....	786	3,985	3,717	3,711	4,279	5,392	8,264	9,103
Fort Beaufort.....	515	1,938	1,810	1,718	12,049	10,970	13,987	12,698
Fraserburg.....	9,950	4,600	5,105	4,921	3,459	4,515	8,059	9,436
George.....	979	7,264	9,005	9,526	8,130	8,737	15,394	18,263
Glen Grey.....	907	775	746	710	49,961	42,832	50,736	43,542
Graaff-Reinet.....	2,576	7,255	6,835	7,391	11,718	12,627	18,973	19,018
Hanover.....	1,731	1,758	1,496	1,572	2,287	3,017	4,045	4,589
Hay.....	6,526	4,037	4,452	4,404	7,781	8,780	12,698	13,283
Herbert.....	2,763	3,065	3,896	4,224	8,107	9,896	11,172	14,120
Herschel.....	684	272	209	218	38,806	37,843	39,078	38,081
Hope Town.....	3,214	3,294	2,765	2,685	3,114	3,220	6,408	5,914
Humansdorp.....	1,050	6,380	7,612	8,101	10,293	12,781	16,623	20,882
Jansenville.....	1,768	5,410	4,891	4,921	5,491	6,424	10,901	11,345
Kenhardt.....	15,956	6,955	7,349	8,687	5,270	7,331	12,225	15,968
Kimberley.....	1,764	20,878	20,769	21,531	43,478	30,302	64,352	51,833
King Williams Town.....	1,314	10,333	10,581	10,837	96,141	93,408	106,474	104,245
Knyana.....	810	5,020	5,880	5,587	5,574	6,398	10,603	11,985
Komgha.....	546	1,728	1,756	1,571	14,627	13,525	16,355	15,006
Ladismith.....	1,393	5,861	5,679	5,625	4,841	4,463	10,702	10,088
Lalingsburg.....	3,483	3,387	3,758	3,881	2,514	2,604	5,901	6,485
Maclear.....	992	2,172	2,174	2,515	8,694	5,650	5,866	8,165
Malmesbury.....	2,325	13,975	14,476	14,766	17,495	20,430	31,470	35,190
Maraisburg.....	902	1,770	1,653	1,580	2,942	2,997	4,062	4,577
Middelburg.....	2,193	4,790	4,439	4,534	8,068	6,302	12,838	13,830
Molteno.....	914	2,993	2,826	2,910	5,178	5,709	8,171	8,344
Montagu.....	706	3,012	4,007	3,610	3,978	3,174	6,990	7,084
Mossel Bay.....	707	5,965	6,561	6,681	5,716	6,455	11,681	13,136
Murraysburg.....	2,055	1,598	1,466	1,480	3,096	3,150	4,669	4,639
Namaqualand.....	17,556	5,480	6,327	6,131	17,720	15,321	23,209	21,452
Oudtshoorn.....	1,733	18,679	17,534	16,880	18,425	18,236	37,104	35,216
Paarl.....	618	11,540	12,767	13,567	18,957	21,688	30,497	36,255
Pearston.....	1,045	1,971	1,730	1,613	3,286	3,247	5,267	4,869
Peddie.....	657	1,588	1,536	1,412	19,363	20,972	20,946	22,384
Phillipstown.....	2,158	2,699	2,562	2,499	2,785	3,414	5,484	5,913
Piquetberg.....	1,760	10,668	11,264	11,350	6,927	8,267	17,595	19,617
Port Elizabeth.....	184	20,755	24,445	27,204	23,346	20,102	44,101	56,305
Prinska.....	5,643	3,565	3,502	3,426	4,028	4,874	7,593	8,309
Prince Albert.....	3,148	3,750	3,706	3,574	3,047	3,357	6,797	6,901
Queenstown.....	1,740	7,285	6,050	6,735	25,620	29,923	32,905	38,654
Richmond.....	2,827	1,966	1,709	1,696	3,299	3,785	5,295	5,480
Riversdale.....	1,712	8,937	9,046	9,279	6,166	5,989	15,103	16,268
Robertson.....	620	5,567	5,822	5,871	5,078	5,553	9,645	11,424
Simonstown.....	101	5,225	6,056	6,729	4,197	5,894	9,422	14,623
Somerset East.....	2,102	5,671	5,597	5,416	12,071	11,913	17,742	17,332
Stellenbosch.....	318	8,305	9,588	11,411	13,565	17,659	21,900	29,070
Steynsburg.....	1,118	2,514	2,520	2,417	3,111	3,972	5,625	6,389
Steylerville.....	1,349	3,283	2,993	2,844	3,651	3,468	6,941	6,992
Stoekenstron.....	314	2,030	1,860	1,777	8,611	8,994	10,641	10,741
Stutterheim.....	629	2,468	2,393	2,484	10,839	12,720	13,306	15,210
Sutherland.....	3,426	2,298	2,582	2,783	4,484	4,862	6,841	7,465
Swellendam.....	2,145	8,392	8,929	9,368	7,417	7,848	15,909	17,216
Tarka.....	1,347	2,648	2,426	2,426	6,633	7,761	9,281	10,010
Tulbagh.....	373	2,316	2,586	2,654	5,214	5,812	7,680	7,960
Uitenhage.....	2,345	11,778	12,981	14,181	18,087	21,762	29,566	35,943
Unklonde.....	1,690	5,823	6,314	6,094	5,813	6,234	11,636	12,328
Van Rhynsdorp.....	5,026	3,253	4,203	4,348	2,704	4,033	6,047	6,381
Victoria East.....	384	1,439	1,328	1,314	14,636	13,737	16,275	15,051
Victoria West.....	4,254	3,317	3,135	3,301	4,197	5,028	7,514	8,419
Willowmore.....	2,813	4,780	4,596	4,210	4,846	4,650	6,635	6,899
Wodehouse.....	1,606	7,619	6,966	6,966	15,466	13,109	23,106	20,075
Worcester.....	1,667	7,381	8,209	8,807	11,740	13,549	19,190	22,350
Wynberg.....	198	27,817	31,995	36,279	34,670	45,319	62,487	81,598
TOTAL.....	208,661	552,439	585,021	614,076	1,015,711	1,081,407	1,568,150	1,695,481

\* Preliminary unaudited figures.



POPULATION IN EACH DISTRICT OF THE UNION, CLASSIFIED ACCORDING TO RACE, CENSUSES 1911, 1918 AND 1921—*continued.*

District.	Area in Square Miles.	White.			Native and Other Coloured.		All Races.	
		1911.	1918.	1921.*	1911.	1921.*	1911.	1921.*
<b>CAPE OF GOOD HOPE—<i>continued.</i></b>								
<i>Bechuanaland—</i>								
Gordonia....	18,499	3,350	4,757	4,791	9,674	8,704	13,024	13,495
Kuruman....	11,125	3,834	4,361	4,713	13,690	16,682	17,524	21,395
Mafeking....	4,265	2,741	3,834	4,358	21,837	30,246	24,578	34,604
Taung.....	1,442	696	1,041	1,202	22,113	20,841	22,800	22,043
Vryburg....	16,193	4,296	4,723	5,578	17,322	22,563	21,618	28,141
<b>TOTAL.....</b>	<b>51,524</b>	<b>14,917</b>	<b>18,716</b>	<b>20,642</b>	<b>84,636</b>	<b>99,036</b>	<b>99,553</b>	<b>119,678</b>
<i>Transkeian Territories—</i>								
E. Griqualand								
Matatiele....	1,317	1,701	1,810	1,862	37,174	42,835	38,875	44,694
Mount Ayliff.	369	242	190	207	18,970	20,271	19,212	20,478
Mount Currie	1,084	1,960	2,070	2,336	13,201	16,420	15,161	18,756
Mount Fletcher	929	276	289	240	27,277	26,479	27,553	26,719
Mount Frere.	684	318	287	351	37,964	42,888	38,282	43,239
Qumbu.....	564	240	259	267	33,491	35,022	33,731	35,289
Toolo.....	649	344	418	428	32,775	33,725	33,119	34,153
Umzimkulu..	1,006	697	543	564	86,592	40,916	37,280	41,480
<i>Tembuland—</i>								
Elliotdale...	299	213	220	255	28,108	30,755	28,321	31,010
Engcobo....	1,063	634	652	625	61,421	59,290	62,055	59,915
Mqanduli....	508	257	292	307	35,241	41,631	35,498	41,938
St. Marks....	471	392	394	382	38,649	37,626	39,041	38,008
Umtata.....	632	1,708	1,989	2,333	43,070	46,302	45,678	48,695
Xalanga....	306	829	745	793	16,010	15,120	16,839	15,913
<i>Transkei—</i>								
Butterworth.	263	741	729	750	21,003	20,098	21,744	20,848
Idutywa....	448	400	425	441	30,308	31,413	30,708	31,854
Kentani....	434	236	280	273	36,539	40,791	36,775	41,084
Nqamakwe..	425	242	256	246	31,300	33,853	31,582	34,099
Tsomo.....	397	243	217	246	26,171	27,049	26,414	27,295
Willowvale.	537	287	321	322	41,385	42,429	41,672	42,751
<i>Pondoland—</i>								
Bizana.....	709	235	175	215	42,484	45,392	42,719	45,607
Flag-staff..	428	198	198	200	27,071	32,218	28,169	32,418
Libode.....	535	148	147	167	25,400	29,128	25,638	29,295
Lusikisiki..	931	220	165	232	44,534	54,269	44,754	54,501
Nqoleni....	446	150	154	184	36,964	40,621	37,114	40,805
Port St. John	340	315	310	324	18,212	21,491	18,527	21,815
Tabankulu..	517	117	162	178	37,599	40,330	37,716	40,514
<b>TOTAL— TRANSCHEIAN TERRITORIES.</b>	<b>16,351</b>	<b>13,383</b>	<b>13,697</b>	<b>14,728</b>	<b>880,803</b>	<b>948,425</b>	<b>894,186</b>	<b>963,158</b>
Walvis Bay....	430	32	151	282	605	910	637	1,192
Travellers by Rail	—	1,006	1,240	2,138	833	1,068	2,439	3,206
<b>TOTAL—CAPE OF GOOD HOPE</b>	<b>276,966</b>	<b>582,377</b>	<b>618,825</b>	<b>651,866</b>	<b>1,982,588</b>	<b>2,130,846</b>	<b>2,564,965</b>	<b>2,782,712</b>

\* Preliminary unaudited figures.

POPULATION IN EACH DISTRICT OF THE UNION, CLASSIFIED ACCORDING TO RACE, CENSUSES 1911, 1918, AND 1921—*continued.*

District.	Area in Square Miles.	White.			Native and Other Coloured.		All Races.	
		1911.	1918.	1921.*	1911.	1921.*	1911.	1921.*
<b>NATAL.</b>								
Alfred.....	570	407	615	649	26,501	28,372	26,998	29,021
Bergville.....	1,100	571	792	927	14,983	18,477	15,554	19,404
Camperdown.....	368	917	982	1,080	17,272	18,890	18,189	19,970
Dundee.....	836	3,405	4,285	5,049	29,495	34,250	32,900	39,209
Durban.....	108	38,317	49,604	58,405	29,020	101,618	107,337	160,023
Edcourt.....	1,846	574	3,113	3,605	3,881	35,512	41,598	45,479
Helmskaars.....	574	451	394	441	22,820	25,526	23,071	25,967
Impendhle.....	700	485	408	400	9,458	9,863	9,943	10,263
Inanda.....	444	2,579	3,047	4,037	59,643	67,119	50,222	71,156
Ixopo.....	970	995	1,247	1,416	46,267	52,507	47,262	63,923
Klip River.....	1,345	3,685	4,304	4,971	37,916	42,506	41,601	47,477
Krantkop.....	447	342	427	438	18,425	21,290	18,767	21,723
Lions River.....	825	1,494	1,763	2,135	11,483	14,844	12,977	16,979
Lower Tugela.....	453	919	1,175	1,635	43,497	46,163	4,416	47,798
Mapumulo.....	327	65	60	68	20,846	31,352	26,911	31,420
Mpofana.....	381	27	31	35	21,997	31,151	22,024	31,186
Newcastle.....	1,120	4,000	4,523	4,663	27,961	31,891	31,961	36,854
New Hanover.....	520	1,776	1,847	1,856	18,031	22,686	19,807	24,542
Nogotshe.....	1,400	474	543	656	24,011	25,751	24,485	26,407
Paulpietersburg.....	618	1,055	1,437	1,483	13,064	12,928	14,110	14,411
Pietermaritzburg.....	410	15,895	19,847	18,867	38,399	42,300	54,294	61,167
Pinetown.....	416	1,954	2,528	3,000	39,077	40,025	41,031	43,025
Polela.....	1,210	806	906	1,030	16,846	23,303	17,742	24,333
Port Shepstone.....	534	1,042	1,306	1,632	30,100	36,744	31,142	38,376
Richmond.....	520	880	966	963	21,031	23,182	21,911	24,145
Umvoti.....	861	1,944	2,028	2,194	30,193	33,821	32,137	36,015
Umzinto.....	670	1,233	1,658	1,917	51,345	58,514	52,578	60,431
Utrecht.....	2,048	2,792	2,667	2,784	24,611	27,306	27,403	30,090
Vryheid.....	2,882	3,278	4,534	5,605	35,588	48,463	38,866	54,068
Weenen.....	548	735	820	799	19,070	22,038	20,411	23,437
Travellers by Rail.....	—	208	427	401	485	660	753	1,070
<b>TOTAL.....</b>	<b>24,857</b>	<b>95,904</b>	<b>118,842</b>	<b>133,712</b>	<b>878,448</b>	<b>1,035,747</b>	<b>974,437</b>	<b>1,169,459</b>
<b>ZULULAND—</b>								
Eimtonjaneni.....	648	393	509	561	14,902	18,098	15,205	18,659
Eshowe.....	643	501	740	862	34,332	39,078	34,833	39,940
Hlabisa.....	1,438	59	65	79	14,847	16,607	14,906	16,776
Ingwavuma.....	1,650	48	45	41	25,849	26,625	25,897	26,666
LowerUmfoluzi.....	1,057	236	652	1,136	13,056	18,327	13,292	19,463
Mahlabatini.....	611	44	61	65	12,790	15,504	12,834	15,569
Mtunzini.....	431	473	552	680	23,051	25,194	23,524	25,874
Nkandhla.....	741	165	192	167	26,454	38,021	26,619	33,188
Nongoma.....	2,580	72	102	159	29,574	32,355	29,646	32,514
Nqutu.....	628	129	171	233	22,631	29,365	22,760	29,598
<b>TOTAL—Zululand</b>	<b>10,427</b>	<b>2,120</b>	<b>3,089</b>	<b>3,983</b>	<b>217,486</b>	<b>254,284</b>	<b>210,806</b>	<b>258,247</b>
<b>TOTAL—NATAL</b>	<b>35,284</b>	<b>98,114</b>	<b>121,931</b>	<b>137,695</b>	<b>1,095,929</b>	<b>1,290,011</b>	<b>1,194,043</b>	<b>1,427,706</b>
<b>TRANSVAAL.</b>								
Barberton.....	4,681	3,246	3,053	3,816	33,758	43,130	37,004	46,946
Benoni.....	112	8,704	18,242	22,271	24,026	53,544	32,730	75,815
Bethal.....	1,270	5,916	7,260	7,992	7,948	17,719	13,864	25,711
Bloemhof.....	3,194	9,305	12,452	13,690	8,756	16,103	18,061	29,793
Boksburg.....	79	12,057	12,548	13,132	33,709	27,003	45,766	40,135
Carolina.....	2,096	3,691	4,103	4,689	13,269	18,763	16,960	23,442
Ermelo.....	3,003	6,921	8,905	9,902	24,014	34,900	30,935	44,802
Germiston.....	117	20,326	21,973	22,098	44,470	31,803	64,805	53,901
Heidelburg.....	2,316	12,924	15,598	16,748	26,359	36,610	39,283	53,965
Johannesburg.....	184	121,857	140,028	153,261	119,274	140,743	241,131	294,004

\* Preliminary unaudited figure

POPULATION IN EACH DISTRICT OF THE UNION, CLASSIFIED ACCORDING TO RACE, CENSUSES 1911, 1918, AND 1921—*continued.*

District.	Area in Square Miles.	White.			Native and Other Coloured.		All Races.	
		1911.	1918.	1921.*	1911.	1921.*	1911.	1921.*
<i>TRANSVAAL—continued.</i>								
Krugersdorp.....	1,180	27,984	29,417	29,174	75,509	57,468	103,493	86,687
Lichtenburg.....	4,479	10,417	12,811	14,281	14,962	26,988	25,379	41,264
Lydenburg.....	10,176	8,781	10,517	10,917	11,264	123,034	115,045	185,951
Marico.....	3,651	7,946	9,958	10,713	19,194	31,831	27,140	42,544
Middelburg.....	5,029	13,292	17,577	19,121	50,930	76,762	64,251	95,883
Pietersburg.....	13,300	7,520	8,842	10,858	192,571	215,649	200,091	226,507
Piet Retief.....	1,616	2,406	3,025	3,149	25,106	27,567	27,512	30,716
Potchefstroom.....	4,904	30,786	34,662	33,895	38,574	47,948	69,860	81,843
Pretoria.....	6,642	55,293	63,386	68,450	102,251	124,540	157,444	193,006
Rustenburg.....	9,417	15,564	20,066	22,872	47,077	65,687	62,632	88,559
Springa.....	121	1,875	3,506	5,165	6,831	18,005	8,506	23,170
Standerton.....	2,004	9,159	9,077	9,030	16,870	24,306	25,029	33,936
Wakkerstroom.....	2,198	7,538	7,880	8,250	25,685	32,413	33,223	40,663
Waterberg.....	15,921	7,152	10,081	13,145	68,754	80,902	75,915	94,047
Wolmaranstad.....	2,062	7,293	9,783	11,008	6,199	12,128	13,492	23,136
Zoutpansberg.....	10,698	1,921	3,349	4,465	134,053	154,090	135,984	150,164
Travellers by Rail	—	688	1,168	972	480	1,868	1,177	2,840
<b>TOTAL—TRANSVAAL</b>	<b>110,450</b>	<b>420,562</b>	<b>499,347</b>	<b>549,673</b>	<b>1,265,630</b>	<b>1,544,099</b>	<b>1,686,212</b>	<b>2,087,772</b>

**ORANGE FREE STATE.**

Bethlehem.....	2,468	10,069	11,386	12,122	27,961	36,412	38,030	48,584
Bethulle.....	1,124	3,650	3,440	3,695	3,710	4,968	7,600	8,663
Bloemfontein.....	4,401	26,147	26,363	30,004	32,304	38,543	58,451	68,547
Boehof.....	3,941	7,785	7,141	7,557	8,531	9,701	16,316	17,258
Edenburg.....	1,095	3,363	2,952	2,960	4,054	5,119	7,417	8,079
Fauresmith.....	3,548	9,653	8,894	8,746	16,464	11,730	20,117	20,485
Ficksburg.....	736	5,531	6,296	6,442	17,826	20,666	23,357	27,108
Frankfort.....	1,438	6,690	8,035	7,993	9,535	16,470	16,225	24,463
Harrismith.....	3,156	8,792	8,217	8,844	40,640	45,950	49,132	54,794
Hellbron.....	1,861	8,221	9,022	9,438	15,270	23,032	23,191	32,470
Hoopstad.....	3,518	7,160	6,440	6,647	8,344	12,201	15,594	18,848
Jacobedal.....	1,251	1,878	1,668	1,751	2,026	2,702	3,901	4,456
Kroonstad.....	3,441	12,970	14,707	15,933	22,789	36,574	35,759	52,507
Ladybrand.....	1,109	7,842	7,775	7,921	17,901	21,156	25,747	29,077
Lindley.....	1,153	4,040	5,813	5,746	10,853	16,321	15,493	22,067
Phillippolis.....	1,461	2,862	2,680	2,595	2,556	3,782	5,418	6,357
Rouxville.....	1,804	6,927	7,922	7,116	9,271	12,263	16,198	19,379
Senekal.....	1,651	6,720	7,403	7,483	13,029	23,338	24,749	30,821
Smithfield.....	1,461	4,190	3,876	3,533	3,870	4,527	8,060	8,060
Thaba 'Nehoe.....	1,312	3,247	3,007	2,847	24,716	23,297	27,961	26,144
Vrede.....	2,205	4,716	6,084	6,212	16,771	22,880	21,487	29,101
Vredefort.....	1,706	8,200	9,865	10,376	8,479	12,631	16,679	23,097
Wepener.....	840	3,021	2,756	2,646	4,948	5,890	7,909	8,536
Wimburg.....	3,709	10,549	10,219	10,165	25,579	28,943	36,128	39,108
Travellers by Rail	—	366	322	436	558	500	921	936
<b>TOTAL—ORANGE FREE STATE.</b>	<b>50,380</b>	<b>175,189</b>	<b>181,678</b>	<b>189,208</b>	<b>352,985</b>	<b>439,594</b>	<b>528,174</b>	<b>628,802</b>
<b>UNION..</b>	<b>473,080</b>	<b>1,276,242</b>	<b>1,421,781</b>	<b>1,522,442</b>	<b>4,607,152</b>	<b>5,404,550</b>	<b>5,973,394</b>	<b>6,926,992</b>

\* Preliminary unadjusted figures.

8. **Distribution of Coloured Population.**—The subjoined table shows the distribution of the coloured population of the Union in urban and municipal locations and areas in native reserves and other locations (not municipal), in mission stations or mission reserves, and in rural areas (farms, etc.), according to the returns at the Census of 1911:—

**DISTRIBUTION OF THE COLOURED POPULATION OF THE UNION (CENSUS), 1911.**

PROVINCE.	Total Coloured Population.	Municipal Locations and Towns.	Native Reserves and Locations.*	Mission Stations or Reserves.	Rural Areas (Farms, etc.).
<b>BANTU.</b>					
Cape of Good Hope	1,519,939	113,143	1,086,660	15,838	304,298
Natal.....	953,398	35,967	377,149	29,530	510,752
Transvaal.....	1,219,845	316,686	211,549	25,351	666,259
Orange Free State..	325,824	42,346	11,227	1,098	271,153
<b>UNION.....</b>	<b>4,019,006</b>	<b>508,142</b>	<b>1,686,585</b>	<b>71,817</b>	<b>1,752,462</b>

<b>OTHER COLOURED.</b>					
Cape of Good Hope.	462,649	217,327	6,676	16,733	221,913
Natal.....	142,631	54,289	5	—	88,237
Transvaal.....	45,805	31,355	171	1	14,278
Orange Free State.	27,161	8,469	447	253	17,992
<b>UNION.....</b>	<b>678,146</b>	<b>311,140</b>	<b>7,299</b>	<b>16,987</b>	<b>342,420</b>

<b>TOTAL COLOURED POPULATION.</b>					
Cape of Good Hope	1,982,588	330,470	1,093,336	32,571	526,211
Natal.....	1,095,929	90,256	377,154	29,530	598,989
Transvaal.....	1,265,650	348,041	211,720	25,352	686,537
Orange Free State.	352,985	50,815	11,674	1,351	289,145
<b>UNION.....</b>	<b>4,697,152</b>	<b>819,582</b>	<b>1,693,884</b>	<b>88,804</b>	<b>2,094,882</b>

\* Including municipal locations.

9. **Ages of the People.**—The subjoined tables give details in quinquennial age groups as to the number of (i) White persons as returned at the Census of 1918, in comparison with the returns at the Censuses of 1911 and 1904; and (ii) of Coloured persons at the Census of 1911. Urban and rural areas are distinguished.

(i) NUMBER OF PERSONS OF WHITE RACE, IN QUINQUENNIAL AGE GROUPS, IN THE UNION IN 1918 AND 1911, AND IN THE COLONIES, NOW COMPRISING IT, IN 1904, DISTINGUISHING URBAN AND RURAL AREAS.

(Travellers included in Rural.)

AGE GROUPS.	1904.		1911.		1918.		
	Total.	Total.	Urban.	Rural.	Total.	Urban.	Rural.
MALE.							
0-4 Years.....	66,222	94,232	42,272	51,960	96,554	45,586	50,968
5-9 .....	65,493	78,571	35,607	42,964	95,983	46,295	49,688
10-14 .....	63,135	62,890	30,083	32,807	88,877	46,457	42,420
15-19 .....	57,027	63,982	30,988	32,994	55,135	30,953	24,182
20-24 .....	85,169	65,726	34,515	31,211	54,710	27,134	27,576
25-29 .....	80,337	62,716	34,863	28,053	55,544	27,964	27,580
30-34 .....	60,668	61,348	36,699	24,649	50,827	26,008	24,619
35-39 .....	46,111	54,291	32,741	21,550	52,903	30,266	22,637
40-44 .....	34,137	41,382	23,932	17,450	47,468	28,691	18,777
45-49 .....	25,171	31,134	17,187	13,947	40,750	24,316	16,434
50-54 .....	18,903	23,533	12,545	10,988	30,334	17,275	13,059
55-59 .....	12,043	16,962	8,648	8,314	21,474	11,779	9,695
60-64 .....	8,734	11,905	5,774	6,131	16,191	8,582	7,609
65-69 .....	5,105	7,722	3,598	4,124	10,490	5,382	5,108
70-74 .....	3,454	4,380	2,142	2,238	6,187	3,052	3,135
75-79 .....	1,878	2,552	1,162	1,390	3,436	1,706	1,730
80-84 .....	892	1,177	547	630	1,404	686	718
85 Years and Over	350	572	246	326	681	284	397
Unspecified.....	288	89	31	58	118	42	76
TOTAL.....	635,117*	685,164	353,380	331,784	728,866	382,458	346,408

FEMALE.

0-4 Years.....	64,360	91,340	41,161	50,179	92,241	43,805	48,436
5-9 .....	63,533	76,859	35,652	41,207	93,139	46,112	47,027
10-14 .....	60,790	61,567	30,960	30,607	86,738	47,624	39,114
15-19 .....	51,851	61,708	31,150	30,558	59,249	35,747	23,502
20-24 .....	49,168	57,467	29,013	28,454	64,162	36,053	28,109
25-29 .....	44,553	51,270	28,031	23,239	58,726	32,579	26,147
30-34 .....	37,865	44,267	25,449	18,818	50,035	28,631	21,404
35-39 .....	30,082	38,430	22,461	15,969	45,488	27,436	18,052
40-44 .....	22,779	30,096	17,226	12,870	37,845	23,391	14,454
45-49 .....	16,841	23,249	13,306	9,943	31,349	19,153	12,196
50-54 .....	13,405	17,826	9,999	7,827	23,937	14,344	9,593
55-59 .....	9,157	12,751	7,100	5,651	17,028	10,170	6,858
60-64 .....	7,089	9,623	5,318	4,305	12,741	7,543	5,198
65-69 .....	4,310	6,538	3,598	2,940	9,043	5,247	3,796
70-74 .....	2,969	3,970	2,231	1,739	5,472	3,159	2,313
75-79 .....	1,659	2,422	1,311	1,111	3,216	1,896	1,320
80-84 .....	811	1,079	610	469	1,450	848	602
85 Years and Over	371	585	319	266	820	490	330
Unspecified.....	95	31	11	20	236	163	73
TOTAL.....	481,689†	591,078	304,906	286,172	692,915	384,391	308,524

\* Detailed figures not available for Urban and Rural areas. Total Urban, 348,884; total Rural, 286,283.

† Detailed figures not available for Urban and Rural areas. Total Urban, 242,092; total Rural, 239,597.

(i) NUMBER OF PERSONS OF WHITE RACE, IN QUINQUENNIAL AGE GROUPS, IN THE UNION IN 1918 AND 1911, AND IN THE COLONIES, NOW COMPRISING IT, IN 1904, DISTINGUISHING URBAN AND RURAL AREAS—*contd.*

AGE GROUPS.	1904.		1911.		1918.		
	Total.	Total.	Urban.	Rural.	Total.	Urban.	Rural.
PERSONS.							
0-4 Years.....	130,582	185,572	83,433	102,139	188,795	89,391	99,404
5-9 ".....	129,026	155,430	71,259	84,171	189,122	92,407	96,715
10-14 ".....	123,925	124,457	61,043	63,414	175,615	94,081	81,534
15-19 ".....	108,878	125,690	62,138	63,552	114,384	66,700	47,684
20-24 ".....	134,337	123,103	63,528	59,665	118,872	63,187	55,685
25-29 ".....	124,890	113,986	62,694	51,292	114,270	60,543	53,727
30-34 ".....	98,533	105,615	62,148	43,467	100,662	54,639	46,023
35-39 ".....	76,203	92,721	55,202	37,519	98,391	57,702	40,689
40-44 ".....	56,916	71,478	41,158	30,320	85,313	52,082	33,231
45-49 ".....	42,012	54,383	30,493	23,890	72,099	43,469	28,630
50-54 ".....	32,308	41,359	22,544	18,815	54,271	31,619	22,652
55-59 ".....	21,200	29,713	15,748	13,965	38,502	21,949	16,553
60-64 ".....	15,814	21,528	11,092	10,436	28,932	16,125	12,807
65-69 ".....	9,415	14,260	7,196	7,064	19,533	10,629	8,904
70-74 ".....	6,423	8,350	4,373	3,977	11,659	6,211	5,448
75-79 ".....	3,537	4,974	2,473	2,501	6,652	3,602	3,050
80-84 ".....	1,703	2,256	1,157	1,099	2,854	1,534	1,320
85 Years and Over	721	1,157	565	592	1,501	774	727
Unspecified.....	383	120	42	78	354	205	149
<b>TOTAL.....</b>	<b>1,116,806*</b>	<b>1,276,242</b>	<b>658,266</b>	<b>617,956</b>	<b>1,421,781</b>	<b>706,849</b>	<b>654,932</b>

\* Detailed figures not available for Urban and Rural areas. Total Urban, 590,926; total Rural, 525,880.

(ii) NUMBER OF PERSONS OF COLOURED RACE IN AGE GROUPS IN THE UNION AND IN EACH PROVINCE, CENSUS OF 1911.

AGE GROUPS. Years.	UNION.			CAPE.		NATAL.		TRANSVAAL.		O.F.S.	
	Male.	Female.	Total.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
0-14...	954,599	949,849	1,904,448	431,810	430,499	225,966	228,063	222,203	218,619	74,820	72,668
15-39...	1,024,628	937,560	1,962,188	342,832	418,999	197,436	240,005	408,567	213,197	75,793	67,359
40-54...	263,143	253,851	516,994	111,462	110,482	57,523	65,608	74,828	60,488	19,330	17,273
55-69...	101,774	116,842	218,616	47,943	48,062	23,906	34,053	21,235	26,799	8,690	7,928
70 years and over	39,294	54,343	93,637	19,960	21,832	7,185	16,008	7,672	11,856	4,477	4,648
Unspecified...	790	479	1,269	396	311	137	39	137	50	120	79
<b>TOTAL...</b>	<b>2,384,228</b>	<b>2,312,924</b>	<b>4,697,152</b>	<b>954,403</b>	<b>1,028,185</b>	<b>512,163</b>	<b>583,776</b>	<b>734,642</b>	<b>531,008</b>	<b>183,050</b>	<b>169,956</b>

10. **Masculinity.**—The subjoined tables give particulars as to the masculinity (number of males to every 100 females) of the population of the Union and the various races in 1904, 1911, and 1921 (census years), and in respect of each Province in 1921 and in each previous census year. Such information with regard to the white population as ascertained at the Census of 1918 is also given, persons absent from the Union on War service being in each case excluded.

**MASCULINITY OF THE POPULATION OF THE UNION AND PROVINCES FROM THE EARLIEST CENSUS IN EACH CASE.**

YEAR.	WHITE PERSONS.			COLOURED PERSONS.			ALL RACES.		
	Urban.	Rural.	Total.	Urban.	Rural.	Total.	Urban.	Rural.	Total.
<b>CAPE OF GOOD HOPE.</b>									
1865.	—	—	110·7	—	—	103·8	—	—	106·3
1875.	—	—	109·8	—	—	103·0	—	—	105·2
1891.	108·8	109·3	108·2	106·6	97·5	98·7	106·6	99·5	101·0
1904.	127·5	115·8	122·0	114·9	93·4	96·9	121·0	96·5	102·4
1911.	101·3	113·3	107·2	98·7	91·7	92·8	99·9	94·7	95·9
1918.	92·1	116·6	101·2	—	—	—	—	—	—
1921*	94·5	113·3	102·5	96·2	90·7	91·6	95·3	93·6	94·0
<b>NATAL.</b>									
1891.	—	—	122·8	—	—	95·1	—	—	97·2
1904.	150·1	127·5	140·7	—	—	95·4	—	—	98·7
1911.	111·4	122·0	115·1	240·1	80·5	87·7	172·1	81·6	89·7
1918.	103·4	110·1	106·0	—	—	—	—	—	—
1921*	99·7	115·4	105·8	204·7	90·4	97·5	169·1	91·4	98·2
<b>TRANSVAAL.</b>									
1890.	—	—	126·4	—	—	—	—	—	—
1904.	171·2	125·4	149·7	679·0	86·9	117·0	305·2	91·4	123·8
1911.	135·5	120·0	129·0	870·2	85·4	138·4	320·2	90·0	136·0
1918.	106·0	113·6	109·4	—	—	—	—	—	—
1921*	106·4	115·0	109·6	489·5	92·6	130·9	216·2	95·7	125·0
<b>ORANGE FREE STATE.</b>									
1880.	—	—	109·6	—	—	111·7	—	—	110·7
1890.	—	—	109·2	—	—	109·4	—	—	109·3
1904.	187·4	119·4	133·5	153·5	102·0	110·7	160·2	107·4	118·6
1911.	121·6	115·1	117·1	144·7	102·5	107·7	132·1	106·0	110·7
1918.	98·1	112·6	107·1	—	—	—	—	—	—
1921*	98·8	113·6	107·5	109·5	102·1	103·2	103·7	104·7	104·5
<b>UNION.</b>									
1904.	144·1	119·5	131·9	—	—	101·8	—	—	107·6
1911.	115·9	115·9	115·9	228·5	87·9	103·1	166·6	91·3	105·7
1918.	99·5	112·3	105·2	—	—	—	—	—	—
1921*	99·9	114·1	105·9	198·6	92·0	103·9	140·5	94·6	104·3

\* Based on preliminary unaudited figures.

11. **Conjugal Condition of the People.**—The tables hereunder summarize the Census returns in respect of the conjugal condition of the population of the Union in age groups, according to race and sex:—

## (i) WHITE POPULATION OF THE UNION IN AGE GROUPS AT CENSUS OF 1918, CLASSIFIED ACCORDING TO CONJUGAL CONDITION.

AGE.	NEVER MARRIED.		MARRIED.		WIDOWED.		DIVORCED.		UNSPECIFIED.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
CAPE OF GOOD HOPE.										
0-14.....	119,210	114,553	—	7	—	—	—	—	3	—
15-19.....	28,423	29,642	79	1,227	1	8	—	1	6	10
20-44.....	46,475	34,294	59,740	73,159	983	2,863	81	108	98	72
45-9.....	3,796	3,566	32,031	25,166	1,723	5,094	64	46	30	16
60 and over.....	1,513	1,560	14,116	7,619	3,260	8,408	32	11	16	14
Unspecified.....	8	31	10	37	1	4	—	—	4	3
Under 21.....	152,500	140,023	157	2,350	4	18	—	1	14	20
21 and over.....	46,934	34,023	106,419	104,859	5,964	16,359	177	165	143	95
TOTAL.....	198,434	183,846	106,576	107,209	5,968	16,377	177	166	157	115

NATAL.										
0-14.....	20,291	20,022	—	4	—	—	—	—	—	—
15-19.....	4,217	4,749	7	178	—	—	—	—	2	—
20-44.....	10,027	6,666	13,992	16,202	302	771	30	35	870	31
45-59.....	1,643	914	7,491	5,153	551	1,221	31	11	296	6
60 and over.....	461	276	2,448	1,285	610	1,626	5	2	31	1
Unspecified.....	15	15	4	13	—	4	—	—	2	1
Under 21.....	25,208	25,581	18	375	—	3	—	—	7	4
21 and over.....	11,446	7,061	23,319	22,460	1,472	3,610	72	48	1,203	36
TOTAL.....	36,654	32,642	23,337	22,835	1,472	3,022	72	48	1,210	39

TRANSVAAL.										
0-14.....	102,841	99,677	—	6	—	—	—	—	—	—
15-19.....	16,469	15,743	44	1,599	—	10	—	3	4	13
20-44.....	36,830	17,636	58,440	69,358	1,039	2,880	158	174	87	60
45-59.....	4,019	1,163	28,073	18,197	1,718	3,719	120	51	14	16
60 and over.....	841	327	8,238	3,825	1,809	3,948	33	8	14	8
Unspecified.....	25	35	19	35	2	16	—	—	3	—
Under 21.....	122,798	118,078	140	3,142	—	23	—	6	11	20
21 and over.....	38,227	16,503	94,674	89,878	4,568	10,550	311	230	111	77
TOTAL.....	161,025	134,581	94,814	93,020	4,568	10,573	311	236	122	97

ORANGE FREE STATE.										
0-14.....	39,080	37,847	—	2	—	—	—	—	—	—
15-19.....	5,865	5,604	18	459	—	—	—	—	—	3
20-44.....	13,575	7,143	19,508	24,138	250	606	15	13	37	47
45-59.....	720	340	9,230	6,603	391	1,020	14	7	8	11
60 and over.....	222	114	4,032	1,984	694	1,714	6	—	4	12
Unspecified.....	8	10	15	26	—	4	—	—	2	2
Under 21.....	46,283	44,583	49	991	1	3	—	—	1	3
21 and over.....	13,167	6,475	33,054	32,221	1,334	3,341	35	20	45	72
TOTAL.....	59,450	51,058	33,103	33,212	1,335	3,344	35	20	46	75

UNION.										
0-14.....	281,411	272,099	—	19	—	—	—	—	8	—
15-19.....	54,974	55,738	148	3,463	1	18	—	4	12	26
20-44.....	105,907	65,739	151,380	182,857	2,574	7,120	290	330	1,101	210
45-59.....	10,178	5,983	77,425	55,113	4,383	11,054	229	115	343	49
60 and over.....	3,037	2,277	28,829	14,713	6,382	15,696	76	21	65	35
Unspecified.....	56	91	48	111	3	28	—	—	11	6
Under 21.....	346,789	337,265	364	6,858	5	47	—	7	33	47
21 and over.....	108,774	64,662	257,466	243,418	13,338	83,869	595	463	1,502	279
TOTAL.....	455,663	401,927	257,830	256,276	13,343	83,916	595	470	1,535	286



## (ii) COLOURED POPULATION OF THE UNION IN AGE GROUPS AT CENSUS OF 1911, CLASSIFIED ACCORDING TO CONJUGAL CONDITION.

AGE.	NEVER MARRIED.		MARRIED.		WIDOWED.		DIVORCED.		UNSPECIFIED	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
<b>CAPE OF GOOD HOPE.</b>										
0-14.....	431,795	430,441	15	57	—	—	—	—	—	1
15-19.....	94,611	97,000	836	8,724	7	152	2	39	19	16
20-44.....	123,004	74,691	164,057	255,647	4,370	23,351	376	2,219	224	82
45-59.....	7,417	4,592	72,063	53,027	4,035	24,355	223	555	41	29
60 and over.....	3,726	2,569	39,489	16,949	6,038	33,119	123	222	36	37
Unspecified.....	137	113	63	13	2	6	—	—	194	179
<b>TOTAL.....</b>	<b>660,690</b>	<b>609,406</b>	<b>276,523</b>	<b>334,417</b>	<b>15,962</b>	<b>80,983</b>	<b>724</b>	<b>3,035</b>	<b>514</b>	<b>344</b>

**NATAL.**

0-14.....	225,846	227,316	88	731	1	8	—	—	31	8
15-19.....	50,267	60,221	813	4,012	12	43	46	5	82	299
20-44.....	80,993	42,587	87,026	152,514	2,415	7,835	283	153	246	321
45-59.....	3,109	816	36,151	36,147	1,844	12,974	66	37	30	50
60 and over.....	1,249	805	18,437	11,031	2,320	25,707	42	17	10	100
Unspecified.....	97	10	18	22	1	2	—	—	21	5
<b>TOTAL.....</b>	<b>361,561</b>	<b>331,755</b>	<b>143,133</b>	<b>204,457</b>	<b>6,593</b>	<b>46,569</b>	<b>437</b>	<b>212</b>	<b>429</b>	<b>783</b>

**TRANSVAAL.**

0-14.....	222,139	218,571	64	46	—	2	—	—	—	—
15-19.....	72,017	46,512	2,112	4,455	8	88	1	7	27	24
20-44.....	183,678	25,313	180,317	149,137	2,738	14,327	204	361	212	96
45-59.....	3,528	62	39,167	27,197	1,788	13,776	55	90	18	23
60 and over.....	809	549	18,272	9,105	2,308	20,554	30	64	13	39
Unspecified.....	81	19	14	16	1	5	—	—	41	10
<b>TOTAL.....</b>	<b>487,252</b>	<b>291,586</b>	<b>230,946</b>	<b>180,956</b>	<b>6,843</b>	<b>48,752</b>	<b>290</b>	<b>522</b>	<b>311</b>	<b>192</b>

**ORANGE FREE STATE.**

0-14.....	74,613	72,661	7	7	—	—	—	—	—	—
15-19.....	20,517	17,789	174	1,127	1	16	—	7	20	23
20-44.....	28,098	12,158	34,623	41,182	764	2,326	106	323	225	110
45-59.....	770	306	11,525	9,152	555	2,335	43	72	20	23
60 and over.....	484	283	9,156	4,419	1,147	5,472	41	34	21	51
Unspecified.....	76	35	24	21	3	9	—	—	17	14
<b>TOTAL.....</b>	<b>124,558</b>	<b>103,232</b>	<b>55,509</b>	<b>55,908</b>	<b>2,470</b>	<b>10,158</b>	<b>190</b>	<b>436</b>	<b>303</b>	<b>221</b>

**UNION.**

0-14.....	954,393	948,989	174	841	1	10	—	—	31	9
15-19.....	237,412	221,522	8,935	18,318	28	299	49	58	148	362
20-44.....	420,773	154,749	406,623	598,480	10,287	47,839	969	3,056	907	609
45-59.....	14,824	6,346	158,006	125,323	8,822	63,440	387	754	109	125
60 and over.....	6,268	4,196	85,354	41,504	12,713	84,852	236	337	89	227
Unspecified.....	391	177	119	72	7	22	—	—	273	208
<b>TOTAL.....</b>	<b>1,634,061</b>	<b>1,335,979</b>	<b>715,111</b>	<b>784,738</b>	<b>31,858</b>	<b>186,462</b>	<b>1,641</b>	<b>4,205</b>	<b>1,557</b>	<b>1,540</b>

12. *Birthplaces of the People.*—The subjoined table gives a comparison between the returns at the Censuses of 1904, 1911, and 1918 in respect of the birthplaces of the people:—

**BIRTHPLACES OF THE POPULATION OF THE UNION AT CENSUSES OF 1911 AND 1918, AND FOR COLONIES NOW COMPRISING THE UNION AT CENSUS OF 1904.**

BIRTH PLACES.	CENSUS, 1904			CENSUS, 1911.			CENSUS, 1918.*		
	Persons.	Male.	Female.	Persons.	Male.	Female.	Persons.	Male.	Female.
Africa.....	4,787,914	2,395,874	2,392,040	5,829,197	2,836,800	2,792,397	1,199,202	597,477	601,725
Europe.....	276,577	203,471	73,106	237,893	157,356	80,537	207,060	122,551	84,509
Asia.....	87,258	65,742	21,516	90,320	65,003	25,317	1,884	1,150	734
America.....	6,789	5,231	1,558	4,610	3,265	1,345	3,452	2,137	1,315
Australasia and Polynesia.....	14,661	10,109	4,552	10,203	6,129	4,074	8,561	4,712	3,849
At Sea.....	281	163	118	466	277	189	209	105	104
Unknown and Unspecified..	2,344	1,645	699	705	562	143	1,413	734	679
<b>TOTAL POPULATION</b>	<b>5,175,824</b>	<b>2,682,235</b>	<b>2,493,589</b>	<b>5,973,394</b>	<b>3,069,392</b>	<b>2,904,002</b>	<b>1,421,781</b>	<b>728,866</b>	<b>692,915</b>

\* White only.

13. *Religions of the People.*—The following two tables give the numbers of the white and coloured population of the Union classified according to their religion, as returned at the Censuses of 1911 and 1918:—

**(i) RELIGIONS OF THE PEOPLE AND PROPORTIONS PER CENT. OF THE RESPECTIVE POPULATIONS IN THE UNION AND EACH PROVINCE AT CENSUSES OF 1911 AND 1918.**

PROVINCE.	POPULATION.	CHRISTIAN.		NON-CHRISTIAN.		OTHERS.	
		Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.

**(a) WHITE POPULATION, 1911.**

Cape.....	582,377	561,721	96·47	16,773	2·87	3,883	0·66
Natal.....	98,114	94,432	96·26	1,492	1·51	2,190	2·23
Transvaal.....	420,562	389,271	92·55	25,981	6·18	5,310	1·27
Orange Free State	175,189	170,841	97·52	2,811	1·60	1,537	0·88
<b>UNION.....</b>	<b>1,276,242</b>	<b>1,216,265</b>	<b>95·31</b>	<b>47,057</b>	<b>3·69</b>	<b>12,920</b>	<b>1·00</b>

**(b) COLOURED POPULATION, 1911.**

Cape.....	1,982,588	875,967	44·20	27,060	1·36	1,079,561	54·44
Natal.....	1,095,929	151,686	13·84	125,007	11·41	819,236	74·75
Transvaal.....	1,265,650	307,591	24·30	13,672	1·08	944,387	74·62
Orange Free State	352,985	179,220	50·77	68	0·01	173,697	49·22
<b>UNION.....</b>	<b>4,697,152</b>	<b>1,514,464</b>	<b>32·23</b>	<b>165,807</b>	<b>3·54</b>	<b>3,016,881</b>	<b>64·23</b>

**(c) WHITE POPULATION, 1918.**

Cape.....	618,825	595,563	96·24	20,476	3·31	2,786	0·45
Natal.....	121,931	117,751	96·57	2,431	1·99	1,749	1·44
Transvaal.....	499,347	462,576	92·64	31,625	6·33	5,146	1·03
Orange Free State.	181,678	176,824	97·33	4,308	2·37	546	0·30
<b>UNION.....</b>	<b>1,421,781</b>	<b>1,352,714</b>	<b>95·14</b>	<b>58,840</b>	<b>4·14</b>	<b>10,227</b>	<b>0·72</b>

## (ii) RELIGIONS OF THE PEOPLE IN DETAIL, WHITE AND COLOURED RACES, AND PROPORTIONS PER CENT. TO TOTAL POPULATION—CENSUSES 1911 AND 1918.

RELIGIONS.	CENSUS, 1911.						CENSUS, 1918.	
	White Persons.		Coloured Persons.		All Races.		White Persons.	
	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.	Number.	Per cent.
<i>Christian.</i>								
Dutch Churches.....	693,898	54·37	204,702	4·36	898,600	15·04	800,178	56·28
Anglican Churches....	255,640	20·08	276,849	5·89	532,489	8·91	266,149	18·65
Presbyterian.....	58,633	4·59	72,114	1·53	130,747	2·19	60,471	4·25
Congregationalist....	19,402	1·06	173,982	3·70	187,384	3·14	13,176	0·98
Methodist.....	82,104	6·43	517,525	11·03	599,629	10·04	93,386	6·57
Lutheran.....	23,707	1·86	105,308	2·22	219,015	3·87	20,320	1·43
Church of Rome.....	53,793	4·22	37,242	0·79	91,035	1·52	55,522	3·90
Greek Church.....	1,926	0·15	17	*	1,943	0·03	1,626	0·11
Baptist.....	15,088	1·18	11,205	0·24	26,293	0·44	15,507	1·09
Plymouth Brethren....	1,524	0·12	239	*	1,763	0·03	1,687	0·12
Salvation Army.....	2,263	0·18	2,041	0·04	4,304	0·07	1,804	0·18
Protestants.....	6,816	0·53	4,358	0·09	11,174	0·19	7,762	0·55
Other Christians.....	7,471	0·59	15,882	0·40	26,353	0·43	16,126	1·16
<i>Non-Christian.</i>								
Jews.....	46,919	3·68	7	*	46,926	0·79	58,741	4·13
Buddhists.....	42	*	394	0·01	430	0·01	9	*
Confucians.....	3	*	1,349	0·03	1,392	0·02	16	*
Hindus.....	—	—	115,701	2·46	115,701	1·94	—	—
Mohammedans.....	62	0·01	45,842	0·98	45,904	0·77	42	*
Parsees.....	—	—	344	0·01	344	0·01	—	—
Other Non-Christian..	31	*	2,130	0·05	2,161	0·04	32	*
<i>Other and Unknown.</i>								
No religion.....	2,221	0·17	3,012,648	64·14	3,014,869	50·47	2,768	0·19
Unknown (or not Stated).....	4,488	0·48	3,769	0·08	8,257	0·14	3,108	0·22
Others and indefinite.	6,211	0·35	464	0·01	6,675	0·11	4,351	0·30
<b>TOTAL POPULATION.</b>	<b>1,276,242</b>	<b>100·00</b>	<b>4,697,152</b>	<b>100·00</b>	<b>5,973,394</b>	<b>100·00</b>	<b>1,421,781</b>	<b>100·00</b>

\* Indicates that the percentage is so small that it has no significance.

14. **Occupations of the People.**—In the compilation of the results of the Census of 1911 the population of the Union was tabulated according to occupation in a series of classes. Details have been included in previous issues of this Year Book, but are not repeated owing to considerations of space. At the Census of 1918 a different system of classification was adopted, and the results are summarized in the following table, showing the industrial occupations of the white population of the Union, as reported at that Census.

**INDUSTRIAL OCCUPATIONS OF WHITE POPULATION OF UNION, CENSUS 1918.**

INDUSTRY.	CAPE OF GOOD HOPE.	NATAL.	TRANS-VAAL.	ORANGE FREE STATE.	UNION OF SOUTH AFRICA.		
					Male.	Female.	Persons.
Administrative Government Service.....	5,659	1,396	5,265	1,041	13,023	928	13,951
Local Government Service.....	2,417	605	2,252	363	3,399	268	3,667
Union Military Service.....	7,123	801	1,446	464	3,531	303	3,834
Imperial, Naval, Military, and Air Force.....	3,183	566	80	7	3,831	14	3,845
Clerical (Ecclesiastical) Profession and Service.....	1,331	683	677	256	2,408	149	2,547
Legal Profession and Service.....	1,779	426	1,373	457	3,285	750	4,035
Medical Profession and Service.....	1,570	606	1,251	288	1,703	1,952	3,715
Teaching Profession and Service.....	9,073	2,955	5,151	2,658	5,580	13,357	18,937
Other Professions and their Services.....	1,092	617	1,751	226	2,727	1,559	4,286
Institution Service.....	3,680	1,333	2,735	401	3,521	4,628	8,149
Hotel, Eating-house Service.....	4,136	1,285	3,070	638	4,870	4,259	9,129
Commerce.....	5,944	2,258	3,774	885	10,740	2,121	12,861
Banking, Insurance, and Finance.....	3,023	880	3,173	601	6,114	1,509	7,683
Railway Service.....	14,823	6,626	11,199	3,202	35,192	688	35,880
Other Transportation and Communication Service.....	1,323	1,364	4,610	1,106	10,190	1,213	11,403
Railway, Road, Tramway, Canal, Waterworks, Irrigation and Harbour Construction.....	706	259	425	565	1,951	4	1,955
Coach, Wagon, Motor, and Cycle Building and Repairing.....	1,874	635	1,375	279	4,058	105	4,163

† Excluding gas, water, electric supplies and tramways.

‡ Not elsewhere described.

INDUSTRIAL OCCUPATION OF WHITE POPULATION OF UNION—*continued.*

INDUSTRY.	CAPE OF GOOD HOPE.	NATAL.	TRANS-VAAL.	ORANGE FREE STATE.	UNION OF SOUTH AFRICA.		
					Male.	Female.	Persons.
Shipping, Docks, Harbours, and Lighthouses.....	1,612	1,418	107	18	3,043	112	3,155
Ship and Boat Building.....	110	26	15	11	180	2	182
Agriculture <sup>§</sup> .....	77,863	8,559	46,971	32,770	162,439	3,724	166,163
Fishing, Sealing, and Whaling....	277	134	—	1	402	10	412
Gold Industry.....	185	107	25,126	71	25,333	156	25,489
Diamond Industry.....	3,407	28	2,376	587	6,334	64	6,398
Coal Industry.....	182	740	889	107	1,864	54	1,918
Other Mining Industries.....	634	282	970	152	2,017	30	2,047
Quarrying.....	25	16	82	93	213	3	216
Engineering, Metal and Machinery Manufacture.....	2,117	1,208	3,036	524	6,775	110	6,885
Precious Metals, Jewels, Musical, Scientific, and Surgical Instrument Manufacture and Sale.....	683	239	661	93	1,488	188	1,676
House Building, Decorating and Contracting.....	5,804	2,352	6,555	2,152	16,797	66	16,863
Wood and Furniture, Bedding and Upholstery.....	2,932	577	1,527	83	4,297	222	4,519
Brick, Cement, Pottery, Glass, and Lime Industries.....	306	136	671	137	1,202	48	1,250
Chemicals, Paints, Varnishes, and Allied Industries.....	1,521	948	1,079	100	3,072	576	3,648
Leather and Leather Goods Manufacture.....	3,066	357	1,455	321	4,514	685	5,199
Printing, Publishing, and Allied Industries.....	2,170	588	2,080	266	4,005	1,108	5,113
Wool Industry.....	599	213	84	67	733	230	963
Hemp, Jute, Rope, Mat, and Sack Industries.....	79	45	83	11	175	43	218
Bleaching and Dyeing.....	51	14	39	3	76	31	107
Dealing in Drapery.....	4,149	902	4,927	285	4,234	6,029	10,263
Hat Making and Selling.....	471	158	329	28	62	924	986
Tailoring and Dressmaking.....	3,403	748	2,439	631	2,368	4,853	7,221
Other Dress and Textile Industries	127	8	55	4	52	142	194
Preparation and Sale of Provisions	5,648	1,992	4,738	746	11,310	1,814	13,124
Tobacco Manufacture and Sale....	591	63	274	7	626	309	935
Brewing, Distilling.....	723	236	637	97	1,573	120	1,693
Gas, Water, and Electricity Supply	760	191	1,123	64	2,081	57	2,138
Drainage and Sanitary Service....	236	73	361	59	709	20	729
General Shopkeeping and Dealing	10,519	1,799	6,024	2,650	16,904	3,488	20,392
Domestic Service.....	5,951	1,280	3,642	720	3,272	8,330	11,602
Other and Undefined Industries..	1,292	418	1,544	353	3,185	422	3,607
Housewives and others engaged in Domestic Duties.....	141,348	27,262	107,056	40,209	—	315,875	315,875
Scholars and Students.....	25,255	3,136	12,760	5,489	23,206	23,344	46,550
No Industry.....	16,225	3,047	6,774	3,023	14,628	13,441	28,069
TOTAL.....	385,043	81,614	296,823	104,769	447,452	420,797	868,249

§ Including forestry, cotton, tobacco, fibre, wattle, sugar and tea growing.

|| Including supply under local authority.

## § 3. Immigration and Emigration.

1. **Immigration into South Africa, 1853-1909.**—The following figures in respect of persons who arrived by sea from without the Cape Colony and landed at Cape ports from 1853 to 1909, will give at least an approximate, though necessarily an incomplete indication of the movement of population into South Africa. Accurate figures for Cape ports were only obtained from the year 1903, when the first Immigration Act of the Cape Colony was brought into operation.

## NUMBER OF PERSONS LANDING AT CAPE PORTS, 1853 TO 1909.

Year.	Number.	Year.	Number.
1853.....	*500	1904.....	42,938
1863.....	*900	1905.....	39,929
1873.....	*1,200	1906.....	37,124
1883.....	*5,700	1907.....	30,205
1893.....	*12,800	1908.....	27,192
1903.....	71,085	1909.....	30,363

\* Approximate.

The year 1903, following that which saw the conclusion of the South African War (1899-1902), was in every sense an abnormal one, and the number of immigrants in that year reflected the general inflation of the country. The figures given above for the years succeeding 1903 indicate the reaction which followed; the years of severest commercial depression showing the lowest returns of persons coming to the country. For a sequence of years there was undoubtedly a large loss of population (practically all of it white), until 1910, when the returns indicated that once again the number of persons entering exceeded the number of those leaving the country, and that the country was again receiving an accession of population from abroad.

**2. Immigration and Emigration.**—(a) *Prior to 1918.*—Tables (i) to (iii) given hereunder contain such figures as are available to indicate the losses and gains of the population of the Union by ingress into or egress from the country during the period 1910 to 1921. It is impossible to give any complete figures prior to the year 1916 showing the actual movements of people to and from the country. In the latter part of 1914 figures were obtained in respect of Mafeking on the railway line to Rhodesia. In the latter part of 1915 figures were given in respect of Komatipoort, the railway station on the Mozambique border of the Transvaal. In 1916 more complete figures were available owing to the inclusion for the whole year of figures for both Mafeking and Komatipoort. Owing, however, to the fact that the analysis of figures given by the Railway authorities at the land borders, of those given by the Customs Department in regard to embarkations at ports, and of those given by the Immigration Department as to arrivals by sea has in each case been conducted on a different system, full comparison of figures has been impossible. But generally it may be observed that by comparing the number of those shown as having landed in table (i) with those who embarked in the corresponding year in table (ii), a fair general indication of the movements of population may be obtained, noting that in general the departures and arrivals by rail have in recent years approximately balanced.

(b) *Returns under the Statistics Act.*—From the 1st January, 1918, statutory powers were given to the Director of Census to collect information in regard to all persons entering or leaving the Union via the sea and land borders. The method of collecting the statistical data is to enumerate all travellers by means of a special statistical card. In the case of seaports the Immigration Officers are responsible for the enumeration, while travellers via the land borders are enumerated either by specially appointed railway officers or by the police stationed at or near drifts and other places of entry or exit. During the first four months of the year 1918 every person crossing the border by rail was enumerated, but owing to the heavy traffic and consequent delay and inconvenience, it was decided by the Statistical Council that as from the 1st May only such persons as were travelling with single journey tickets should be enumerated. The figures shown in table (iii) for the year 1918 are somewhat vitiated by this change of procedure; but the table is of greater value for subsequent years.

The regulations framed under the Act exclude the enumeration of aboriginal natives of the Bantu race. Therefore statistics for 1918 and subsequent years embodied in tables (i) to (v) account for only Europeans, Asiatics, and Coloured persons of mixed race.

**(i) NUMBER OF PERSONS ARRIVED BY SEA, LANDED AND REFUSED ENTRY, CLASSIFIED ACCORDING TO PREVIOUS RESIDENCE IN THE UNION, 1910 TO 1921.**

YEAR.	Arrived at Ports.	Landed.	Refused Entry.	Previously in the Union.	NEW ARRIVALS.		
					Total.	Male.	Female.
1910.....	*	49,123	*	*	*	*	*
1911.....	*	55,127	*	*	*	*	*
1912.....	*	42,026	*	*	*	*	*
1913.....	40,182	39,827	355	25,576	14,251	7,990	6,261
1914.....	34,332	34,027	305	24,980	9,047	4,958	4,089
1915.....	17,773	17,487	286	12,329	5,158	2,675	2,483
1916.....	13,343	13,096	247	9,250	3,846	1,792	2,054
1917.....	7,201	6,858	343	4,779	2,079	1,180	899
1918.....	7,141	6,579	562	3,535	3,044	1,963	1,081
1919.....	24,612	23,801	811	14,763	9,038	4,622	4,416
1920.....	48,761	47,913	848	25,097	22,816	12,249	10,567
1921.....	43,919	42,926	993	21,993	20,933	10,911	10,022

\* Figures not available.

## (ii) NUMBER OF PERSONS EMBARKED AT PORTS OF THE UNION CLASSIFIED ACCORDING TO RACE AND NATIONALITY, ETC., 1910 TO 1921.

YEAR.	White.	Asiatic.	Other Races.	Total.	ADULTS.		Children (Male and Female).
					Male.	Female.	
1910.....	*	*	*	41,575	*	*	*
1911.....	*	*	*	46,200	26,295	12,164	7,741
1912.....	*	*	*	42,197	22,681	11,671	7,845
1913.....	*	*	*	42,741	22,894	11,810	8,037
1914.....	*	*	*	42,631	23,727	13,317	5,587
1915.....	20,742	6,242	236	27,220	17,187	7,901	2,132
1916.....	14,927	8,131	109	23,167	13,405	8,080	1,682
1917.....	7,990	3,936	62	11,988	8,820	3,006	162
1918.....	4,359	3,966	149	8,474	6,328†	2,146†	—
1919.....	16,972	4,188	119	21,279	12,856†	8,423†	—
1920.....	25,651	4,115	179	29,945	16,133†	13,812†	—
1921.....	27,525	5,918	175	33,618	19,373†	14,245†	—

\* Figures not available.

† Including children

## (iii) ARRIVALS AND DEPARTURES BY RAIL, 1914 TO 1921.

YEAR.	EUROPEAN.			ASIATIC AND COLOURED.			Total.
	Mafeking.	Komati-poort.	Nakob.	Mafeking.	Komati-poort.	Nakob.	
ARRIVALS.							
1914.....	4,339*	—	—	1,076	—	—	5,415
1915.....	9,406	757†	—	4,272	578	—	15,073
1916.....	9,295	3,539	—	3,189	1,401	—	17,424
1917.....	8,320	4,586	—	2,692	1,577	—	17,175
1918.....	3,532	2,299	2,273	80	770	60	9,014
1919†.....	503	1,129	694	16	944	9	3,295
1920.....	659	1,951	568	10	964	1	4,163
1921.....	945	1,812	672	29	928	105	4,491
DEPARTURES.							
1914.....	2,762	—	—	1,063	—	—	3,825
1915.....	10,109*	619†	—	3,861	325	—	14,914
1916.....	9,564	3,296	—	2,530	874	—	16,264
1917.....	10,434	4,138	—	2,393	846	—	17,811
1918.....	4,644	1,719	2,194	83	423	36	9,099
1919†.....	920	1,103	1,034	14	352	6	3,438
1920.....	1,193	1,830	1,448	5	533	1	5,010
1921.....	1,065	1,344	951	26	412	53	3,851

\* August to December.

† October to December.

‡ From 1919 passengers travelling on single journey tickets only—vide paragraph 2 (b), supra.

## (iv) ARRIVALS AND DEPARTURES BY SEA, RAIL AND ROAD, 1921.

PORTS OF ENTRY OR EXIT.	EUROPEAN.		ASIATIC.		OTHER COLOURED.		ALL RACES.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
<b>ARRIVALS.</b>									
Via Sea—									
Cape Town.....	13,685	12,592	11	9	26	47	13,722	12,648	26,370
Durban.....	6,822	5,724	1,348	300	158	60	8,328	6,084	14,412
Other Ports.....	977	1,155	8	2	1	1	986	1,158	2,144
Via Land—									
Mafeking.....	609	336	4	—	11	14	624	350	974
Komatipoort.....	1,181	631	754	161	6	7	1,941	709	2,740
Nakob.....	408	264	81	—	19	5	508	269	777
Cape Drifts.....	1	—	—	—	—	—	1	—	1
Transvaal Drifts.....	—	—	—	—	—	—	—	—	—
Other Places.....	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>23,683</b>	<b>20,702</b>	<b>2,206</b>	<b>472</b>	<b>221</b>	<b>134</b>	<b>26,110</b>	<b>21,308</b>	<b>47,418</b>
Residents returning after temporary absence.....	12,613	10,665	1,806	208	123	68	14,602	10,936	25,538
<b>NET TOTAL.....</b>	<b>11,070</b>	<b>10,037</b>	<b>340</b>	<b>269</b>	<b>98</b>	<b>66</b>	<b>11,508</b>	<b>10,372</b>	<b>21,880</b>
<b>DEPARTURES.</b>									
Via Sea—									
Cape Town.....	9,064	7,862	18	5	12	19	9,094	7,886	16,980
Durban.....	5,203	4,322	4,268	1,541	106	33	9,577	5,896	15,473
Other Ports.....	630	635	60	26	3	2	702	663	1,365
Via Land—									
Mafeking.....	642	423	3	—	9	14	654	437	1,091
Komatipoort.....	932	412	315	45	14	8	1,291	465	1,756
Nakob.....	531	420	31	—	11	11	573	431	1,004
Cape Drifts.....	3	2	—	—	6	—	9	2	11
Transvaal Drifts.....	—	—	—	—	—	—	—	—	—
Other Places.....	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>17,014</b>	<b>13,876</b>	<b>4,725</b>	<b>1,617</b>	<b>161</b>	<b>87</b>	<b>21,900</b>	<b>15,580</b>	<b>37,480</b>
Resident leaving Union temporarily.....	10,257	8,592	2,383	374	62	43	12,702	9,009	21,711
<b>NET TOTAL.....</b>	<b>6,757</b>	<b>5,284</b>	<b>2,342</b>	<b>1,243</b>	<b>99</b>	<b>44</b>	<b>9,198</b>	<b>6,571</b>	<b>15,769</b>

The foregoing table shows the total number of persons enumerated, and not the number of persons who entered or left the Union. The difference is accounted for by the method of enumeration at Mafeking, Komatipoort, and Nakob, the three railway border stations, where persons entering or leaving the Union with single journey railway tickets only are enumerated. In the case of departures, all persons are asked whether they are leaving the country permanently or temporarily, while inquiry is made of each entrant whether he or she has been previously domiciled in the Union. The movement of domiciled residents is shown above, and in detail in the tables included in paragraph 3 of this section. The subjoined table (v) gives the general movement of the population by provinces, and, in addition, the number of persons in transit through the Union, either awaiting passenger accommodation at coastal ports or passing to or from Rhodesia and Territories beyond.

## (v) TOTAL ARRIVALS INTO AND DEPARTURES FROM EACH PROVINCE, 1921.

PROVINCE.	ALL ARRIVALS.				ALL DEPARTURES.			
	ALL RACES.		EUROPEAN.		ALL RACES.		EUROPEAN.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Cape.....	6,825	6,149	6,283	6,020	5,272	4,258	4,507	4,182
Natal.....	4,659	3,797	3,775	3,518	5,697	3,881	2,756	2,442
Transvaal.....	8,902	7,473	7,805	7,307	6,171	4,523	5,136	4,398
Orange Free State.....	742	661	711	654	311	311	351	311
Province not stated.....	134	67	125	65	13	4	12	5
<b>UNION.....</b>	<b>20,062</b>	<b>18,117</b>	<b>18,699</b>	<b>17,564</b>	<b>17,539</b>	<b>12,977</b>	<b>12,792</b>	<b>11,286</b>
In transit.....	5,148	3,191	4,984	3,138	4,361	2,603	4,222	2,590
<b>TOTAL.....</b>	<b>26,110</b>	<b>21,308</b>	<b>23,683</b>	<b>20,702</b>	<b>21,900</b>	<b>15,580</b>	<b>17,014</b>	<b>13,876</b>

3. *New Arrivals into and Permanent Departures From the Union.*—The subjoined tables give figures in respect of (i) persons who previously were not in South Africa, and (ii) persons who stated at the time of enumeration that they were leaving the Union permanently.

(i) **NATIONALITY AND RACE OF NEW ARRIVALS, 1917 TO 1921.**  
(ALL RACES.)

NATIONALITY.	1917.	1918.	1919.	1920.			1921.		
				Male.	Female.	Total.	Male.	Female.	Total.
British born . . .	—	3,229	8,264	9,852	9,015	18,867	8,499	7,994	16,493
British naturalised . . . . .	—	51	66	104	138	242	186	153	289
<b>TOTAL BRITISH</b>	<b>1,467</b>	<b>3,280</b>	<b>8,330</b>	<b>9,956</b>	<b>9,153</b>	<b>19,109</b>	<b>8,685</b>	<b>8,147</b>	<b>16,782</b>
African (non-British) . . . . .	—	4	—	2	—	2	1	1	2
American (South American (United States) . . . . .	3	17	15	4	8	12	17	14	31
Austro-Hungarian . . . . .	191	206	219	237	163	400	244	150	394
Belgian . . . . .	—	1	1	—	1	1	3	4	7
Chinese* . . . . .	189	300	427	749	250	999	683	278	941
Dutch (Holland) . . . . .	—	21	18	5	6	11	25	38	63
French . . . . .	26	89	16	228	150	378	240	191	431
German . . . . .	21	45	55	74	75	149	87	65	152
Greek . . . . .	—	18	78	93	164	257	94	183	277
Italian . . . . .	21	19	20	27	29	56	52	22	74
Japanese* . . . . .	—	22	22	105	51	156	150	44	194
Portuguese . . . . .	—	9	24	7	3	10	5	—	5
Roumanian* . . . . .	—	4	14	12	5	17	6	4	10
Russian . . . . .	63	223	127	66	39	105	87	62	149
Swede . . . . .	—	27	113	27	10	37	8	6	14
Swiss . . . . .	29	46	4	226	287	513	684	732	1,416
Turk (Ottoman) . . . . .	—	86	49	191	24	215	60	35	101
Other . . . . .	56	23	7	30	17	47	26	12	38
Other . . . . .	6	26	37	54	22	76	41	29	70
Other . . . . .	7	77	9	87	68	155	311	289	600
<b>TOTAL FOREIGN</b>	<b>612</b>	<b>1,285</b>	<b>1,278</b>	<b>2,293</b>	<b>1,111</b>	<b>3,707</b>	<b>2,373</b>	<b>2,225</b>	<b>5,098</b>
<b>GRAND TOTAL</b>	<b>2,079</b>	<b>4,565</b>	<b>9,608</b>	<b>12,249</b>	<b>10,567</b>	<b>22,816</b>	<b>11,508</b>	<b>10,372</b>	<b>21,880</b>
<b>RACE.</b>									
European . . . . .	1,868	4,045	8,871	11,850	10,285	22,135	11,070	10,037	21,107
Asiatic . . . . .	191	520	737	399	282	681	438	335	773
Mixed and Other . . . . .	20	—	—	—	—	—	—	—	—
<b>TOTAL . . . . .</b>	<b>2,079</b>	<b>4,565</b>	<b>9,608</b>	<b>12,249</b>	<b>10,567</b>	<b>22,816</b>	<b>11,508</b>	<b>10,372</b>	<b>21,880</b>

\* Prior to 1918 included with *Other Nationalities*.

The fluctuation of the population of each Province can be ascertained from table (ii) which follows. During 1921 the Union had a net gain through migration of 4,103 persons, there having been a gain of 7,120 Europeans as against a loss of 3,107 coloured persons. The latter were almost entirely British Indians repatriated under the *Indian Relief Act* of 1914. The table excludes all persons reported as temporarily in the Union *in transit*.



## (ii) NEW ARRIVALS INTO AND PERMANENT DEPARTURES FROM EACH PROVINCE, 1921.

PROVINCE.	NEW ARRIVALS.				PERMANENT DEPARTURES.			
	All Races.		European.		All Races.		European.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Cape.....	2,928	2,827	2,561	2,764	1,936	1,754	1,847	1,722
Natal.....	1,718	1,690	1,590	1,565	2,982	1,967	878	745
Transvaal.....	8,015	8,159	2,894	3,089	1,566	1,213	1,398	1,190
Orange Free State.....	286	293	277	291	125	91	125	91
Provinces not stated.....	83	39	77	37	8	2	7	5
<b>UNION.....</b>	<b>7,730</b>	<b>8,017</b>	<b>7,399</b>	<b>7,726</b>	<b>6,617</b>	<b>5,027</b>	<b>4,255</b>	<b>3,750</b>

Tables (iii) and (iv) show the fluctuation of the population according to occupations and country of previous abode or destination. Except for the totals the sex is undistinguished. The occupations of new arrivals during a series of years are reflected in table (v); comparison is difficult, however, owing to the adoption of a new and more general classification of occupations for the year 1918 and subsequent years.

## (iii) MOVEMENT OF THE POPULATION BY COUNTRY AND OCCUPATION, 1921—ALL RACES.

OCCUPATION.	TOTAL.			COUNTRY OF PREVIOUS ABODE OR DESTINATION.									
	Male.	Female.	Total.	United Kingdom.	Rhodesia.	Africa—British.	Africa—Non-British.	Australia.	New Zealand.	U.S.A.	Europe.	Asia.	Other.
<b>NEW ARRIVALS INTO THE UNION.</b>													
Professional.....	1,897	1,270	3,167	2,164	29	133	98	141	11	108	402	59	22
Domestic.....	168	4,877	5,045	3,356	52	143	101	230	23	85	696	235	34
Commercial.....	1,825	451	2,276	1,387	22	50	120	93	13	54	435	88	14
Transport and Communication	664	27	691	363	13	46	54	16	1	6	180	0	3
Industrial.....	2,620	320	2,946	2,112	18	46	150	109	5	42	424	25	15
Agricultural.....	750	26	785	511	10	48	26	43	10	15	93	23	6
Mining.....	349	2	351	238	15	3	12	14	—	15	50	2	2
Independent or Indefinite.....	523	414	937	643	0	35	48	45	2	17	118	17	3
Dependents.....	2,416	2,111	4,527	2,857	49	140	159	158	8	83	933	805	29
Unspecified.....	281	874	1,155	705	3	33	43	57	6	7	286	13	2
<b>TOTAL.....</b>	<b>11,508</b>	<b>10,372</b>	<b>21,880</b>	<b>14,136</b>	<b>220</b>	<b>683</b>	<b>901</b>	<b>906</b>	<b>79</b>	<b>432</b>	<b>3,617</b>	<b>776</b>	<b>136</b>
<b>PERMANENT DEPARTURES FROM THE UNION.</b>													
Professional.....	1,251	574	1,825	899	125	388	150	120	1	27	59	55	1
Domestic.....	157	2,063	3,120	1,505	199	453	298	204	6	41	94	256	4
Commercial.....	1,300	133	1,433	578	100	177	226	112	3	25	50	158	4
Transport and Communication	401	14	415	179	20	69	56	26	—	11	40	14	—
Industrial.....	2,771	588	3,359	613	121	113	181	126	1	25	103	2,075	1
Agricultural.....	681	16	697	135	77	242	48	40	2	4	116	30	3
Mining.....	235	2	237	113	32	10	86	22	—	6	14	4	1
Independent or Indefinite.....	409	209	618	355	40	62	73	41	1	11	21	14	—
Dependents.....	1,526	1,536	3,062	980	91	402	164	206	5	32	70	1,102	1
Unspecified.....	467	536	1,003	638	21	118	81	74	1	2	49	19	—
<b>TOTAL.....</b>	<b>9,198</b>	<b>6,571</b>	<b>15,769</b>	<b>5,995</b>	<b>826</b>	<b>2,034</b>	<b>1,313</b>	<b>1,031</b>	<b>20</b>	<b>183</b>	<b>625</b>	<b>3,727</b>	<b>16</b>

(iv) MOVEMENT OF THE POPULATION BY COUNTRY AND OCCUPATION,  
1921—EUROPEANS.

OCCUPATION.	TOTAL.			COUNTRY OF PREVIOUS ABODE OR DESTINATION.									
	Male.	Female.	Total.	United Kingdom.	Rhodesia.	Africa—Other British.	Africa—Non-British.	Australia.	New Zealand.	U.S.A.	Europe.	Asia.	Other.
<b>NEW ARRIVALS INTO THE UNION.</b>													
Professional.....	1,882	1,267	3,149	2,164	29	126	96	141	11	107	402	51	22
Domestic.....	152	4,038	4,790	3,348	52	124	142	230	23	85	690	62	34
Commercial.....	1,755	449	2,204	1,385	22	47	102	93	13	54	434	39	14
Transport and Communication.....	657	27	684	363	13	45	50	16	1	6	180	7	3
Industrial.....	2,552	310	2,868	2,110	18	42	84	109	5	42	423	20	15
Agricultural.....	751	20	780	511	10	47	24	43	10	14	93	22	6
Mining.....	349	2	351	238	15	3	12	14	—	15	50	2	2
Independent or Indefinite.....	521	411	932	643	9	32	47	45	2	17	118	16	3
Dependents.....	2,172	2,031	4,203	2,650	45	134	117	158	8	82	933	47	29
Unspecified.....	276	870	1,146	705	3	33	30	57	6	7	286	8	2
<b>TOTAL.....</b>	<b>11,070</b>	<b>10,037</b>	<b>21,107</b>	<b>14,117</b>	<b>216</b>	<b>633</b>	<b>714</b>	<b>906</b>	<b>79</b>	<b>429</b>	<b>3,609</b>	<b>274</b>	<b>130</b>

**PERMANENT DEPARTURES FROM THE UNION.**

Professional.....	1,240	569	1,809	894	125	387	145	120	1	26	68	52	1
Domestic.....	112	2,761	2,873	1,503	191	439	270	264	6	40	94	62	4
Commercial.....	1,106	132	1,238	576	100	172	177	111	3	25	49	22	3
Transport and Communication.....	392	14	406	178	20	69	55	26	—	11	39	8	—
Industrial.....	1,175	93	1,268	609	117	193	132	126	1	25	103	21	1
Agricultural.....	664	16	680	335	77	241	46	40	2	4	116	16	3
Mining.....	231	2	233	113	32	10	34	22	—	5	14	2	1
Independent or Indefinite.....	404	209	613	355	40	62	72	41	1	11	21	10	—
Dependents.....	979	983	1,962	975	86	400	142	206	5	32	79	36	1
Unspecified.....	454	535	989	637	21	118	77	74	1	2	48	11	—
<b>TOTAL.....</b>	<b>6,757</b>	<b>5,284</b>	<b>12,041</b>	<b>5,975</b>	<b>809</b>	<b>2,001</b>	<b>1,150</b>	<b>1,030</b>	<b>20</b>	<b>181</b>	<b>621</b>	<b>240</b>	<b>14</b>

(v) NEW ARRIVALS CLASSIFIED ACCORDING TO OCCUPATIONS, 1918 TO 1921—  
ALL RACES.

OCCUPATIONS.	1918.	1919.	1920.			1921.		
			Male.	Female.	Total.	Male.	Female.	Total.
Professional.....	968	1,360	2,313	1,242	3,555	1,897	1,270	3,167
Domestic.....	268	2,483	172	4,928	5,100	168	4,877	5,043
Commercial.....	431	715	1,905	558	2,463	1,825	451	2,276
Transport and Communication.....	278	365	653	32	685	664	27	691
Industrial.....	417	789	2,524	316	2,840	2,026	320	2,916
Agricultural.....	159	498	1,095	40	1,135	759	26	785
Mining.....	104	145	367	—	367	349	2	351
Independent or Indefinite.....	554	680	574	903	1,477	523	414	937
Dependents.....	1,097	2,302	2,363	2,022	4,385	2,410	2,111	4,527
Unspecified.....	289	271	283	526	809	281	874	1,155
<b>TOTAL.....</b>	<b>4,565</b>	<b>9,698</b>	<b>12,240</b>	<b>10,567</b>	<b>22,816</b>	<b>11,508</b>	<b>10,372</b>	<b>21,880</b>

**4. Assistance and Regulation of Immigration.—**

(i) *General.*—At various times the Government has given state-aided passages from England to Europeans, but this assistance has been limited almost entirely to female domestic servants, and the wives and families of Europeans settled in the country. On the other hand, no obstacle is placed in the way of the entry of white immigrants,

provided that they are of good health and character, and are able themselves or through their friends or employers to show that they have means of support. Experience has shown the necessity for these requirements as the circumstances of the country do not render it always easy for a new arrival to make his way, unless on the one hand he is a thoroughly competent tradesman, or on the other hand has work definitely assigned to him or friends who are able to introduce him to employment and in the meantime to assure him of support. Particularly is it difficult for an immigrant to procure employment who is without a trade, or who has indifferent trade qualifications or is not specially qualified in some other capacity. It is therefore essential that persons of such a type should be able to show on arrival that they have means of support until they may be able to secure work. For this purpose the sum of £20 is prescribed as ordinarily sufficient; though in many cases a smaller sum and in certain cases no sum at all is looked for; while on the other hand in exceptional circumstances an even higher figure may be required.

(ii) *Prohibited Immigrants.*—By the *Immigrants Regulation Act*, No. 22 of 1913, the Immigration Department of the Union is empowered to regulate the entry of immigrants, and certain classes of persons denominated *prohibited immigrants* may be excluded or even extruded from the country; or their residence may be circumscribed as to time and in other respects. Amongst such classes are persons who have been convicted of serious crime; persons of ill-fame; persons who are insane, diseased, including those who suffer from tuberculosis or are otherwise physically afflicted. Persons likely to become a public charge, and in some cases illiterate persons are also regarded as *prohibited immigrants*; while by section 4 (1) (a) of the Act the Minister of the Interior is empowered to certify as *prohibited immigrants* persons, or classes of persons, whose presence for economic or certain other reasons is considered undesirable. For the operation of this clause as affecting Asiatic immigration reference may be made to § 4 (7) of this Chapter.

Very full powers of restriction, arrest and detention are given to Immigration Officers, who are stationed not only at the ports, but at a number of places within the territory or at the borders of the Union. Any person so arrested or restricted has, however, the opportunity of appearing before one of the *Appeal Boards*, of which three have been constituted, viz.: at Pretoria, Durban, and Cape Town. These centres are the headquarters of the three Principal Immigration Officers of the Union, each of whom has control over the administration of a Province, the Province of the Orange Free State being under the jurisdiction of the Principal Immigration Officer, Natal.

(iii) *Previous Immigration Laws.*—The Union Immigration Act repealed the Immigration Acts in force in the various Provinces, exercise of control over the entry of undesirable immigrants having been for a long period recognized as necessary:—in Natal from the year 1897; in the Transvaal and Orange Free State, from the year 1902, when the *Peace Preservation Ordinance* was passed (following the period of the war (1899-1902) during which military rule had given the necessary powers); and in the Cape Colony from the year 1903, when the first *Immigration Act*, No. 47 of 1902, came into operation.

(iv) *Restrictive Effects of the Law.*—The tables given below show the number of those seeking admission whose entry has been restricted:—

(a) **PARTICULARS AS TO PROHIBITED IMMIGRANTS AT PORTS, 1915 TO 1921.**

HEADING.	1915.	1910.	1917.	1918.	1919.	1920.	1921.
Removed from the Union.....	242	75	105	109	155	180	363
Allowed Conditional Passage through Union.....	—	—	—	5	1	—	2
Deported to other Provinces.....	41	94	83	382	574	529	557
Escaped.....	2	1	—	1	1	2	1
Died.....	1	—	2	8	5	2	2
Allowed to Remain on Appeal.....	—	—	51	11	15	37	38
Interned as Enemy Subjects.....	—	2	3	3	—	—	—
Allowed Temporary Residence under Permit.....	—	37	99	60	60	98	32
Repatriated under Section 6 of Act No. 22 of 1914.....	—	—	—	3	—	—	—
<b>TOTAL.....</b>	<b>286</b>	<b>209</b>	<b>343</b>	<b>562</b>	<b>811</b>	<b>848</b>	<b>993</b>

(b) NATIONALITY OF PROHIBITED IMMIGRANTS AT PORTS,  
1914 TO 1921.

HEADING.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
American.....	5	1	—	—	1	2	—	5
Austrian.....	9	—	—	2	—	—	1	1
British (non-Asiatic).....	35	19	34	19	18	17	27	102
Central African Natives.....	2	—	1	—	—	9	3	117
Chinese.....	36	2	5	9	6	40	8	14
French.....	2	—	—	—	—	5	—	—
German.....	2	1	3	4	4	5	4	9
Greek and Italian.....	13	—	2	—	1	4	4	3
Indian.....	128	112	138	213	446	635	639	646
Japanese.....	—	—	—	—	20	—	—	3
Maltese.....	1	—	—	—	—	—	1	—
Russian.....	35	—	1	—	1	2	14	10
Scandinavian.....	3	—	—	1	1	53	88	8
Spanish and Portuguese.....	6	14	—	21	20	7	8	12
Swiss.....	3	—	—	—	1	1	—	—
Other.....	25	*137	25	74	43	31	51	64
TOTAL.....	305	286	209	343	562	811	848	993

\* Including 120 European females.

In respect of the persons restricted it is necessary to note that the actual number stopped is no real index of the restrictive operation of the law as protecting the country from undesirable entrants. The principal effect is undoubtedly deterrent. The shipping companies, mainly to protect themselves and partly also to save prospective passengers from a long and fruitless journey, refuse to carry persons clearly coming under the denominated classes of *prohibited immigrants*. It has also to be remembered that vessels carrying certain classes of crews are carefully guarded in order to prevent desertions—a precaution which experience has shown to be of importance.

(v) *Land Border Immigration*.—Immigration officers are stationed at the points of entry by rail into the Union from Mozambique at Komatipoort and at Mafeking from Rhodesia. The authorities of the latter colony also render certain valuable assistance in checking illicit immigration. It has now been found possible under the *Statistics Act* of 1914 to examine passengers entering the Union at the land borders in the same way as at the ports (see paragraph 2 *supra*).

5. *Permits*.—Under the *Immigrants Regulation Act* provision is made for the issue by an immigration officer of a permit, described as a *certificate of identity*, to any person proving lawful residence in the Union who, intending to leave the Union, desires some assurance as to his title to return to the Union without coming under the restrictive operation of the Act. The fee charged is 2s. 6d. Photographs and means of identification are required. The duration of such certificates is limited to three years. Holders of these documents who do not return to the Union within the currency of the certificates, may be required to undergo the tests imposed by law; and may ordinarily be taken to have abandoned any domicile they had previously acquired in the Union. Permits are only issued to any persons who are within the Union.

6. *Passports*.—Passports are issued to persons in the Union who are natural-born British subjects, to their wives (and widows), and to persons who have been naturalized in the United Kingdom or in the Union. Application is made on a prescribed form to the Department of the Interior, and photographs and evidence of identity and status are essential. Passports are not available beyond a period of two years unless they are renewed. Renewals are permitted for four periods of two years. Thereafter a fresh passport must be obtained. The fee for a passport is £1, and a fee of 2s. is charged for each renewal or *visé*. The fact that owing to conditions arising from the War every person travelling abroad must now be in possession of a passport, explains the largely increased number issued since 1914, as indicated in the subjoined table. As to certain limitation of the issue of passports to naturalized persons, see § 5 (2) of this Chapter.

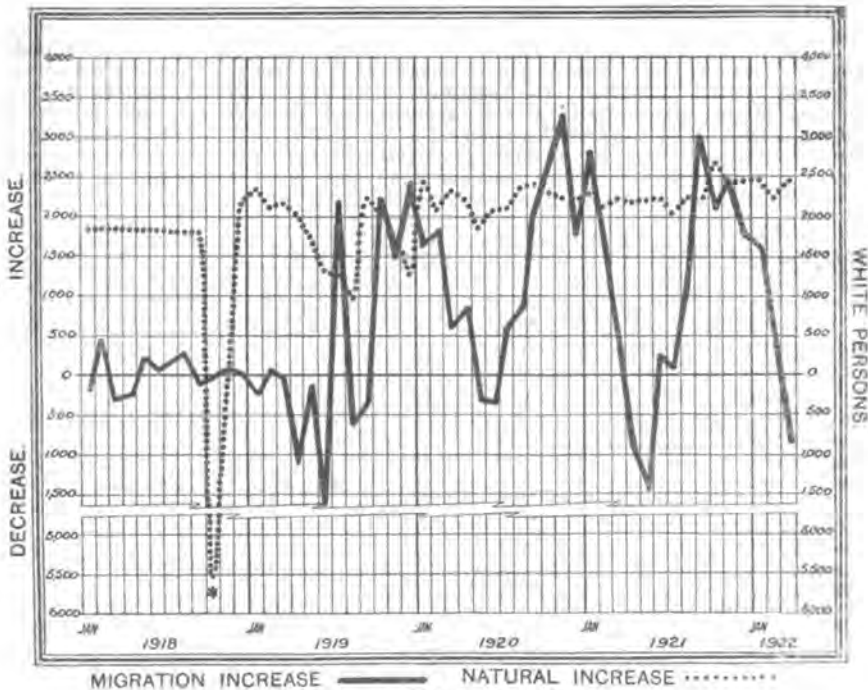
## NUMBER OF PASSPORTS ISSUED, 1910 TO 1921.

Year.	Number Issued.	Year.	Number Issued.
1910.....	58	1916.....	7,168
1911.....	217	1917.....	5,216
1912.....	262	1918.....	5,604
1913.....	307	1919.....	9,105
1914.....	227	1920.....	11,957
1915.....	1,107	1921.....	*9,776

\* In addition 11,338 Passports were renewed or endorsed, and 2,825 permits issued to travel to Portuguese East Africa.

## MONTHLY NATURAL AND MIGRATION INCREASE OF THE WHITE POPULATION, JANUARY, 1918, TO MARCH, 1922.

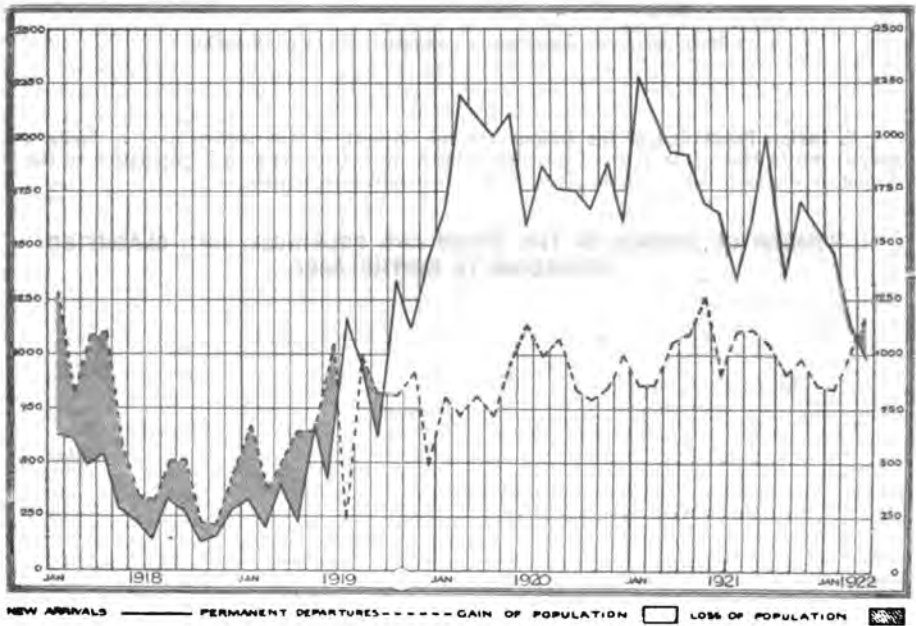
## UNION OF SOUTH AFRICA.



EXPLANATION OF GRAPH.—The space between each vertical line represents one calendar month, and between each horizontal line 500 persons. The graphical lines below the heavy zero lines indicate decreases of population. The migration increase is the difference between gross arrivals and departures, and the natural increase the excess of births over deaths.

MIGRATION STATISTICS.

NEW ARRIVALS INTO AND PERMANENT DEPARTURES FROM THE UNION OF SOUTH AFRICA OF WHITE PERSONS. JANUARY, 1918, TO MARCH, 1922.



### § 4. Asiatic Population.

1. *Asiatics in the Union.*—The number of Asiatics in the Union as shown in the Censuses of 1904, 1911, and 1921 is given in the following table:—

#### ASIATIC POPULATION OF THE PROVINCES AND UNION—CENSUS YEARS 1904, 1911, AND 1921.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Total.
1904....	9,316	926	63,497	37,421	9,799	1,522	107	56	82,809	39,925	122,734
1911....	6,605	1,085	80,490	52,949	9,018	2,054	88	20	96,201	56,108	152,309
*1921....	5,683	2,087	79,949	60,909	10,524	4,528	139	77	96,295	67,601	163,896

\* These figures are unaudited and therefore subject to alteration.

2. *Indian Population of the Union.*—At the request of the Government of India a special return was made at the Census of 1911 in respect of the Indian population of the Union, a summary of which is given in the two tables hereunder.

#### (i) NUMBER OF INDIANS IN THE UNION AND PROVINCES, 1911, CLASSIFIED ACCORDING TO BIRTHPLACES.

BIRTHPLACE.	NUMBER.				
	Union.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.
Union of South Africa.....	63,776	1,381	59,277	3,065	53
Assam.....	31	5	20	6	—
Bengal.....	16,165	193	15,468	501	3
Bombay.....	10,883	2,819	4,588	3,474	2
Burma.....	33	7	12	14	—
Central Province and Berar ..	49	8	26	15	—
Eastern Bengal.....	3	3	—	—	—
Madras.....	41,314	619	39,295	1,392	8
Punjab.....	342	123	95	121	3
United Province of Agra and Oudh.....	265	32	225	8	—
Other Provinces (and Unspecified)	15,921	974	13,592	1,323	32
Other Countries.....	1,009	442	433	129	5
TOTAL.....	149,791	6,606	133,031	10,048	106

## (ii) RELIGION, CONJUGAL CONDITION, OCCUPATIONS, AND AGES OF INDIANS IN THE UNION, 1911.

DESCRIPTION.	NUMBER.				
	Union.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.
<b>Religion—</b>					
Hindu .....	115,580	2,288	108,877	4,403	12
Mohammedan .....	20,892	3,211	12,938	4,724	19
Parsi .....	341	4	319	17	1
Others.....	12,978	1,103	10,897	904	74
<b>Conjugal Condition—</b>					
Married.....	62,692	3,158	54,074	5,423	37
Single.....	82,306	3,129	74,787	4,328	62
Widowed.....	4,344	298	3,750	283	4
Divorced.....	166	13	142	9	2
Unspecified.....	283	8	269	5	1
<b>Occupation—</b>					
Professional.....	729	51	627	49	2
Domestic.....	31,339	1,145	27,810	2,323	61
Commercial.....	10,307	1,718	4,961	3,622	6
Agricultural.....	36,238	179	35,677	373	9
Industrial.....	21,861	2,443	18,053	1,358	7
Indefinite.....	1,149	26	1,066	54	3
Dependents.....	47,291	1,022	44,050	2,201	18
Unspecified.....	877	22	787	68	—
<b>Age—</b>					
Under 20 years.....	62,223	1,479	57,534	3,183	27
20-39 years.....	65,193	3,855	56,332	4,954	52
40-59 years.....	18,971	1,130	16,118	1,701	22
60 years and over.....	3,380	142	3,023	210	5
Unspecified.....	24	—	24	—	—

3. **Asiatics in Cape of Good Hope.**—Excluding the Malay element, principally congregated in the Cape Peninsula and now practically indigenous to the country, the Asiatic population of the Cape Province in 1891 numbered only 1,305 males and 395 females. In 1911 it comprised 6,605 males and 1,085 females, while in 1921 there were 5,683 males and 2,087 females returned as Asiatics. A considerable influx of Asiatics took place between 1891 and 1904, but in consequence of a body of legislation dating from 1902 (particulars of which are given in previous issues of this Year Book), framed with the object of checking Asiatic immigration into the Province, the number has shown a tendency to decrease.

4. **Asiatics in Natal.**—The bulk of the Asiatic population resident in the Union is found in Natal, the predominant element being Indian. The number enumerated at the 1921 Census was 140,858 (males 79,949, females 60,909). As early as 1860 Indian labourers were introduced under indenture for work on the sugar estates, and although immigration ceased for some years, it was again revived in 1874, owing to the shortage of local labour, and it continued uninterruptedly until 1911, when it finally ceased. On the conclusion of their indentures, the greater number of the Indian labourers elected to remain in Natal and are



now engaged in farming, market gardening, hawking, and shopkeeping. While the importation of indentured Indians was a continually diminishing factor, the entry of increasing numbers of Indians, mostly Mohammedan traders from Bombay, following in the wake of their indentured countrymen, as well as the settlement of time-expired labourers, gave rise to considerable apprehension on the part of the small white population of the Province and prompted legislation aimed at the restriction of Asiatic immigration. With a view to inducing Indians to return to their homes, special taxation was imposed on those who continued to remain in the Province after the expiration of their indentures. On account of disturbances rising out of the disabilities imposed on the Indian community, a Commission of Inquiry was appointed in 1913 to investigate their grievances. This Commission reported against the incidence of the special tax, which was repealed by the Union Government the following year. The *Indians' Relief Act*, No. 22 of 1914, provided for the registration and recognition of Indian marriages and for the repatriation at Government expense of those Indians, their wives and children, who might volunteer to return home. Entry into Natal is now regulated by Union Act No. 22 of 1913, which prohibits the immigration of adult Asiatic males into the Union (see paragraph 7 below).

**5. Asiatics in the Transvaal.**—The number of Asiatics resident in the Transvaal was returned at the 1921 Census as 10,524 males and 4,528 females. Under the Republican Government Law No. 3 of 1885, any Asiatic settling in the Transvaal was required to register and pay a prescribed tax. No records are extant of the number of persons thus registered, and as the receipts issued bore no identification marks, it was not possible after the British occupation effectively to dispute the claims of holders of these documents to re-enter into the Transvaal. A scheme of "voluntary" registration was, therefore, introduced, and a large number of Asiatics availed themselves of the registration certificates, but it is certain that very many more Asiatics thus obtained entrance to the Transvaal than could originally have been registered under the Republican Law.

An Ordinance amending the law was introduced in 1906 to control the admission of Asiatics into the Transvaal. The measure was strenuously opposed by the Asiatic population under the leadership of Mr. M. K. Gandhi, who until his return to India in 1914 was in continuous agitation against the existing Asiatic policy and legislation. In pursuance of his "passive resistance" movement and as a protest against the *Immigrants' Regulation Act*, 1913, Mr. Gandhi organized and unsuccessfully attempted to march a body of some 2,700 Indians from Natal into the Transvaal. In consequence of this and similar disturbances, the Government in 1914 passed the *Indians' Relief Act*, which is referred to in the preceding paragraph. Asiatics in common with other persons not of European descent are placed under certain political disabilities as regards the franchise and are debarred from holding land.

**6. Asiatics in Orange Free State.**—This Province alone has succeeded in practically excluding Asiatics from its territory. The number of Asiatics enumerated at the 1921 Census was 139 males and 77 females.

**7. General effect of Union Legislation.**—Under the *Union Immigrants Act*, 1913 (which is applicable to all classes and races), Asiatics, with the exception of wives and children of domiciled relatives, are prohibited from entering the Union, not *eo nomine*, but under a certificate of the Minister issued in terms of section 4 (1) (a). The provisions of the Act also restrict the movement of Asiatics to the Province in which they are resident.

Fuller information in regard to the Asiatic problem in the Union is published in previous issues of the Year Book.

**8. Asiatic Inquiry Commission.**—On 3rd February, 1920, a Commission was appointed to inquire into and report on the provisions of the law affecting—

(a) the acquisition of land and rights affecting land in the Union by Asiatics and persons of Asiatic descent for trading and other purposes;

(b) the trading or carrying on of business by such persons generally, or in specified localities;

and further to report whether it is in the public interest to alter the law in any respect, and to make recommendations with regard to any difficulties and grievances which have arisen in regard to matters (a) and (b).

On the 12th May, 1920, the Commission submitted an interim report recommending that steps be taken to facilitate the repatriation of Indians who were desirous of returning to India.

The Government gave immediate effect to this recommendation, and a considerable number of Indians have availed themselves of the facilities thus provided. The position is, however, complicated by the fact that over 50 per cent. of the Indian community of

the old indentured class resident in Natal were born and educated in South Africa, and therefore know no other homeland.

The final report of the Commission was submitted on 3rd March, 1921. After an historical survey of the Asiatic question throughout the Union and a statement of the present position in each Province, in the course of which the evidence of numerous witnesses was reviewed, the Commission adopted the following recommendations:—

- (1) Law No. 3 of 1885 (Transvaal), the Gold Law of the Transvaal (Act No. 35 of 1908), and Act No. 37 of 1919 should not be repealed.
- (2) There should be no compulsory repatriation of Asiatics, but
- (3) Voluntary repatriation should be encouraged as outlined in the interim report submitted in May, 1920.
- (4) There should be no compulsory segregation of Asiatics, but
- (5) A system of voluntary separation should be introduced under which municipalities should have the right, subject to certain conditions—
  - (a) to lay out residential areas for Asiatics;
  - (b) to set aside certain streets or portions of the town for Asiatic traders, to which existing licence holders should gradually be attracted.
- (6) These areas should be selected and allocated by a board of independent persons in consultation with the municipal council and Asiatic community.
- (7) In Natal, the right of Asiatics to acquire and own land for farming or agricultural purposes, outside townships, should be confined to the coast belt, say twenty to thirty miles inland.
- (8) Law No. 3 of 1885 (Transvaal) should remain applicable to the Vryheid, Utrecht, and Paulpietersburg Districts of Natal.
- (9) The existing laws relating to Asiatics in Zululand and the Transkeian Territories should remain unaltered.
- (10) A uniform "Licence Law" applicable to all the Provinces of the Union should, if possible, be enacted. If that is impracticable, the laws relating to the issue of trade licences in the Cape Province, the Transvaal, and Natal should be assimilated in a comprehensive consolidating Act of Parliament, providing, *inter alia*—
  - (a) That the granting of all licences to trade (not being liquor licences) shall be entrusted to municipal bodies within the areas of their jurisdiction; outside those areas, to divisional councils in the Cape Province, and in the other Provinces to special licensing officers appointed by the Administrator.
  - (b) The grounds upon which an application for the grant of a new licence may be refused.
  - (c) That the reason for the refusal to grant any licence shall be recorded, together with any evidence tendered for or against the application.
  - (d) That, in the case of the refusal of a licence on the ground that the applicant is not a fit and proper person to hold the same or to carry on the proposed business, there shall be a final appeal to a special appeal board, appointed by the Administrator.
  - (e) That municipal bodies shall have the right to prohibit the licence holder, or any other person, from residing in any shop, store, or other place of business.
- (11) There should be no relaxation in the enforcement of the Immigration Laws, and more active steps should be taken to deal with prohibited immigrants who have evaded the provisions of those laws.
- (12) The administration of the Asiatic policy of the Government should be placed in the hands of one official.

### § 5. Naturalization of Aliens.

1. **Legislation.**—The *Naturalization of Aliens Act*, 1910, was one of the first laws passed by the Union Parliament in its first Session. Particulars are given hereunder regarding (i) the qualifications which an alien must possess to render him eligible for naturalization, (ii) the procedure to be followed, and (iii) the expenses which it is necessary to incur in obtaining a certificate of naturalization.

(i) *Qualifications.*—To be eligible for naturalization an alien must satisfy the following conditions :—

- (1) He must have attained the age of twenty-one years.
- (2) (a) He must within the five years immediately preceding the date of his application for naturalization have resided for a period of not less than two years in the Union (or in any Colony or territory included at the date of his application within the Union); or  
(b) he must have been in the service of the Crown.
- (3) He must be of good character and repute.
- (4) He must intend, if naturalized, to reside in the Union, or to serve under the Crown in the Union.

(ii) *Procedure.*—An alien desiring to be naturalized must apply on a prescribed form. This form, and the two other forms necessary, can be obtained free of charge on application to the Department of the Interior. The first step is for the applicant to publish in the *Union Gazette* his notice of intention to apply for naturalization. The form of this notice containing particulars as to how it should be published is supplied with the form of application. The next step is to procure a certificate of good repute from a Magistrate, or a Justice of the Peace, to whom the applicant is personally known. No such officer will sign this certificate unless the applicant is so known to him. The form of certificate of repute is supplied with the form of application. The applicant must then complete the form of application and declare its accuracy before a Magistrate or Justice of the Peace. The form of application, so completed, with the certificate of repute attached, must then be sent to the Secretary for the Interior at Pretoria. If the application is approved by the Minister, the applicant will receive a form of declaration of allegiance, which he must sign before a Magistrate or Justice of the Peace of the Union, and return to the Secretary for the Interior, and on receipt of the declaration of allegiance a certificate of naturalization may be issued.

(iii) *Expenses.*—The expenses which it is necessary to incur in obtaining a certificate of naturalization are :—

	s.	d.
(1) Cost of publication in <i>Union Gazette</i> .....	4	6
(2) Revenue stamp on form of application.....	1	0
(3) " " declaration of allegiance....	1	0
(4) " " certificate of naturalization..	2	6
TOTAL.....		
	9	6

**2. Effect of Naturalization under the Union Law.**—A person naturalized under the Act of 1910 becomes entitled in the Union to all the rights, powers, and privileges, and subject to all the obligations of a natural-born British subject in the Union, unless the law provides otherwise. The wife of a person naturalized under this Act acquires in the Union the same status of a naturalized British subject as her husband. The children of a person naturalized under this Act who, while under the age of twenty-one, become resident with their father or mother in the Union are deemed to be naturalized under this Act. A person naturalized in the Union is only while in the Union entitled to the privileges, and subject to the obligations, of a British subject. He cannot, therefore, by virtue of his naturalization in the Union, claim the rights of a British subject in the United Kingdom or in any British Dominion or Colony other than the Union of South Africa. At the same time, all persons, wherever born or naturalized as British subjects, are regarded generally as coming under the protection of the British Empire in relation to foreign States; except that a person naturalized as a British subject is not regarded as a British subject when he is within the limits of the foreign state of which he was a subject previously to obtaining British naturalization, unless he has ceased to be a subject of that State in pursuance of the laws thereof or in pursuance of a treaty to that effect. For this reason a naturalized British subject will not be entitled to receive a British passport available for the country of his origin. Certificates of naturalization as British subjects were not granted during the continuance of the War to subjects of Allied countries of military age unless documentary evidence was produced that they had fulfilled the military obligations of their country or had secured exemption therefrom.

3. Number and Particulars of Certificates Issued.—The table given below enumerates the Certificates of Naturalization issued during each of the years 1913 to 1921:—

**NUMBERS AND COUNTRY OF ORIGIN OF PERSONS NATURALIZED IN THE UNION, 1913 TO 1921.**

COUNTRY OF ORIGIN.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
<b>EUROPE—</b>									
Austria.....	10	7	—	—	—	—	—	35	57
Belgium.....	—	1	1	—	—	—	—	2	2
Bulgaria.....	—	—	—	—	—	—	—	—	—
Crete.....	—	—	—	—	—	—	—	—	—
Denmark.....	6	10	18	11	9	1	4	6	12
France.....	—	2	2	—	2	—	—	1	9
Germany.....	81	40	2	2	1	1	1	190	404
Greece.....	14	17	17	—	—	—	—	39	34
Holland.....	30	36	48	46	48	19	39	20	43
Hungary.....	7	4	—	—	—	—	—	4	1
Iceland.....	—	—	—	—	—	—	—	1	—
Italy.....	8	27	20	12	4	2	5	11	12
Ireland.....	—	—	—	—	—	1 <sup>b</sup>	—	—	—
Montenegro.....	—	—	—	—	—	—	—	—	1
Norway.....	13	18	26	16	11	7	12	10	16
Portugal.....	3	—	1	—	1	1	1	5	1
Roumania.....	3	2	3	1	—	1	1	1	7
Russia.....	486	255	61	36	26	18	147	1,442	634
Servia.....	—	2	—	—	—	—	—	1	—
Spain.....	1	—	1	1	—	—	1	1	3
Sweden.....	14	20	49	13	7	5	7	15	7
Switzerland.....	6	3	5	3	9	5	4	9	5
Turkey.....	6	7	1	—	—	—	—	8	28
<b>AMERICA—</b>									
Argentine Republic.....	1	—	—	—	1	—	—	—	—
Chili.....	—	—	—	—	—	—	—	—	1
United States.....	5	14	10	4	5	5	—	—	8
Uruguay.....	—	—	1	—	—	—	—	—	—
<b>AFRICA—</b>									
Cape.....	—	—	—	—	—	—	1 <sup>a</sup>	2	—
Egypt.....	1	1	—	—	—	—	—	3	—
Morocco.....	1	—	—	—	—	—	—	—	—
Transvaal.....	—	—	—	—	—	2	—	1	—
<b>ASIA—</b>									
Syria.....	4	7	—	—	1	2	—	21	—
<b>TOTAL.....</b>	<b>700</b>	<b>473</b>	<b>275</b>	<b>145</b>	<b>125</b>	<b>70</b>	<b>224</b>	<b>1,845</b>	<b>1,285</b>

<sup>a</sup> Widow of denaturalized German.

<sup>b</sup> Son of denaturalized German.

## CHAPTER IV.

### VITAL STATISTICS.

#### § 1. Registration of Births and Deaths.

**1. Systems of Registration.**—At the present time a different series of laws relating to the registration of births and deaths is in force in each of the Provinces. It is recognized that it is desirable to have a uniform system throughout the Union, but legislation to this end has not yet been introduced. The registration of births and deaths of Europeans may, for all practical purposes, be said to be reliable throughout the Union, but the registration of births and deaths amongst natives is a matter of much difficulty, especially in those areas which are populated principally by aboriginal races. No steps are at present taken to record births and deaths amongst natives in the Orange Free State or in Zululand; whilst in the Transvaal registration amongst natives is in force only in municipal and special native registration areas. In the Cape Province the law requires that events amongst natives should be registered, but the results obtained from the native territories and from districts largely populated by natives, such as King William's Town, Fort Beaufort, and Victoria East, are practically worthless, as it is known that a small percentage only of deaths is notified to the authorities, and a still smaller percentage of births. Probably not more than 60 per cent. of the native births occurring in the Cape Province, excluding the native territories, are ever registered, and in some districts of the native territories the number registered is altogether insignificant. In Pondoland, for example, with a native population of over 230,000, only 671 native births and 1,227 native deaths were registered during 1915. Regarding the disproportionate number of native births registered as compared with deaths, the reason is to be found in the suspicion present in the native mind that any enumeration of the people signifies additional taxation. Births are consequently reported to a far less extent than deaths. It is for the above reasons that the majority of the following tables are confined to European registrations. The figures for the races other than European should for the same reason be treated merely as marking the progress of registration, and not as indicating the actual number of occurrences.

Full particulars of the systems of registration in force in the various Provinces of the Union are given in the fourth and previous issues of this Year Book.

Section 133 (1) of the *Public Health Act*, No. 36 of 1919, provides that the Minister of Public Health may, when so requested by a local authority, make regulations requiring the father of any child if he is residing with the mother when the child is born, or, in his absence, the person attending on the mother at the time of or within six hours after the birth, to report forthwith the birth to the local authority with such details as may be prescribed by the regulations.

#### § 2. Births.

**1. Births Registered.**—The total number of births registered from 1910 of (a) white persons and (b) coloured persons is shown in the following tables. The large increase in the Natal figures for the year 1913 is caused by the inclusion of Indian births not previously recorded, and the still greater increase in subsequent years by the addition of births of natives also. The registration law in the Orange Free State applies only to white persons.

The significance of the figures in table (b) is purely administrative, owing to the incompleteness of the registration of births of native and coloured persons.

## REGISTRATION OF BIRTHS, 1910 TO 1921.

YEAR.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
(a) TOTAL BIRTHS REGISTERED—WHITE PERSONS.					
1910.....	17,513	2,709	15,240*	5,365	40,827*
1911.....	17,889	2,746	15,472	5,093	41,200
1912.....	18,294	2,809	15,783	5,128	42,014
1913.....	17,989	2,806	15,957	5,386	42,138
1914.....	18,384	2,771	15,160	4,571	40,886
1915.....	17,745	2,832	15,012	4,882	40,471
1916.....	17,333	2,773	16,010	5,080	41,196
1917.....	17,521	2,756	15,486	4,959	40,722
1918.....	17,775	2,924	15,977	4,906	41,582
1919.....	16,749	2,910	15,338	4,727	39,724
1920.....	18,425	3,256	16,768	4,996	43,445
1921†.....	18,259	3,367	16,347	5,279	43,252

## (b) TOTAL BIRTHS REGISTERED—COLOURED PERSONS (PARTIAL REGISTRATION).

1910.....	38,323	2,438	4,218*	—	44,979*
1911.....	39,490	3,190	4,023	—	46,703
1912.....	42,544	4,750	4,058	—	51,352
1913.....	40,798	15,465	3,833	—	60,096
1914.....	43,687	18,365	3,832	—	65,884
1915.....	41,599	20,220	3,801	—	65,620
1916.....	40,325	21,260	3,881	—	65,466
1917.....	38,008	19,490	4,149	—	61,647
1918.....	38,087	35,167	3,921	—	77,175
1919.....	32,290	36,102	3,807	—	72,199
1920.....	35,604	35,838	4,375	—	75,817
1921†.....	35,258	23,550	4,499	—	63,307

\* Estimated.

† Unaudited figures.

2. Births Registered according to Sex.—Particulars are given below, from 1910, of the total number of births registered in each Province and in the Union amongst white persons, distinguishing males from females:—

## BIRTHS REGISTERED—WHITE PERSONS, MALE AND FEMALE, 1910 TO 1921.

YEAR.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
MALES.					
1910.....	9,163	1,437	7,880*	2,778	21,258*
1911.....	9,213	1,417	8,018	2,655	21,303
1912.....	9,361	1,409	8,067	2,880	21,517
1913.....	9,211	1,402	8,054	2,769	21,436
1914.....	9,498	1,462	7,715	2,342	21,017
1915.....	9,196	1,439	7,758	2,522	20,915
1916.....	8,937	1,411	8,155	2,660	21,163
1917.....	9,241	1,426	8,041	2,620	21,328
1918.....	9,274	1,511	8,269	2,528	21,582
1919.....	8,689	1,548	7,911	2,477	20,625
1920.....	9,581	1,640	8,689	2,803	22,513
1921†.....	9,378	1,667	8,396	2,685	22,126

\* Estimated.

† Unaudited figures.

BIRTHS REGISTERED—WHITE PERSONS, MALE AND FEMALE, 1910 TO 1921—  
*continued.*

YEAR.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
FEMALES.					
1910.....	8,350	1,272	7,360*	2,587	19,569*
1911.....	8,678	1,329	7,454	2,438	19,897
1912.....	8,933	1,400	7,716	2,448	20,497
1913.....	8,778	1,404	7,903	2,617	20,702
1914.....	8,886	1,309	7,445	2,229	19,869
1915.....	8,549	1,393	7,254	2,360	19,556
1916.....	8,396	1,362	7,855	2,420	20,033
1917.....	8,280	1,330	7,445	2,339	19,394
1918.....	8,501	1,413	7,708	2,378	20,000
1919.....	8,060	1,362	7,427	2,250	19,099
1920.....	8,844	1,616	8,079	2,393	20,932
1921†.....	8,881	1,700	7,951	2,594	21,126

\* Estimated.

† Unaudited figures.

3. *Birth Rate and Proportion of the Sexes.*—The following tables (i) and (ii) show for white persons during a period of years the birth rate per thousand of the estimated mean white population, and the proportions of the sexes. The considerable decrease in the rate in 1919 is directly attributable to the influenza epidemic in the preceding year. The recovery in 1920 and 1921 points to the return to more normal conditions. As to the proportion of the sexes, the figures, when compared with other Dominions and various European countries, show a slightly greater excess of male over female births. Owing to the small numbers on which in the Union these figures are based the fluctuation is greater than in countries possessing a larger and more settled population.

Table (iii), showing the crude birth rates of various countries, was compiled from the latest available information. The rate for Canada was calculated by excluding the Province of New Brunswick, for which no statistical data were available. The figures for the Union and Provinces refer to the white population only.

(i) BIRTH RATE PER 1,000 WHITE PERSONS, 1910 TO 1921.

YEAR.	Cape of Good Hope.	Natal.*	Transvaal.	Orange Free State.	Union.
1910.....	30·37	28·55	37·20	30·79	32·52
1911.....	30·66	27·81	36·60	29·04	32·18
1912.....	30·99	27·37	36·22	29·05	32·19
1913.....	30·13	26·35	35·54	30·32	31·68
1914.....	30·45	25·11	32·82	25·56	30·18
1915.....	29·06	24·79	31·61	27·13	29·33
1916.....	28·08	23·48	32·80	28·05	29·33
1917.....	28·08	22·59	30·90	27·21	28·99
1918.....	28·18	23·23	31·07	26·75	28·59
1919.....	26·27	22·43	29·09	25·62	26·85
1920.....	28·55	24·26	31·31	26·66	28·91
1921†.....	27·97	24·33	29·91	27·85	28·33

\* Prior to 1914, the figures for Natal include persons of mixed race.

† Unaudited figures.

## (ii) MASCULINITY OF BIRTHS,† WHITE PERSONS, 1910 TO 1921.

YEAR.	Cape of Good Hope.	Natal.*	Transvaal.	Orange Free State.	Union.
1910.....	109·74	105·11	107·07	107·39	108·63
1911.....	106·19	106·21	107·57	108·90	107·57
1912.....	104·79	100·64	104·55	109·48	104·98
1913.....	104·93	99·86	101·91	105·81	103·55
1914.....	106·88	111·69	103·63	105·07	105·78
1915.....	107·57	103·30	106·95	106·86	106·95
1916.....	106·44	103·60	103·82	109·92	105·64
1917.....	111·61	107·22	108·01	112·01	109·87
1918.....	109·09	106·94	107·28	106·27	107·91
1919.....	107·80	113·65	106·52	110·09	107·99
1920.....	108·33	101·49	107·55	108·78	107·55
1921‡.....	105·60	98·06	105·60	103·51	104·73

\* Prior to 1914, the figures for Natal include persons of mixed race.

† Number of males to each 100 females born.

‡ Unaudited figures.

## (iii) BIRTH RATES OF VARIOUS COUNTRIES.

Country.	Year.	Crude Birth Rate.	Country.	Year.	Crude Birth Rate.
Russia (European).....	1909	44·0	Tasmania.....	1920	26·4
Roumania.....	1914	42·5	Australia.....	1920	25·7
Bulgaria.....	1911	40·2	New Zealand.....	1920	25·4
Serbia.....	1912	38·0	England and Wales....	1920	25·4
Ceylon.....	1920	36·5	South Australia.....	1920	25·2
Quebec.....	1918	35·7	Western Australia.....	1920	24·4
Jamaica.....	1919	33·5	Natal.....	1921	24·3
Japan.....	1917	32·4	Victoria.....	1920	24·1
Transvaal.....	1921	29·9	Sweden.....	1920	23·6
Austria.....	1913	29·6	Hungary.....	1915	23·5
Canada*.....	1915	28·8	Denmark.....	1919	22·7
Spain.....	1919	28·3	Ireland.....	1920	22·7
Union of South Africa..	1921	28·3	United Kingdom.....	1921	22·4
Scotland.....	1920	28·1	United States of America	1919	22·3
Cape of Good Hope.....	1921	28·0	Ontario.....	1919	22·1
Orange Free State.....	1921	27·8	Norway.....	1919	22·0
Queensland.....	1920	27·6	France.....	1920	21·3
Netherlands.....	1921	27·5	Italy.....	1917	19·0
Newfoundland.....	1919	27·5	Switzerland.....	1918	18·4
Michigan.....	1915	26·6	Belgium.....	1919	16·5
New South Wales.....	1920	26·6	Germany†.....	1916	15·3

\* Excluding New Brunswick.

† In 1913, 27·4.

(iv) *Birth Rates in the Nine Largest Towns.*—With the growth of population in the largest urban centres of the Union it has become possible to calculate vital rates without obtaining the wildly fluctuating results which are usually found where the basic figures



are small. The following table shows the birth rates in the nine largest municipalities in the Union:—

**NUMBER OF BIRTHS AND BIRTH RATES (WHITE PERSONS) IN NINE PRINCIPAL TOWNS IN THE UNION, 1921.\***

Town.	White Population (Census 1921).	January-June, 1921.		July-December, 1921.		Year 1921.	
		Births.	Birth Rate.†	Births.	Birth Rate.†	Births.	Birth Rate.†
Cape Town.....	101,000	1,158	22.03	1,220	24.15	2,378	23.54
Port Elizabeth.....	24,000	388	32.33	368	30.66	756	31.50
East London.....	17,000	232	27.29	268	31.53	500	29.41
Kimberley.....	17,500	283	32.34	291	33.28	574	32.80
Pietermaritzburg.....	17,500	274	31.31	275	31.43	549	31.37
Durban.....	48,000	653	27.21	640	26.67	1,293	26.94
Pretoria.....	36,500	514	28.16	591	32.38	1,105	30.27
Johannesburg.....	149,500	2,058	27.53	2,235	29.90	4,293	28.72
Bloemfontein.....	17,500	252	28.89	325	34.71	577	32.97

\* Unaudited figures.

† Equivalent annual rates.

**4. Natural Increase.**—The number of births in excess of deaths, which showed a steady decline from 1912 to 1917, has more recently moved in an upward direction. The year 1918 was highly abnormal and cannot be considered for comparative purposes in this connection. Although the males born are more numerous than the females, the actual increase in the population from the excess of births over deaths is greatly in favour of the females. The male population of the Union exceeds the female, but there is a correspondingly greater number of deaths each year of the former. The masculinity of the population is therefore steadily declining. Table (ii) shows the comparative masculinity of the white population and of births and deaths for a period of years. Reference to the subjoined table (i) of natural increase shows that for three of the Provinces comprising the Union the excess of male births over male deaths is, generally speaking, less than female births over female deaths. The one exception is the Orange Free State where the general tendency is the reverse. This is probably accounted for by the fact that this Province is almost entirely agricultural in character, and that, owing to the absence of hazardous industrial occupations, the risk of death to male life is very little greater than to female life.

The total excess of births over deaths of white persons from the date of the constitution of the Union to the 31st December, 1921, was approximately 284,000.

**(i) NATURAL INCREASE—WHITE POPULATION, UNION, 1911 TO 1921.**

Year.	Cape of Good Hope.		Natal.		Transvaal.		Orange Free State.		Union.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
1911....	5,748	5,902	803	886	5,104	5,599	1,958	1,785	13,073	14,172	27,845
1912....	5,952	6,079	840	993	5,224	5,826	1,874	1,744	13,890	14,682	28,572
1913....	5,604	5,765	817	997	5,325	6,091	1,940	1,935	13,686	14,788	28,474
1914....	6,154	6,180	832	896	5,040	5,637	1,600	1,650	13,626	14,363	27,989
1915....	5,746	5,616	808	972	4,689	5,165	1,629	1,635	12,872	13,388	26,260
1916....	5,383	5,431	757	891	5,019	5,678	1,866	1,786	13,025	13,780	26. 11
1917....	5,542	5,163	710	859	4,959	5,298	1,893	1,633	13,104	12,953	26,057
1918....	2,216	3,439	509	833	3,346	4,509	799	1,014	6,780	9,830	16,610
1919....	4,724	4,812	672	739	4,118	4,646	1,193	1,257	10,736	11,454	22,190
1920....	5,509	5,504	767	1,043	5,116	5,612	1,643	1,557	13,195	13,716	26,811
1921*....	5,482	5,614	819	1,153	5,156	5,633	1,690	1,785	13,147	14,185	27,332

\* Approximate unaudited figures.

(ii) **COMPARATIVE MASCULINITY\* OF POPULATION, BIRTHS, AND DEATHS—UNION, 1911 AND 1913 TO 1921.**

Heading.	1911. (Census.)	1913.	1914.	1915.	1916.	1917.	1918.†	1919.	1920.	1921.‡
Estimated mean population...	115.4	113.6	112.6	111.7	110.8	108.5	105.2	108.3	106.9	105.9
Births.....	107.1	103.6	105.8	106.9	105.6	100.9	107.9	108.0	107.5	104.7
Deaths (crude ratio).....	132.8	131.0	134.2	130.4	130.3	127.7	145.6	129.4	130.5	129.3
Relative male mortality §...	115.1	115.3	119.2	116.8	117.5	116.2	133.3	110.4	122.0	122.2

\* Number of males to each 100 females.

† Result of Census of Europeans or Whites taken 5th May, 1918, excluding male absentees.

‡ Ratio of death rate of males to death rate of females.

§ Based on unaudited figures, subject to revision.

5. **Births in Urban and Rural Areas.**—The distribution of births in the urban centres and rural districts of the Union is shown in the following statement for a series of years. The table thus affords a ready means of comparison between the registrations in the towns and the country districts. The figures show that the births recorded in the former areas mark an excess over those recorded in the latter.

**BIRTHS REGISTERED IN URBAN AND RURAL AREAS—WHITE PERSONS, UNION, 1911 to 1921.**

Year.	Urban Areas.				Rural Areas.				Total Persons.	General Birth Rate.
	Males.	Fe-males.	Per-sons.	Birth Rate.	Males.	Fe-males.	Per-sons.	Birth Rate.		
*1911.....	11,339	10,580	21,919	33.07	9,960	9,316	19,276	31.21	41,195	32.18
1912.....	11,710	11,390	23,115	33.07	9,798	9,101	18,899	30.25	42,014	32.79
1913.....	11,620	11,495	23,115	33.10	9,816	9,207	19,023	30.11	42,138	31.68
1914.....	12,157	11,650	23,807	33.25	8,860	8,210	17,079	26.73	40,886	30.18
1915.....	11,728	11,112	22,840	31.13	9,187	8,444	17,631	27.30	40,471	29.33
1916.....	12,078	11,544	23,622	31.43	9,085	8,489	17,574	26.91	41,196	29.33
1917.....	12,169	11,075	23,244	30.21	9,159	8,319	17,478	20.48	40,722	28.90
1918.....	12,616	11,762	24,378	30.05	8,966	8,238	17,204	25.82	41,582	28.59
1919.....	11,908	11,000	22,908	28.32	8,717	8,099	16,816	25.13	39,724	26.85
1920.....	13,433	12,622	26,055	31.38	9,080	8,310	17,390	25.88	43,445	28.91
1921†.....	13,133	12,390	25,523	29.97	8,993	8,736	17,729	26.27	43,252	28.33

\* Excluding births at sea.

† Unaudited figures.

6. **Plural Births.**—The incidence of plural births from the year 1915 is shown below.

**PLURAL BIRTHS—WHITE PERSONS, 1915 TO 1920.**

YEAR.	NUMBER OF CASES REGISTERED.				
	Cape.	Natal.	Transvaal.	Orange Free State.	Union.
1915.....	—	29	189	60	—
1916.....	189	27	198	45	459
1917.....	223	22	175	49	469
1918.....	168	39	183	68	468
1919.....	168	36	189	54	447
1920.....	196	29	185	69	479

7. **Illegitimate Births Registered.**—The total number of illegitimate births amongst the white population registered during a series of years is shown in the following table :—

(i) **TOTAL ILLEGITIMATE BIRTHS REGISTERED IN THE UNION—WHITE PERSONS, 1913 TO 1921.**

YEAR.	Cape of Good Hope.	Natal.*	Transvaal.	Orange Free State.	Union.
1913.....	516	52	278	89	935
1914.....	487	21	315	71	894
1915.....	520	40	309	70	939
1916.....	500	38	317	68	923
1917.....	551	32	305	52	940
1918.....	557	52	266	59	934
1919.....	553	52	276	44	925
1920.....	519	47	273	52	891
1921†.....	517	35	280	38	870

\* Prior to 1914 the figures for Natal include persons of mixed race.  
 † Unaudited figures, subject to revision.

(ii) *Percentage of Illegitimate Births.*—The table below shows the number of illegitimate births as a percentage of the total number of births registered in urban and rural areas respectively. The average shows the ratio of illegitimate births to be slightly more than 3 in every 100 in the towns and approximately 1 in every 100 in the country districts. The total percentage for the whole Union was 2·21 in 1913, 2·19 in 1914, 2·32 in 1915, 2·24 in 1916, 2·31 in 1917, 2·25 in 1918, 2·33 in 1919, 2·05 in 1920, and 2·02 in 1921. These percentages compare favourably with the rates as published by other Dominions and foreign countries.

**PERCENTAGE OF ILLEGITIMATE BIRTHS TO TOTAL BIRTHS—WHITE PERSONS, 1913 TO 1921.**

YEAR.	CAPE.		NATAL.		TRANSVAAL.		O.F.S.		UNION.	
	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.	Urban.	Rural.
1913..	4·01	1·53	2·41	1·05	2·54	0·62	2·87	0·64	3·18	1·04
1914..	3·48	1·57	1·05	0·00	2·84	0·92	2·34	0·78	2·92	1·16
1915..	4·01	1·64	1·78	0·58	2·79	0·99	2·34	0·62	3·17	1·21
1916..	3·84	1·69	1·75	0·39	2·80	0·75	2·22	0·58	3·07	1·12
1917..	4·24	1·83	1·25	0·95	2·77	0·72	2·52	0·62	3·12	1·22
1918..	4·36	1·59	2·37	0·53	2·40	0·42	1·97	0·41	3·15	0·96
1919..	4·54	1·80	2·43	0·51	2·50	0·65	1·44	0·45	3·21	1·13
1920..	3·47	1·90	1·95	0·21	2·28	0·57	1·72	0·26	2·69	1·10
1921*.	3·75	1·56	1·27	0·50	2·41	0·63	0·95	0·56	2·72	1·02

\* Subject to revision.

(iii) The usual method of stating the number of illegitimate births as a proportion of the total births is not entirely satisfactory. The subjoined table shows the illegitimate births in 1918 in relation to the total unmarried female population of child-bearing age. There is, however, no method of arriving at a correct estimate of this group of the population for any period except that of the census, and the figures below, based upon the census figures of 1918, are therefore all that it is possible to give. The table also shows the legitimate birth rate in relation to the married female population between the ages of 15 and 45 years.

**ILLEGITIMATE AND LEGITIMATE BIRTHS PER 1,000 OF THE UNMARRIED AND MARRIED FEMALE POPULATION BETWEEN THE AGES OF 15 AND 45 YEARS—WHITE PERSONS ONLY, CENSUS, 1918.**

PROVINCE.	Unmarried Female Population.	Illegitimate Births.	Rate per 1,000.	Married Female Population.	Legitimate Births.	Rate per 1,000.
Cape of Good Hope	63,936	557	8.71	74,386	17,218	231.47
Natal.....	11,415	52	4.56	16,380	2,872	175.34
Transvaal.....	33,379	266	7.94	70,957	15,711	221.42
Orange Free State..	12,747	59	4.63	24,597	4,847	197.06
UNION.....	121,477	934	7.69	186,320	40,648	212.80

**§ 3. Deaths.**

1. **Deaths Registered.**—The total number of deaths registered during the period 1st January, 1910, to 31st December, 1921, of (a) white persons and (b) coloured persons is shown in the subjoined tables. As is the case in regard to the number of births registered the fluctuations in the figures for the Natal Province in respect of deaths are caused by the inclusion of registrations of deaths of Indians in 1912, and native registrations also in 1913 and later years, none of which events were previously recorded. The *Births and Deaths Registration Law* in the Orange Free State does not yet apply to natives and coloured persons.

In all the tables in this section the figures for the Natal Province prior to the year 1914 include persons of "coloured" or mixed race as well as white persons, the number of coloured persons, however, being small.

**TOTAL NUMBER OF DEATHS REGISTERED, 1910 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
(a) WHITE PERSONS.					
1910.....	6,193	982	4,974*	1,393	13,542*
1911.....	6,239	1,057	4,709	1,350	13,355
1912.....	6,263	976	4,733	1,470	13,442
1913.....	6,820	992	4,541	1,511	13,864
1914.....	6,050	1,043	4,483	1,321	12,897
1915.....	6,383	1,052	5,168	1,618	14,211
1916.....	6,519	1,125	5,313	1,428	14,385
1917.....	6,816	1,187	5,229	1,433	14,665
1918.....	12,120	1,577	8,122	3,153	24,972
1919.....	7,214	1,499	6,544	2,277	17,534
1920.....	7,352	1,446	6,040	1,796	16,634
1921†.....	7,163	1,395	5,558	1,804	15,920
(b) COLOURED PERSONS (PARTIAL REGISTRATION).					
1910.....	28,770	587	11,090*	—	41,347
1911.....	27,241	927	11,841	—	40,009
1912.....	29,423	2,123	11,010	—	42,556
1913.....	32,912	7,641	10,249	—	50,802
1914.....	29,638	8,982	7,611	—	46,231
1915.....	31,578	10,444	8,478	—	50,500
1916.....	33,990	10,600	8,786	—	53,376
1917.....	34,207	9,197	8,048	—	51,452
1918.....	75,904	27,421	14,565	2	117,892
1919.....	40,797	20,996	8,920	—	70,713
1920.....	37,438	18,676	10,003	—	66,117
1921†.....	34,060	12,538	8,941	—	55,539

\* Estimated.

† Unaudited figures, subject to revision.

2. **Deaths Classified as to Sex.**—The subjoined tables give the numbers of deaths of white persons, male and female, registered in the Union and in each Province for twelve years:—

**DEATHS REGISTERED—WHITE PERSONS, MALES AND FEMALES,  
UNION, 1910 TO 1921.**

Year.	Cape of Good Hope.*	Natal.	Transvaal.	Orange Free State.	Union.
<b>MALES.</b>					
1910.....	3,331	576	2,892*	730	7,529†
1911.....	3,465	614	2,854	697	7,630
1912.....	3,409	569	2,843	806	7,627
1913.....	3,607	585	2,729	829	7,750
1914.....	3,344	630	2,675	742	7,391
1915.....	3,450	631	3,069	893	8,043
1916.....	3,554	654	3,136	794	8,138
1917.....	3,699	716	3,082	727	8,224
1918.....	7,058	1,002	4,923	1,819	14,802
1919.....	3,966	876	3,763	1,284	9,889
1920.....	4,012	873	3,573	960	9,418
1921†.....	3,896	848	3,240	995	8,979
<b>FEMALES.</b>					
1910.....	2,862	406	2,082†	663	6,013†
1911.....	2,774	443	1,855	653	5,725
1912.....	2,854	407	1,890	664	5,815
1913.....	3,013	407	1,812	682	5,914
1914.....	2,706	413	1,808	579	5,506
1915.....	2,933	421	2,089	725	6,168
1916.....	2,965	471	2,177	634	6,247
1917.....	3,117	471	2,147	706	6,441
1918.....	5,062	575	3,199	1,334	10,170
1919.....	3,248	023	2,781	993	7,645
1920.....	3,340	573	2,467	836	7,216
1921†.....	3,267	547	2,318	809	6,941

\* Figures include deaths "At Sea." † Estimated.

‡ Unaudited figures, subject to revision.

3. **Crude Death Rate.**—The simplest measure of mortality is the computation of the number of deaths per 1,000 of the population. This is known as the "crude" death rate, and furnishes a useful index to the healthiness or otherwise of the climate of the country and the condition of life of the community.

The records from the establishment of the Union up to 1917 show a fairly constant death rate and the fluctuation in the figures was practically negligible. During that period there was indeed a slight tendency for the rate to improve; but subsequently the rate increased. The year 1921, however, afforded evidence of a return to average conditions. The death rate for the whole population in the Orange Free State and the infantile mortality rate in Natal have been consistently lower than in the rest of the Union. The year 1918 was generally an exceptional one, owing to the heavy mortality caused by the influenza epidemic which broke out in the latter half of the year. The rates shown hereunder have been calculated upon the revised estimates of population according to the Census of 1918.

(i) CRUDE GENERAL DEATH RATE, WHITE PERSONS, 1910 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1910.....	10.74	10.35	12.14	7.99	10.79
1911.....	10.69	10.70	11.14	7.70	10.43
1912.....	10.61	9.51	10.86	8.33	10.30
1913.....	11.09	9.31	10.12	8.50	10.27
1914.....	10.02	9.45	9.70	7.39	9.52
1915.....	10.45	9.21	10.86	8.99	10.30
1916.....	10.56	9.52	10.89	7.89	10.24
1917.....	10.92	9.73	10.43	7.86	10.26
1918.....	19.21	12.53	15.80	17.19	17.17
1919.....	11.31	11.55	12.41	12.34	11.85
1920.....	11.39	10.77	11.28	9.58	11.07
1921*.....	10.97	10.08	10.17	9.52	10.43

\* Unaudited figures, subject to revision.

(ii) MALE AND FEMALE DEATH RATES, WHITE PERSONS, 1910 TO 1921.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1910.....	11.15	10.30	11.32	9.23	12.44	11.75	7.74	8.30	11.13	10.39
1911.....	11.48	9.85	11.03	9.64	12.00	10.03	7.37	8.07	11.11	9.65
1912.....	11.19	10.00	10.39	8.50	11.70	9.80	8.52	8.11	10.94	9.56
1913.....	11.72	10.42	10.32	8.17	10.99	9.03	8.75	8.23	10.95	9.50
1914.....	10.76	9.23	10.75	7.98	10.55	8.67	7.82	6.90	10.30	8.64
1915.....	11.00	9.88	10.42	7.84	11.86	9.66	9.39	8.54	11.05	9.46
1916.....	11.22	9.86	10.47	8.47	11.88	9.71	8.34	7.38	11.02	9.38
1917.....	11.57	10.24	11.12	8.18	11.45	9.26	7.62	8.13	10.99	9.46
1918.....	21.87	16.43	15.10	9.66	17.94	13.34	19.05	15.18	19.50	14.03
1919.....	12.18	10.41	12.83	10.14	13.46	11.23	13.42	11.17	12.86	10.77
1920.....	12.24	10.51	12.56	8.85	12.67	9.73	9.87	9.27	12.13	9.94
1921*.....	11.80	10.13	11.92	8.13	11.33	8.89	9.80	8.59	11.30	9.32

\* Figures subject to revision.

4. **Specific Death Rates.**—The term Specific Death Rate used in the following table (i) designates the rate of mortality per 1,000 of the population at specified ages. For post-censal years, the numbers of each sex at each period of age are assumed to be in the same ratio as disclosed at the preceding Census. The rates have been calculated from the year 1912 and are given in the following table. The figures for the year 1918 disclose the ages at which the influenza epidemic of 1918 was most fatal.

SPECIFIC, STANDARDIZED, AND CRUDE DEATH RATES—UNION, 1912 TO 1920.

YEAR.	ALL AGES.		DEATHS PER 1,000 LIVING, IN AGE GROUPS.										
	*Standardized.	Crude.	0-4.	5-9.	10-14.	15-19.	20-24.	25-34.	35-44.	45-54.	55-64.	65-74.	75 and over.
MALES.													
1912.	12.07	10.01	29.49	2.92	1.90	2.53	3.86	5.01	0.06	12.46	22.96	48.25	115.51
1913.	12.06	10.95	30.24	2.52	1.81	2.90	3.69	4.79	8.43	11.56	24.28	49.20	116.75
1914.	11.37	10.30	27.09	2.36	1.61	2.89	4.33	4.99	7.54	11.83	22.06	45.69	113.21
1915.	11.98	11.05	29.32	3.22	2.16	2.59	3.68	4.63	8.31	11.90	21.87	50.51	121.13
1916.	12.10	11.02	29.41	2.56	1.92	2.72	3.69	4.48	7.87	12.77	24.11	51.24	123.58
1917.	11.99	10.99	27.81	2.62	2.14	3.00	4.25	4.84	8.37	13.43	22.26	48.92	121.28
1918.	20.65	19.50	31.78	3.66	2.95	8.65	17.40	26.68	22.85	20.00	26.96	62.23	114.14
1919.	13.96	12.86	27.49	3.04	2.34	4.40	6.24	9.26	11.22	15.32	24.24	54.20	127.81
1920.	13.20	12.13	31.57	2.59	2.22	3.68	3.92	4.99	8.13	13.48	26.69	56.41	138.41

\* Calculated on the "Standard Million" of the total population of undistinguished sex of England and Wales—Census, 1901 (vide paragraph 6 hereunder).

SPECIFIC, STANDARDIZED, AND CRUDE DEATH RATES—UNION,  
1912 TO 1920—*continued.*

YEAR.	ALL AGES.		DEATHS PER 1,000 LIVING, IN AGE GROUPS.										
	*Standardized.	Crude.	0-4.	5-9.	10-14.	15-19.	20-24.	25-34.	35-44.	45-54.	55-64.	65-74.	75 and over.
<b>FEMALES.</b>													
1912.	10.37	9.56	26.32	2.84	1.07	2.58	3.72	4.81	6.90	8.99	18.00	40.12	103.29
1913.	10.28	9.50	26.59	2.55	1.74	2.89	3.31	5.03	6.49	8.81	17.64	42.58	97.87
1914.	9.46	8.64	24.17	2.47	1.54	2.14	3.27	4.38	6.00	7.90	16.51	38.06	99.83
1915.	10.42	9.46	25.58	2.86	1.68	2.35	3.82	4.34	6.40	9.75	19.05	41.95	116.09
1916.	10.34	9.38	26.43	2.70	1.44	2.23	3.26	4.56	5.87	9.85	17.39	43.43	118.12
1917.	10.53	9.48	24.50	2.03	1.99	2.54	3.52	4.60	8.30	10.66	18.65	45.56	112.89
1918.	15.89	14.63	26.92	3.95	3.14	6.04	11.99	17.32	15.79	15.50	21.67	42.12	100.49
1919.	11.90	10.77	23.70	2.08	2.36	3.47	5.88	8.36	9.43	11.54	20.67	44.14	109.74
1920.	11.02	9.94	27.83	2.46	2.11	3.00	3.85	4.94	6.48	8.74	18.46	46.10	124.62
<b>PERSONS.</b>													
1912.	11.29	10.30	27.93	2.88	1.78	2.55	3.79	4.92	8.15	10.96	21.05	44.47	109.53
1913.	11.24	10.27	28.45	2.54	1.76	2.89	3.50	4.89	7.61	10.38	21.37	46.12	107.86
1914.	10.49	9.52	25.60	2.42	1.58	2.52	3.82	4.71	6.88	10.14	19.63	42.08	106.59
1915.	11.39	10.30	27.44	3.04	1.92	2.47	3.83	4.50	7.48	10.96	22.31	45.52	118.62
1916.	11.30	10.24	28.05	2.63	1.88	2.47	3.47	4.52	7.00	11.51	21.13	47.60	118.35
1917.	11.06	10.26	26.19	2.77	1.06	2.77	2.88	4.72	7.46	12.23	20.87	47.35	116.82
1918.	18.42	17.17	29.40	3.80	3.04	7.33	14.67	22.13	19.74	18.05	24.62	47.51	107.28
1919.	13.01	11.85	25.64	3.01	2.35	4.02	6.05	8.82	10.43	13.89	22.67	49.50	118.67
1920.	12.19	11.07	29.74	2.52	2.16	3.34	3.88	4.96	7.39	11.41	23.05	51.60	131.38

\* Calculated on the "Standard Million" of the total population of undistinguished sex of England and Wales—Census, 1901. *Vide* paragraph 6 hereunder.

5. **Death Rates of Various Countries.**—The subjoined table gives the crude death rates of various European countries and States of the British Commonwealth.

**DEATH RATES OF VARIOUS COUNTRIES.**

Country.	Year.	Crude Death Rate.	Country.	Year.	Crude Death Rate.
Orange Free State.....	1921	9.5	Sweden.....	1920	13.3
Natal.....	1921	10.1	Scotland.....	1920	14.0
Transvaal.....	1921	10.2	Germany.....	1916	14.3
New Zealand.....	1920	10.3	Belgium.....	1919	14.7
Tasmania.....	1921	10.3	Ireland.....	1920	14.9
Western Australia.....	1921	10.4	Newfoundland.....	1919	16.3
New South Wales.....	1920	10.4	Norway.....	1919	17.1
<b>Union of South Africa...</b>	1921	10.4	France.....	1920	17.2
South Australia.....	1920	10.8	Italy.....	1917	18.7
Queensland.....	1920	10.8	Switzerland.....	1918	19.0
Cape of Good Hope.....	1921	11.0	Austria.....	1913	20.2
Victoria.....	1920	11.2	Quebec.....	1918	20.6
Netherlands.....	1921	11.2	Serbia.....	1912	21.1
Ontario.....	1919	11.9	Japan.....	1917	21.4
England and Wales.....	1921	12.1	Bulgaria.....	1911	21.5
Canada*.....	1915	12.6	Jamaica.....	1919	22.2
United Kingdom.....	1920	12.8	Spain.....	1919	23.3
Australia.....	1920	12.8	Hungary.....	1915	23.6
United States of America†	1919	12.9	Roumania.....	1914	23.8
Denmark.....	1919	13.1	Russia.....	1909	28.9
Michigan.....	1915	13.3	Ceylon.....	1920	29.6

\* Excluding New Brunswick.

† Registration area only.

6. **Standardized Death Rate.**—The usual and simplest method of calculating the death rate of a country is by expressing the number of deaths as a proportion of each thousand of the estimated mean population, i.e. the *crude* death rate. Any error in the computation that may occur is most likely to arise through an over or under estimate of the population; but in a country like the Union, where a census is taken quinquennially, the population may be estimated for intercensal years with a fair degree of accuracy. An error may also occur if the system of registration of deaths is imperfect. Errors due to these two causes, however, will probably be negligible. Notwithstanding the criticism that has often been levelled at crude death rates, they are reliable and useful rates for most practical purposes. *Standardized* rates have a special and limited application.

The *crude* rates accurately reflect the actual rates of mortality in a particular country or area, and when calculated for a series of years give correct comparisons for general purposes in that particular country or area. The death rate of a country, however, is largely governed by the sex and age distribution of its population. For instance, owing partly to the more hazardous occupations in which males engage and to the greater risk of death, the male rate of death is greater than the female rate, so that a population containing a predominance of males may be expected to have a higher death rate than one in which the sexes are evenly proportioned. Again, a population in which the number of young persons (not infants) predominates will have a lower mortality rate than a population containing a large proportion of elderly people. The incidence of mortality is greater in early infancy and old age than in the stages of adolescence and early manhood. It will thus be seen that the age and sex constitution of a population have a considerable bearing on the death rate of a country. It is here that the *crude* death rate is considered to fail, because in comparing one country with another and one country with itself at dates of considerable interval, the *crude* rate does not take into consideration the difference between the constituent ages and the sex proportions of the populations of the countries or at the dates under comparison. A partial solution of the difficulty lies in obtaining a *standard* with which comparisons may be made, and the computations thus made are termed *standardized* death rates (the use of the term "corrected" death rates is a misnomer). The principal difficulty in connection with the computation of a *standardized* rate for any postcensal period is that of distributing the population according to sex and age. It is usually assumed that the distribution is the same as disclosed at the preceding Census. This may or may not be correct. Furthermore, there are other factors not taken into account, such as occupation, and race or nationality, which may have a bearing on the rate of mortality. It will thus be seen that even the adjustment of mortality rates to a standard is by no means perfect as a system. Generally speaking, however, the *standard* rate has an advantage over the *crude* rate for international comparisons, as it provides on a reasonable assumption of facts, such as age and sex distribution, a common basis for comparison between countries.

At the present time there are two standards in common use. One is the population of Sweden as at the Census of 1890, and the other is the *standard million* of the population of England and Wales as at the Census of 1901. The former has four age groups and the latter eleven; but neither is ideal, for reasons which it is unnecessary to enlarge upon here. The British Empire Statistical Conference held in the early part of 1920 realized this, and it will be one of the functions of the proposed British Empire Statistical Bureau to recommend a *standard* population.

The *standardized* death rates given in the tables in this chapter are calculated on the *standard million* of England and Wales and the rates are therefore adjusted for both age and sex distribution of the population.

For the purposes of comparison the *crude* death rate has also been inserted in the following table:—

**STANDARDIZED DEATH RATES, WHITE PERSONS, 1912 TO 1920.**

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		OMANOE FREE STATE.		UNION OF SOUTH AFRICA.	
	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.
MALES.										
1912..	12.09	11.19	11.88	10.39	12.79	11.70	9.26	8.52	12.07	10.94
1913..	12.50	11.72	11.71	10.32	12.16	10.99	9.49	8.75	12.06	10.95
1914..	11.55	10.76	12.21	10.75	11.78	10.55	8.55	7.82	11.37	10.30
1915..	11.81	11.00	11.62	10.42	13.30	11.86	9.88	9.39	11.98	11.05
1916..	12.04	11.22	11.49	10.47	13.13	11.88	9.18	8.34	12.10	11.02
1917..	12.31	11.57	12.03	11.12	12.93	11.45	8.11	7.62	11.99	10.99
1918..	23.16	21.87	15.88	15.10	18.97	17.94	20.09	19.06	20.65	19.50
1919..	13.01	12.18	13.60	12.83	14.76	13.46	14.38	13.42	13.96	12.86
1920..	13.03	12.24	13.54	12.56	14.12	12.67	10.50	9.87	13.20	12.13



STANDARDIZED DEATH RATES, WHITE PERSONS, 1912 TO 1920—  
continued.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION OF SOUTH AFRICA.	
	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.	Standardized.	Crude.
<b>FEMALES.</b>										
1912..	10.74	10.00	9.68	8.50	10.43	9.80	8.83	8.11	10.37	9.56
1913..	10.97	10.41	9.10	8.17	9.94	9.08	9.41	8.23	10.28	9.60
1914..	9.87	9.23	8.90	7.98	9.42	8.67	7.85	6.90	9.46	8.64
1915..	10.61	9.88	8.82	7.84	10.98	9.66	9.38	8.54	10.42	9.46
1916..	10.57	9.86	9.45	8.47	10.95	9.71	8.28	7.38	10.34	9.38
1917..	10.95	10.24	9.15	8.18	10.65	9.26	9.30	8.13	10.63	9.46
1918..	17.42	16.43	10.48	9.66	14.45	13.34	16.50	15.18	15.69	14.68
1919..	11.14	10.41	10.60	10.14	12.82	11.23	12.60	11.17	11.90	10.77
1920..	11.20	10.51	9.68	8.85	11.33	9.73	10.22	9.27	11.02	9.94

<b>PERSONS.</b>										
1912..	11.44	10.61	10.80	9.51	11.81	10.80	9.05	8.33	11.29	10.30
1913..	11.76	11.09	10.49	9.31	11.09	10.12	9.41	8.50	11.24	10.27
1914..	10.74	10.02	10.61	9.45	10.78	9.70	8.30	7.39	10.49	9.62
1915..	11.24	10.45	10.32	9.21	12.29	10.88	9.63	8.99	11.39	10.30
1916..	11.84	10.56	10.56	9.52	12.59	10.89	8.75	7.89	11.30	10.24
1917..	11.65	10.92	10.70	9.73	11.81	10.43	8.65	7.86	11.06	10.26
1918..	20.35	19.21	13.34	12.53	16.94	15.80	18.36	17.19	16.42	17.17
1919..	12.09	11.81	12.38	11.55	13.91	12.41	13.53	12.34	13.01	11.86
1920..	12.14	11.39	11.72	10.77	12.89	11.28	10.38	9.58	12.19	11.07

7. **Deaths in Urban and Rural Areas.**—The distribution of deaths of white persons between the urban centres and rural districts of the Union during a period of years is shown in table (i) hereunder. The number of deaths registered in urban areas is largely in excess of the number registered in rural areas:—

(i) **DEATHS REGISTERED IN URBAN AND RURAL AREAS—WHITE PERSONS, UNION, 1911 TO 1921.\***

Year.	Urban Areas.				Rural Areas.				Total Persons.	General Death Rate.
	Males.	Females.	Persons.	Death Rate.	Males.	Females.	Persons.	Death Rate.		
1911..	5,100	3,531	8,631	13.02	2,530	2,194	4,724	7.65	18,355	10.43
1912..	4,837	3,456	8,293	12.19	2,766	2,347	5,113	8.18	13,406	10.30
1913..	4,921	3,570	8,491	12.16	2,811	2,334	5,145	8.14	13,636	10.27
1914..	4,839	3,496	8,335	11.64	2,538	2,005	4,543	7.11	12,878	9.52
1915..	5,124	3,797	8,921	12.16	2,901	2,364	5,265	8.15	14,186	10.30
1916..	5,501	4,115	9,616	12.79	2,616	2,130	4,746	7.27	14,362	10.24
1917..	5,009	4,077	9,086	12.59	2,581	2,363	4,944	7.49	14,630	10.26
1918..	10,288	6,942	17,230	21.87	4,514	3,228	7,742	11.62	24,972	17.17
1919..	6,059	4,584	10,643	13.16	3,830	3,061	6,891	10.30	17,534	11.85
1920..	6,239	4,628	10,867	13.09	3,179	2,588	5,767	8.58	16,634	11.07
1921*..	5,872	4,465	10,337	12.14	3,107	2,476	5,583	8.27	15,920	10.43

\* Unaudited figures, subject to revision.

(ii) **Deaths in Large Urban Centres.**—Since the beginning of the year 1921, monthly returns of births and deaths have been collected from the nine largest municipalities in the Union, and the half-yearly and yearly registrations and death rates are given in table (ii) hereunder. The monthly rates are not shown in the table as it is found that, owing to the

smallness of the figures upon which the rates are calculated, the latter show widely-fluctuating results from month to month, due to vital events in one month not being registered in the month of occurrence, or within the period prescribed by law. The variations due to these causes are less evident when shown in half-yearly periods.

(ii) **DEATH AND CRUDE DEATH RATES IN NINE PRINCIPAL TOWNS, 1921.\***

Town.	White Population (Census 1921).	January-June, 1921.		July-December, 1921.		Year 1921.	
		Number of Deaths.	Death Rate.†	Number of Deaths.	Death Rate.†	Total Deaths.	Death Rate.
Cape Town.....	101,000	701	13.88	615	12.18	1,316	13.03
Port Elizabeth.....	24,000	190	16.58	146	12.17	345	14.38
East London.....	17,000	98	11.53	78	9.18	176	10.35
Kimberley.....	17,500	101	11.54	122	13.94	223	12.74
Pietermaritzburg.....	17,500	130	14.86	120	13.71	250	14.29
Durban.....	48,000	287	11.96	318	13.25	605	12.60
Pretoria.....	36,500	262	11.07	252	13.81	454	12.44
Johannesburg.....	149,500	870	11.65	999	13.36	1,809	12.50
Bloemfontein.....	17,500	118	13.49	151	17.26	269	15.37

\* Unaudited figures.

† Equivalent annual rates.

8. **Mortality of Each Sex.**—There are two methods of calculating the ratio of deaths of one sex to the other, or of male to female deaths. One is to calculate the actual number of male deaths to each 100 of the actual female deaths registered. The result gives a *crude ratio*, because it does not take into account the sex constitution of the population or, in other words, the relative numbers of each sex exposed. The second method is to calculate the ratio of the death rate of males to the death rate of females. This calculation eliminates the unequal distribution of the sexes in the population and thus reduces the comparison of the mortality of each sex to a *standard*. The results are given in the following tables under the headings *Crude Ratios* and *Standardized* or, as the ratios are calculated on the basis of males to females, *Relative Male Mortality*. This latter method shows at a glance at which ages the number of deaths of males exceeds that of females or *vice versa*. Table (i) and the first portion of table (iii) record the actual number of deaths of males to each 100 females according to the number of registrations of deaths effected. Tables (ii) and (iii) (b) show the relative male mortality for each 100 female deaths on a basis of an equal number of each sex exposed to risk.

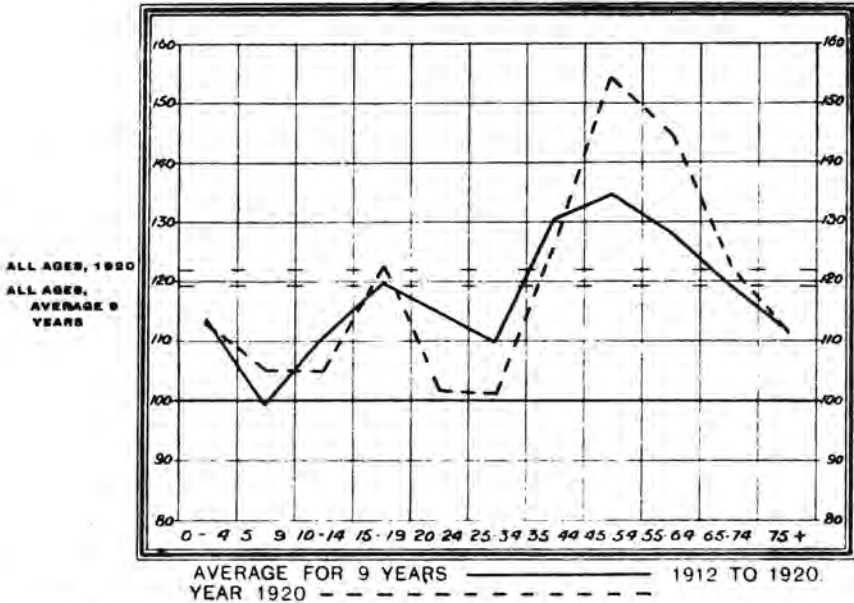
Taking the standardized figures as a truer index of sex mortality it will be seen that, with few exceptions, the mortality of males regularly exceeds that of females, the average excess for the nine years 1912 to 1920 being 19 per cent. for all ages. This average is increased slightly owing to the heavy male mortality during the influenza epidemic of 1918, when at ages from 15 years to 44 years almost three males died to each two females.

In table (ii) below the excess in the mortality of males manifested itself at all ages throughout the period except at 5-10 years of age, when for five years the female mortality was greater and for four years it was very little less than the male mortality. The average for nine years at this age period gives a ratio of 99.3 male deaths to each 100 female deaths.

In table (iii) the masculinity of the deaths in each Province of the Union is shown for the period 1910 to 1920. The first portion of the table gives the crude ratios based on the number of deaths of each sex. As explained above this calculation takes no cognizance of the fact that there were more males than females exposed to risk of death. Had the distribution of the sexes been constantly equal, the resulting standardized mortality of males to each 100 females would have been as shown in the second portion of table (iii) under the heading *Relative Male Mortality*.

The effect of standardizing the sex mortality reduces the ratio of male to female deaths from 132.4 crude to 117.8 standard per annum over a period of eleven years. The Transvaal, in which the masculinity of the population is approximately 109 to each 100 females, shows a decline in the sex mortality ratio from 146.2 crude to 121.9 standard. During the past eleven years Natal has shown a consistently heavier proportion of male deaths to female deaths than the other Provinces of the Union, and an average of 131 males die to each 100 females each year.

VITAL STATISTICS.  
MORTALITY OF EACH SEX.—RELATIVE MALE MORTALITY.  
(RATIO OF DEATH RATE OF MALES TO DEATH RATE OF FEMALES)  
AGE GROUPS.



(i) MORTALITY OF EACH SEX AT DIFFERENT AGE-PERIODS (CRUDE RATIOS)\*  
—UNION, 1912 TO 1920.

Year.	All Ages.	0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
1912.....	131.2	115.7	104.9	116.5	100.6	116.1	131.3	180.4	183.5	158.7	138.3	116.8
1913.....	131.0	117.7	101.0	106.7	102.3	121.8	116.4	175.9	173.7	176.5	132.7	123.4
1914.....	134.2	116.8	98.1	107.1	136.9	141.4	135.1	167.8	197.6	170.8	137.4	115.8
1915.....	130.4	118.8	115.8	131.3	110.6	105.1	122.9	171.5	160.7	166.0	138.0	105.5
1916.....	130.3	116.7	97.6	136.5	121.0	116.3	109.8	174.7	170.0	177.0	135.1	109.4
1917.....	127.7	118.6	92.1	110.2	116.4	121.1	114.6	171.2	165.6	151.7	122.8	107.1
1918.....	145.5	123.6	95.4	96.7	140.1	142.5	162.9	184.3	169.3	157.0	141.8	111.9
1919.....	129.4	121.8	104.9	101.9	122.9	102.1	113.8	150.0	173.9	148.6	140.3	113.8
1920.....	130.5	118.6	107.9	107.5	116.0	95.3	100.4	155.2	200.0	181.8	139.0	106.8
Average 9 years...	133.0	118.7	101.6	110.0	121.0	121.4	131.0	170.8	175.9	164.8	136.3	111.6

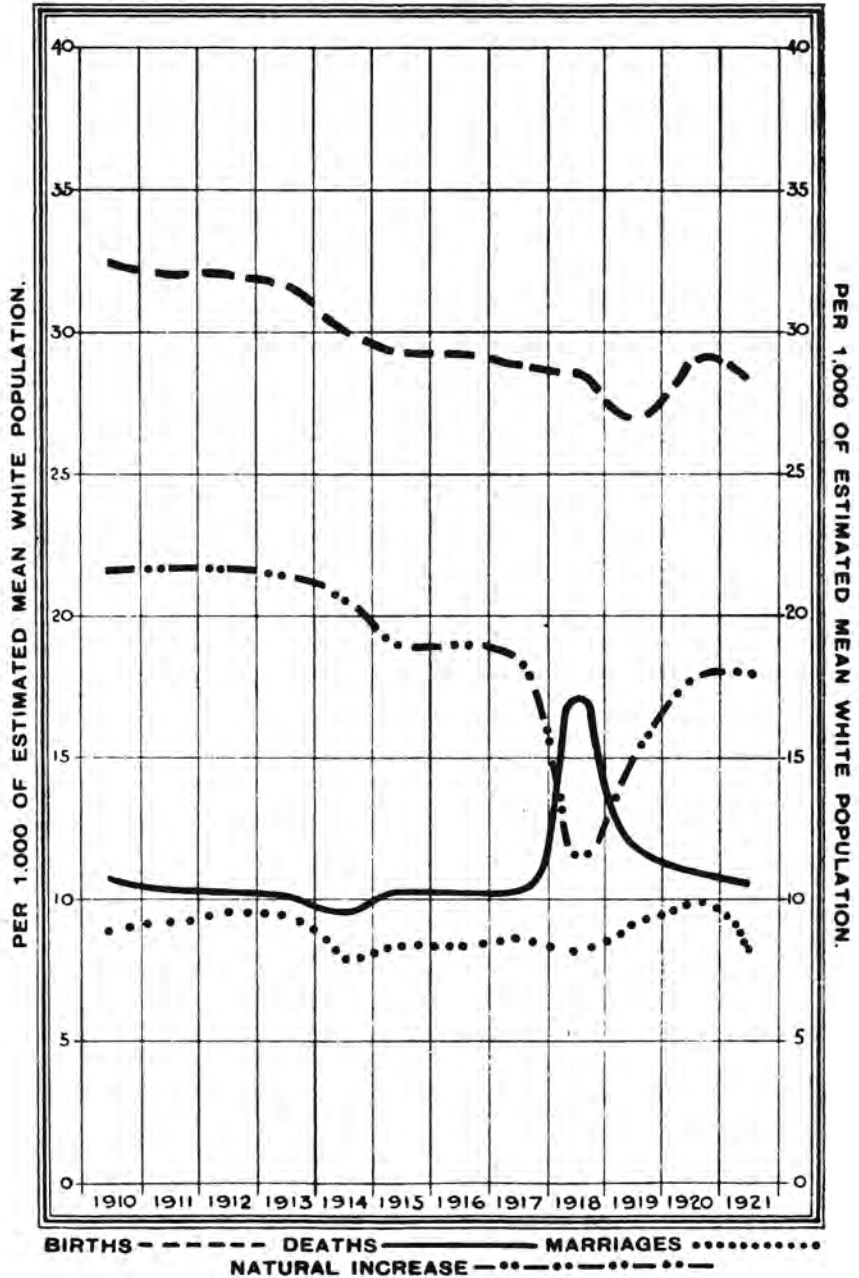
\* Number of males to each 100 females.

(ii) MORTALITY OF EACH SEX (STANDARDIZED RATIOS)\*—UNION, 1912 TO 1920.

Year.	All Ages.	0-	5-	10-	15-	20-	25-	35-	45-	55-	65-	75-
1912.....	114.4	112.0	102.8	113.8	98.1	103.8	104.2	131.3	138.6	123.4	120.3	111.8
1913.....	115.3	113.7	98.8	104.0	100.3	111.5	95.2	129.9	131.2	137.6	115.5	119.5
1914.....	119.2	112.1	95.5	104.5	135.0	132.4	113.9	125.7	149.7	133.6	119.8	113.4
1915.....	116.8	114.6	112.6	128.6	110.2	96.3	106.7	129.8	122.1	114.8	120.4	104.3
1916.....	117.5	111.3	94.8	133.3	122.0	113.5	98.2	134.1	129.6	138.6	118.0	109.2
1917.....	116.2	113.5	89.4	107.5	118.1	120.7	105.2	132.9	126.0	119.4	107.4	107.0
1918.....	133.3	118.1	92.7	93.9	143.2	145.1	154.0	144.7	129.0	124.4	124.0	113.6
1919.....	119.4	116.0	102.0	99.2	126.8	106.1	110.8	119.0	132.8	117.3	122.8	116.5
1920.....	122.0	113.4	105.3	105.2	122.7	101.8	101.0	125.5	154.2	144.6	122.4	111.1
Average 9 years...	119.3	113.9	99.3	110.0	119.6	114.6	109.9	130.3	134.8	128.2	119.0	111.9

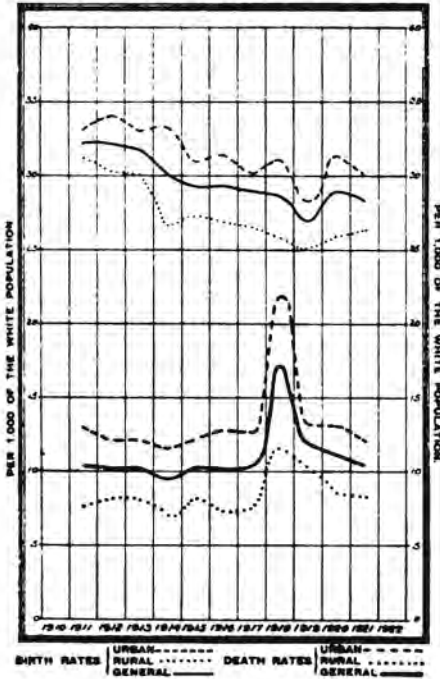
\* Ratio of death rate of males to death rate of females.

BIRTH, DEATH, MARRIAGE, AND NATURAL INCREASE RATES  
(EUROPEANS), 1910 TO 1921.



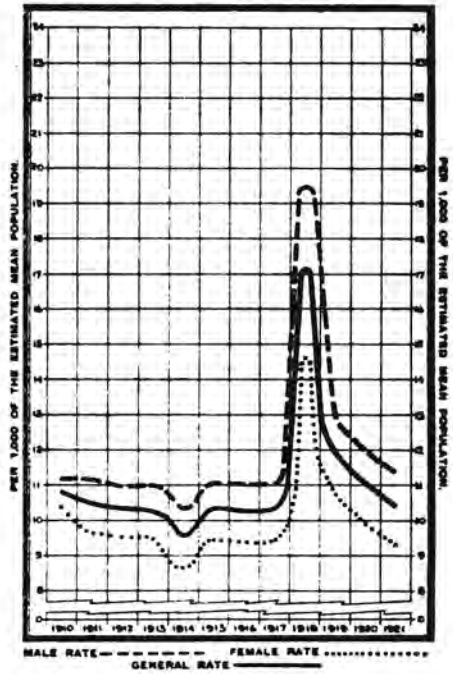
URBAN AND RURAL BIRTH AND DEATH-RATES—EUROPEANS.

UNION OF SOUTH AFRICA, 1911 TO 1921.



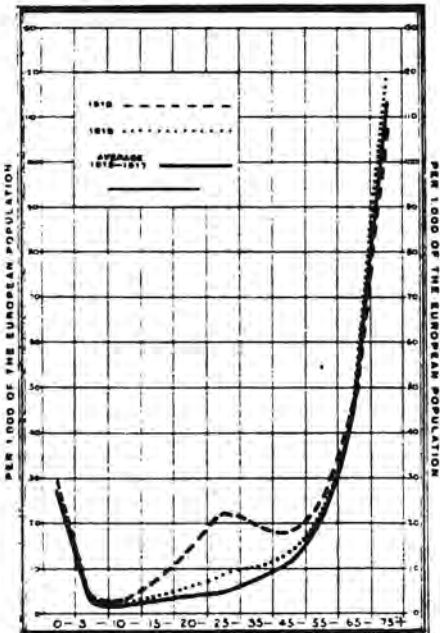
MALE AND FEMALE CRUDE DEATH-RATES—EUROPEANS.

UNION OF SOUTH AFRICA, 1910 TO 1921.



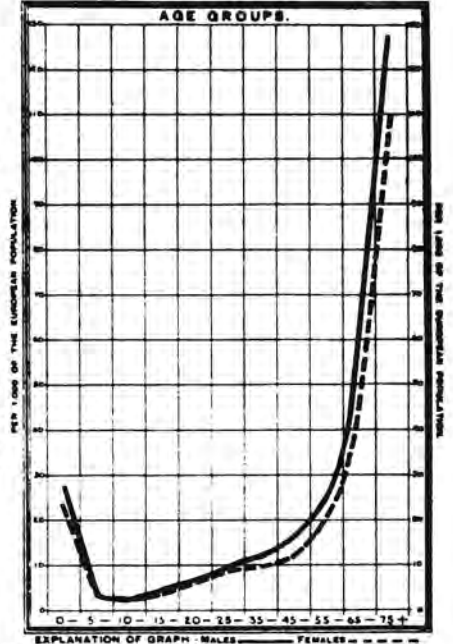
SPECIFIC DEATH-RATES,

UNION OF SOUTH AFRICA, 1912-17, 1918, AND 1919.



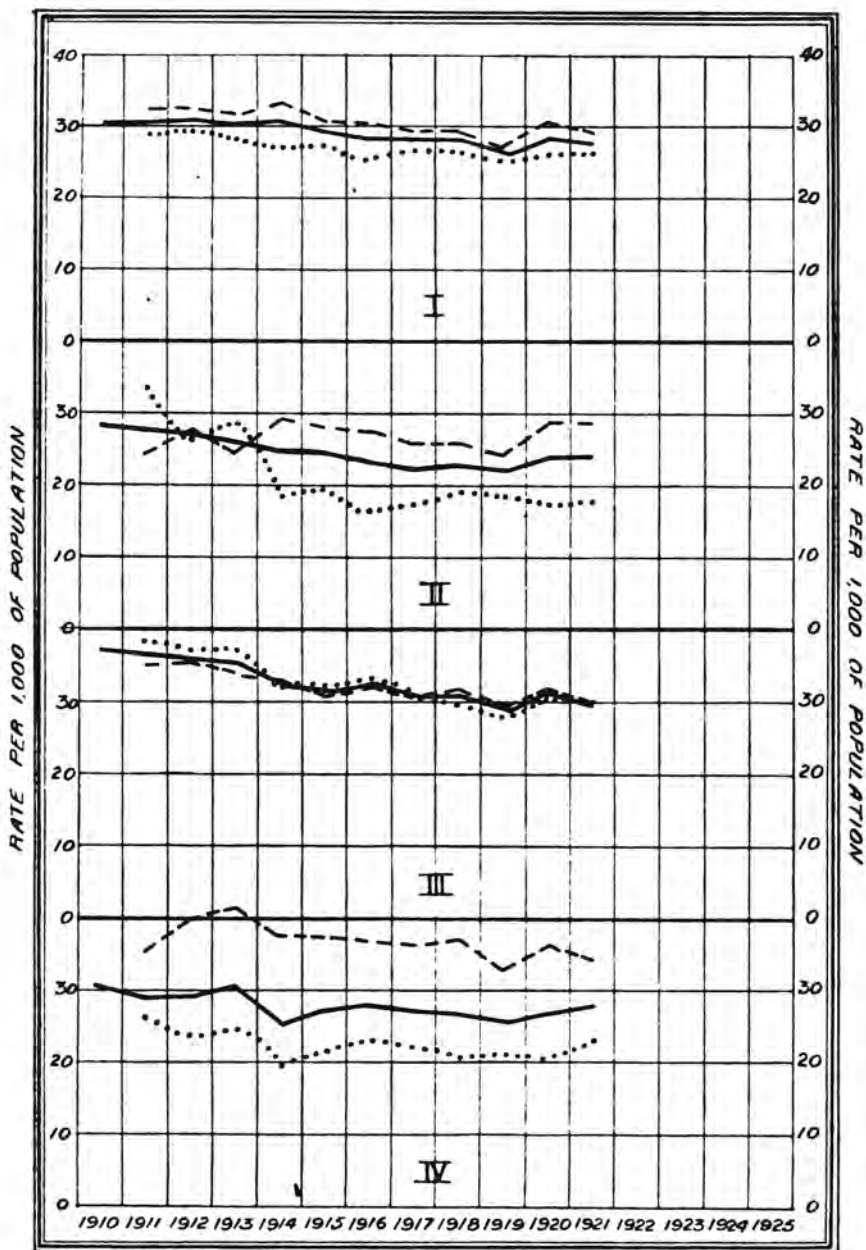
SPECIFIC DEATH-RATES,

UNION OF SOUTH AFRICA, 1919, MALES AND FEMALES.



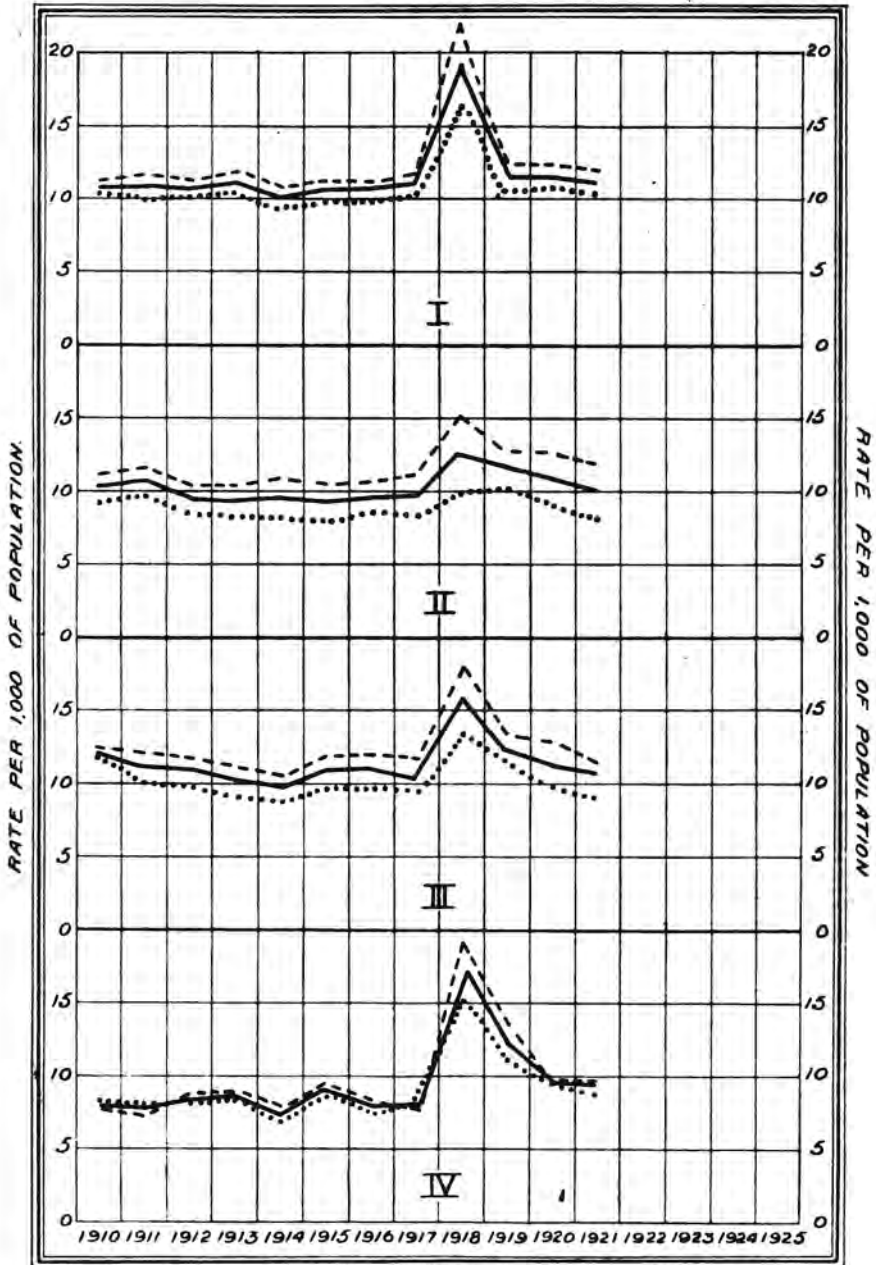
Each small rectangle represents in height a Death Rate of 10 per 1,000 of the European population, and horizontally an Age Group as specified at the base line of graph.

BIRTH RATES—PROVINCES, 1910 TO 1921.  
 .EUROPEANS.



URBAN RATE— — RURAL RATE ····· GENERAL RATE ———  
 CAPE OF GOOD HOPE I, NATAL II, TRANSVAAL III, ORANGE FREE STATE IV.

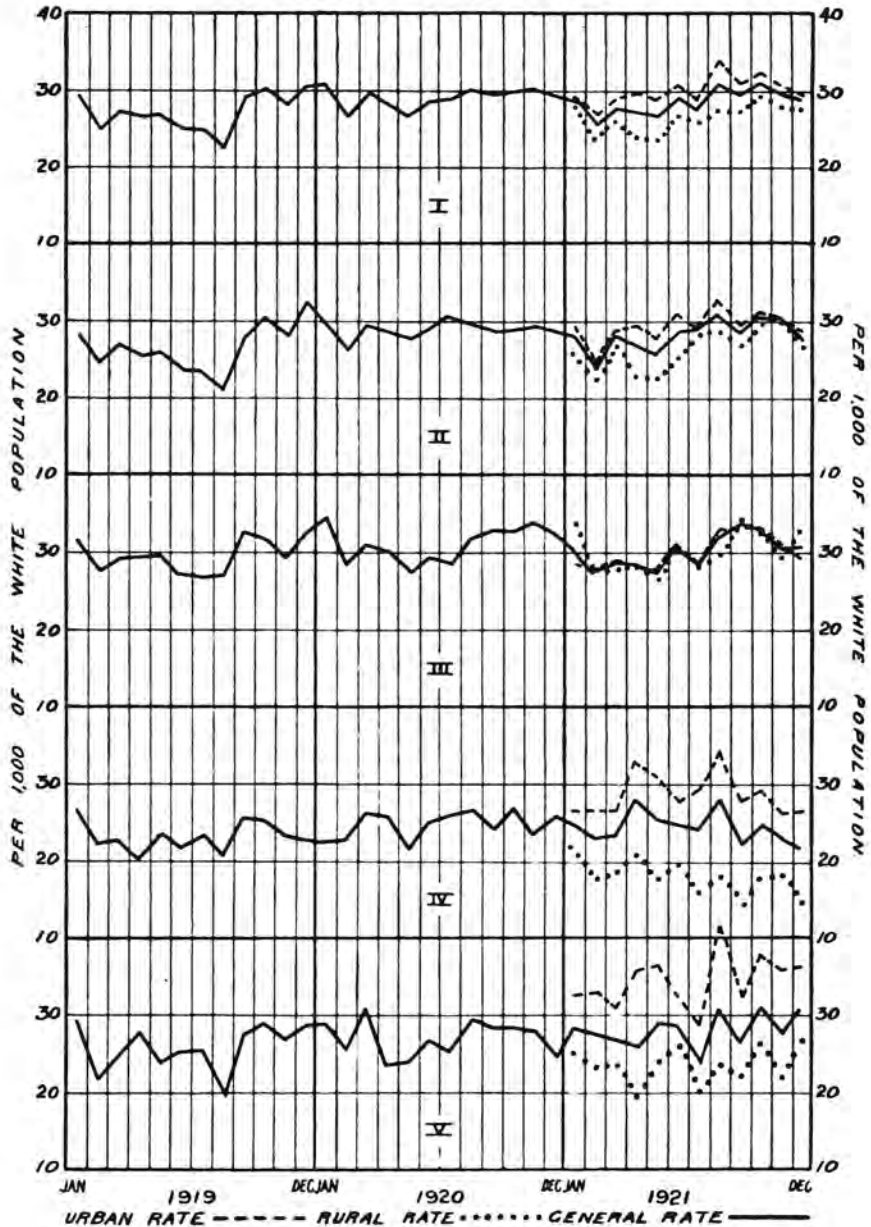
CRUDE DEATH RATES—PROVINCES, 1910 TO 1921.  
EUROPEANS.



MALE RATE— — FEMALE RATE ..... GENERAL RATE  
CAPE OF GOOD HOPE I, NATAL II, TRANSVAAL III, ORANGE FREE STATE IV.

BIRTH\_RATES OF EUROPEANS REGISTERED EACH MONTH (EQUIVALENT ANNUAL RATES), UNION AND PROVINCES, 1919 TO 1921.

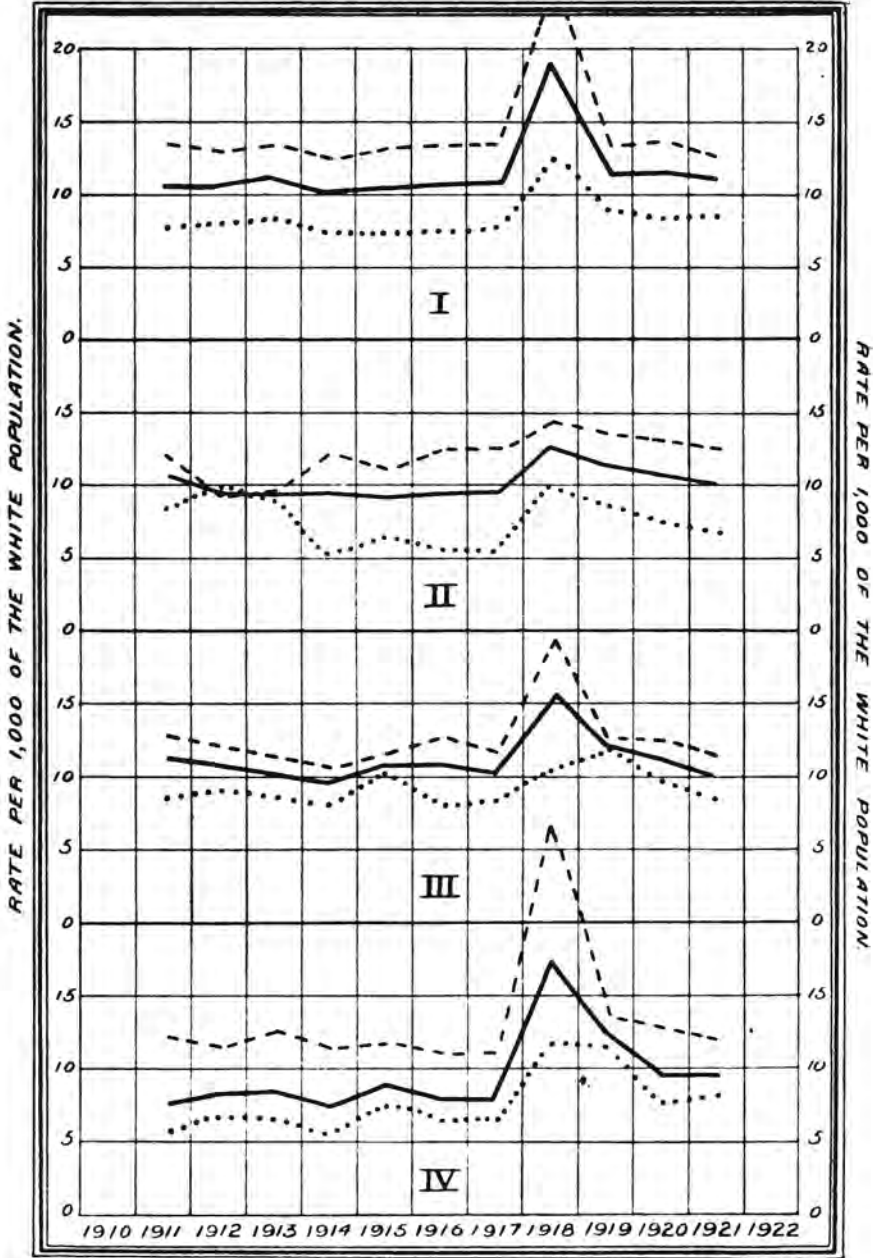
UNION OF SOUTH AFRICA I, CAPE OF GOOD HOPE II, TRANSSVAAL III, NATAL IV, ORANGE FREE STATE V.





URBAN AND RURAL CRUDE DEATH RATES. EUROPEANS.  
PROVINCES, 1911 TO 1921.

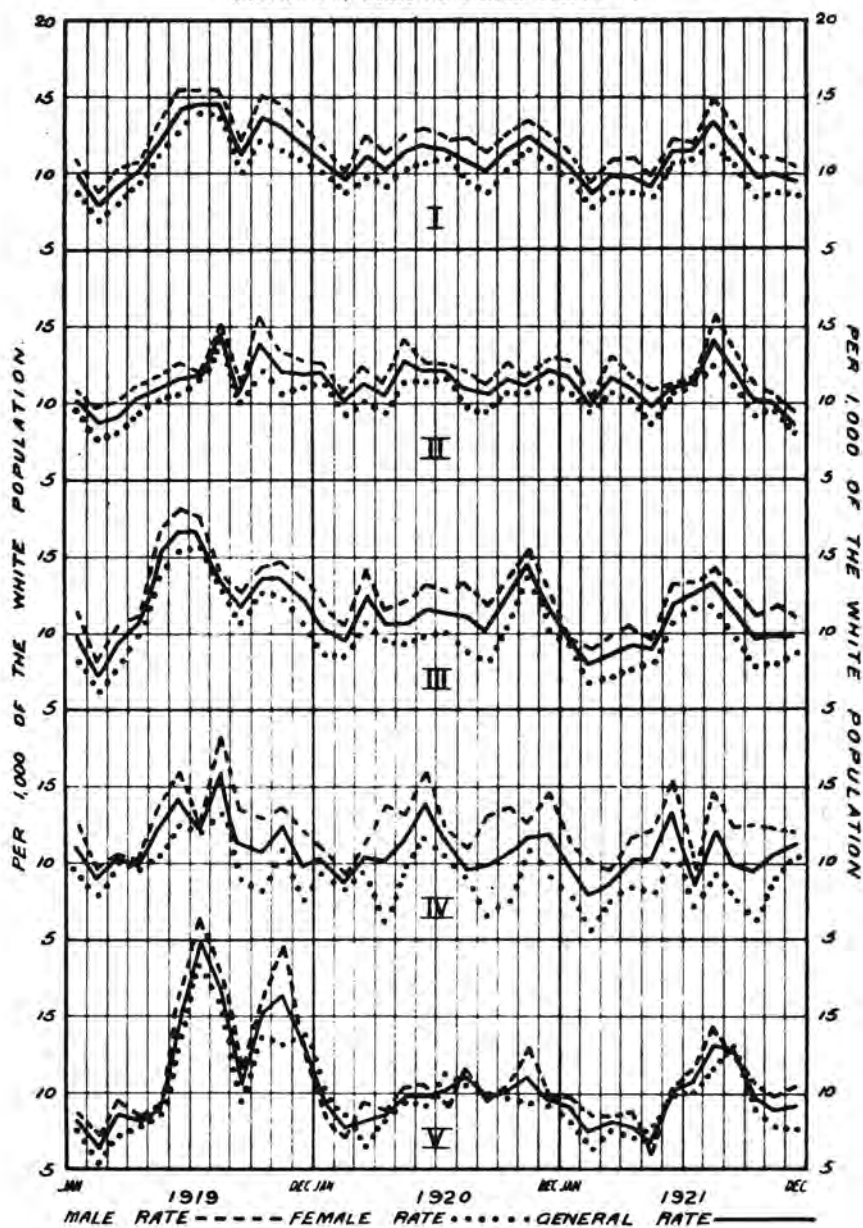
CAPE I, NATAL II, TRANSVAAL III, ORANGE FREE STATE IV.



URBAN RATE----RURAL RATE.....GENERAL RATE ———

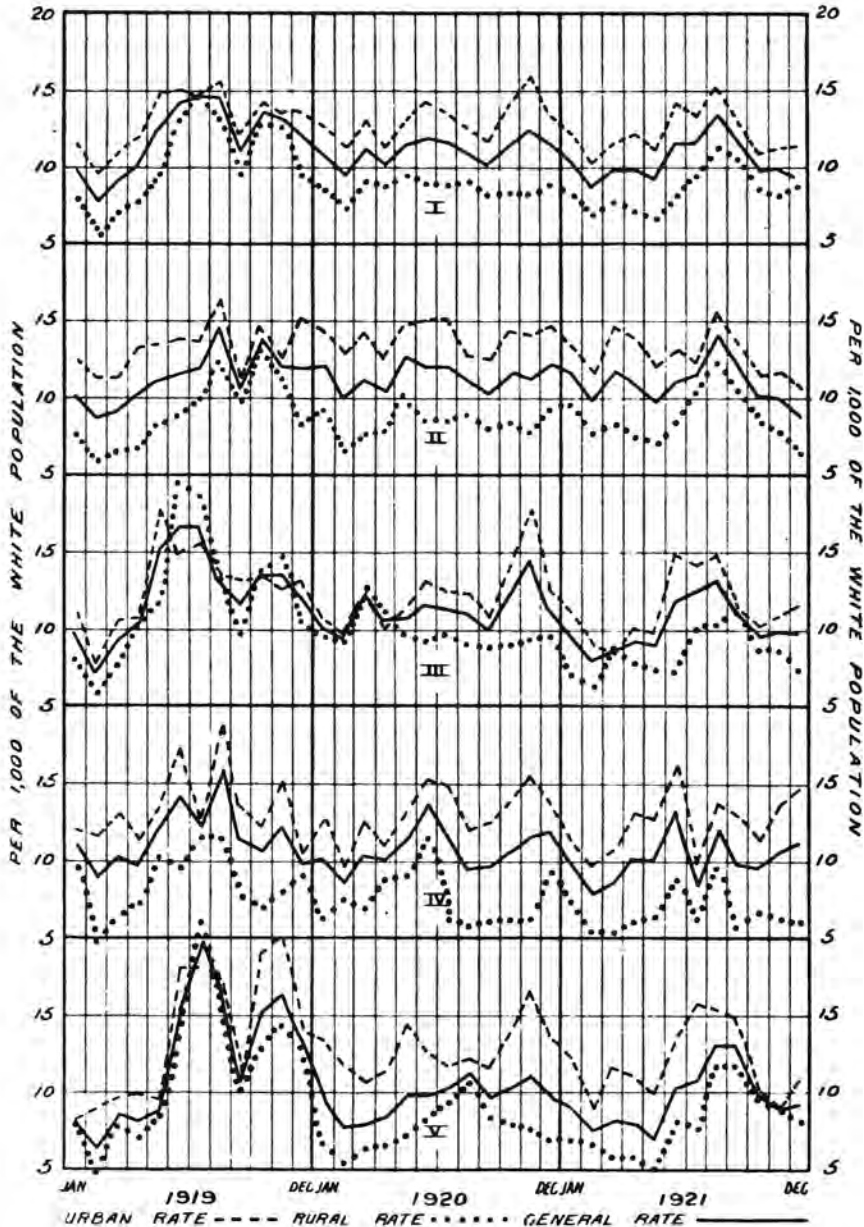
DEATH RATES OF EUROPEANS REGISTERED EACH MONTH, UNION AND PROVINCES, 1919 TO 1921. MALE RATES, FEMALE RATES, GENERAL RATES (EQUIVALENT ANNUAL RATES).

UNION OF SOUTH AFRICA I, CAPE OF GOOD HOPE II, TRANSVAAL III, NATAL IV, ORANGE FREE STATE V.



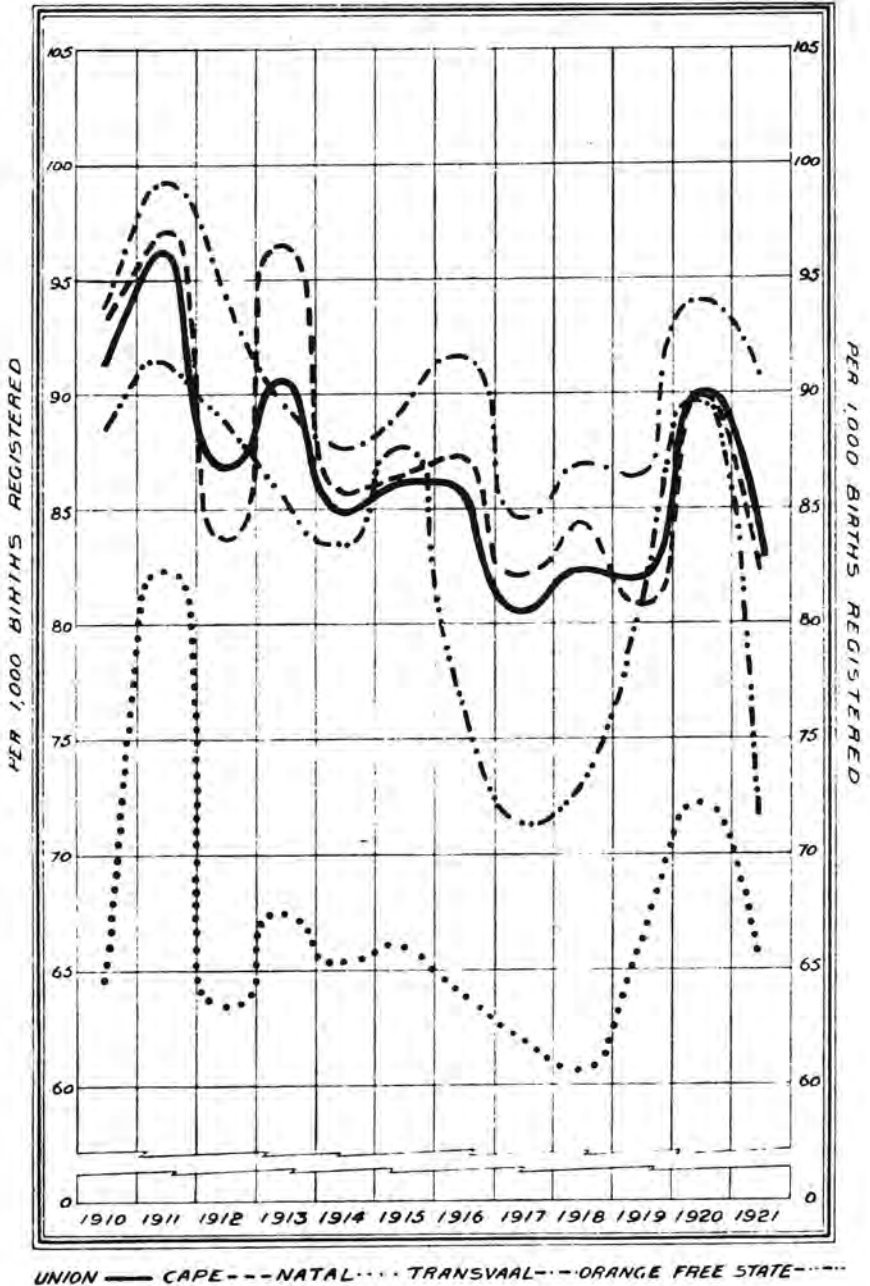
DEATH RATES OF EUROPEANS REGISTERED EACH MONTH (EQUIVALENT ANNUAL RATES), UNION AND PROVINCES, 1919 TO 1921.  
URBAN AND RURAL AREAS.

UNION OF SOUTH AFRICA I, CAPE OF GOOD HOPE II, TRANSVAAL III,  
NATAL IV, ORANGE FREE STATE V.



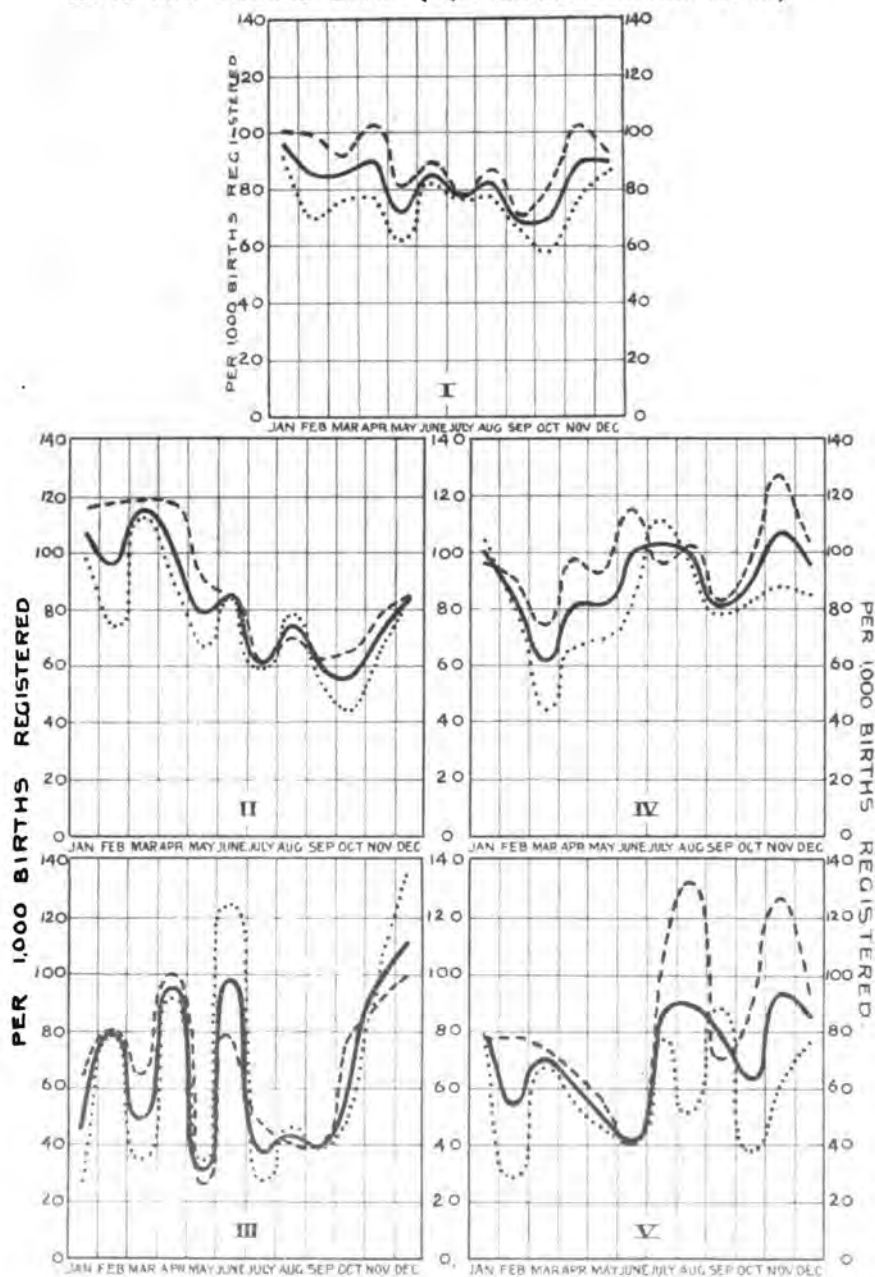
INFANTILE MORTALITY RATES—UNION, 1910 TO 1921.

PROPORTION OF DEATHS OF EUROPEANS UNDER ONE YEAR OF AGE  
PER 1,000 BIRTHS REGISTERED.



MONTHLY INFANTILE MORTALITY RATES (EUROPEANS),  
UNION AND PROVINCES, 1921.

MALE AND FEMALE RATES (EQUIVALENT ANNUAL RATES).

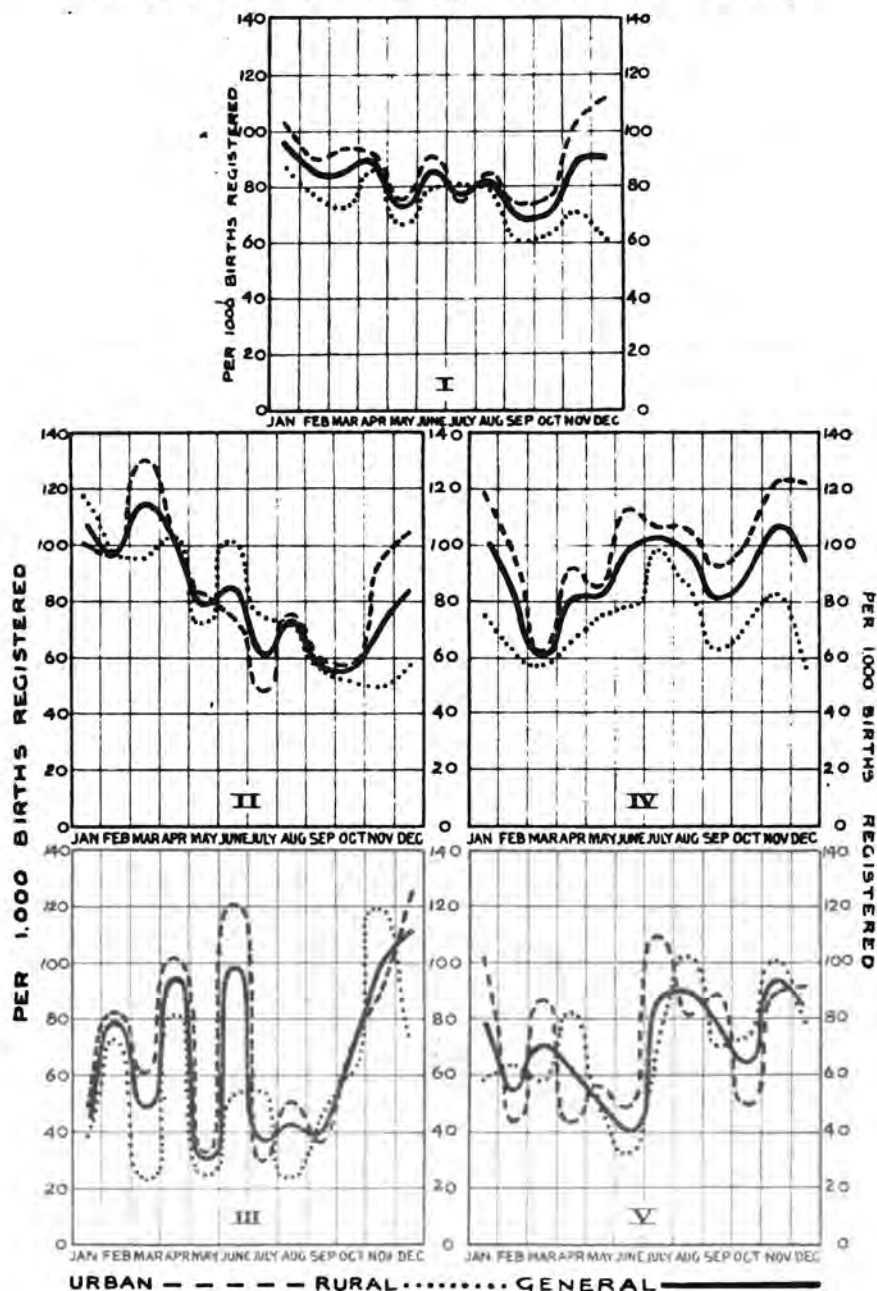


GENERAL ——— MALE - - - - FEMALE.....

I. UNION. II. CAPE OF GOOD HOPE. III. NATAL. IV. TRANSVAAL. V. ORANGE FREE STATE.

MONTHLY INFANTILE MORTALITY RATES (EUROPEANS).  
UNION AND PROVINCES, 1921.

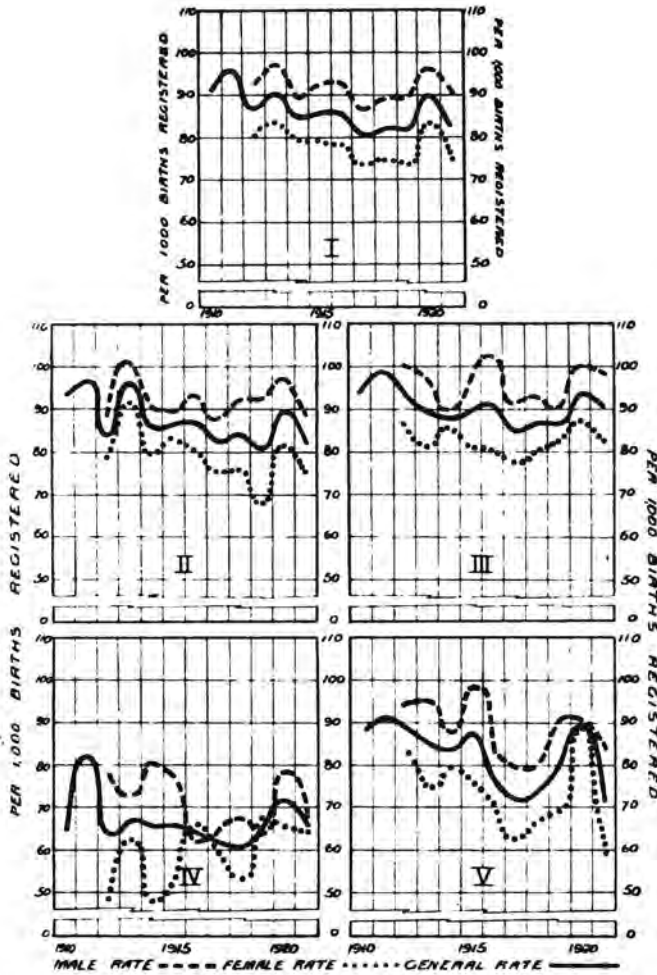
URBAN AND RURAL RATES (EQUIVALENT ANNUAL RATES).



I. UNION. II. CAPE OF GOOD HOPE. III. NATAL. IV. TRANSVAAL. V. ORANGE FREE STATE.

ANNUAL INFANTILE MORTALITY RATES (EUROPEANS),  
1910 TO 1921.

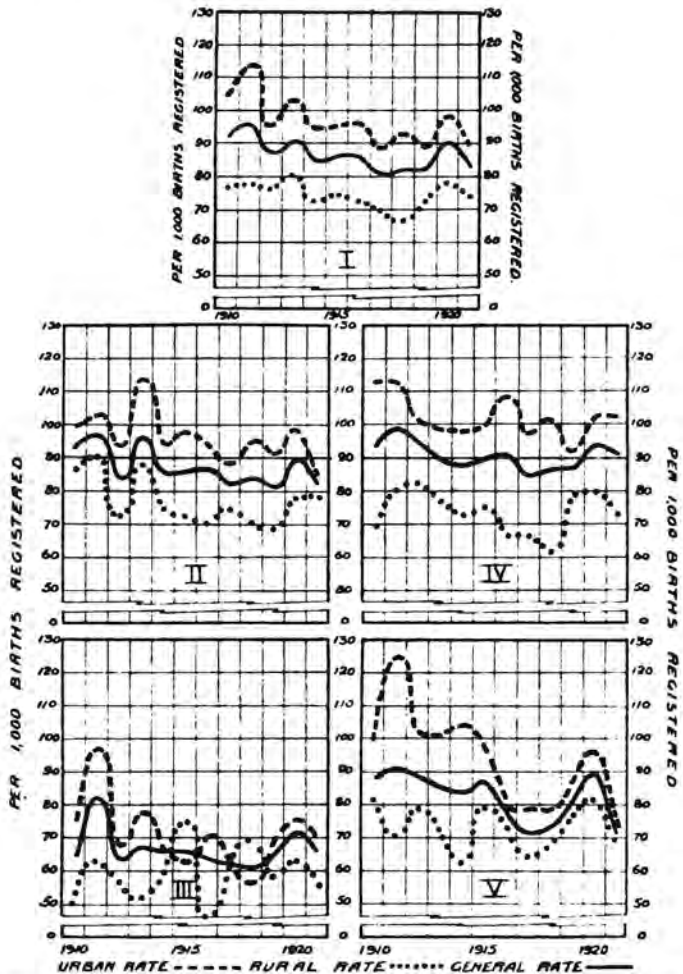
MALE AND FEMALE RATES.



I. UNION OF SOUTH AFRICA. II. CAPE OF GOOD HOPE. III. TRANSVAAL. IV. NATAL. V. ORANGE FREE STATE.

ANNUAL INFANTILE MORTALITY RATES (EUROPEANS),  
1910 TO 1921.

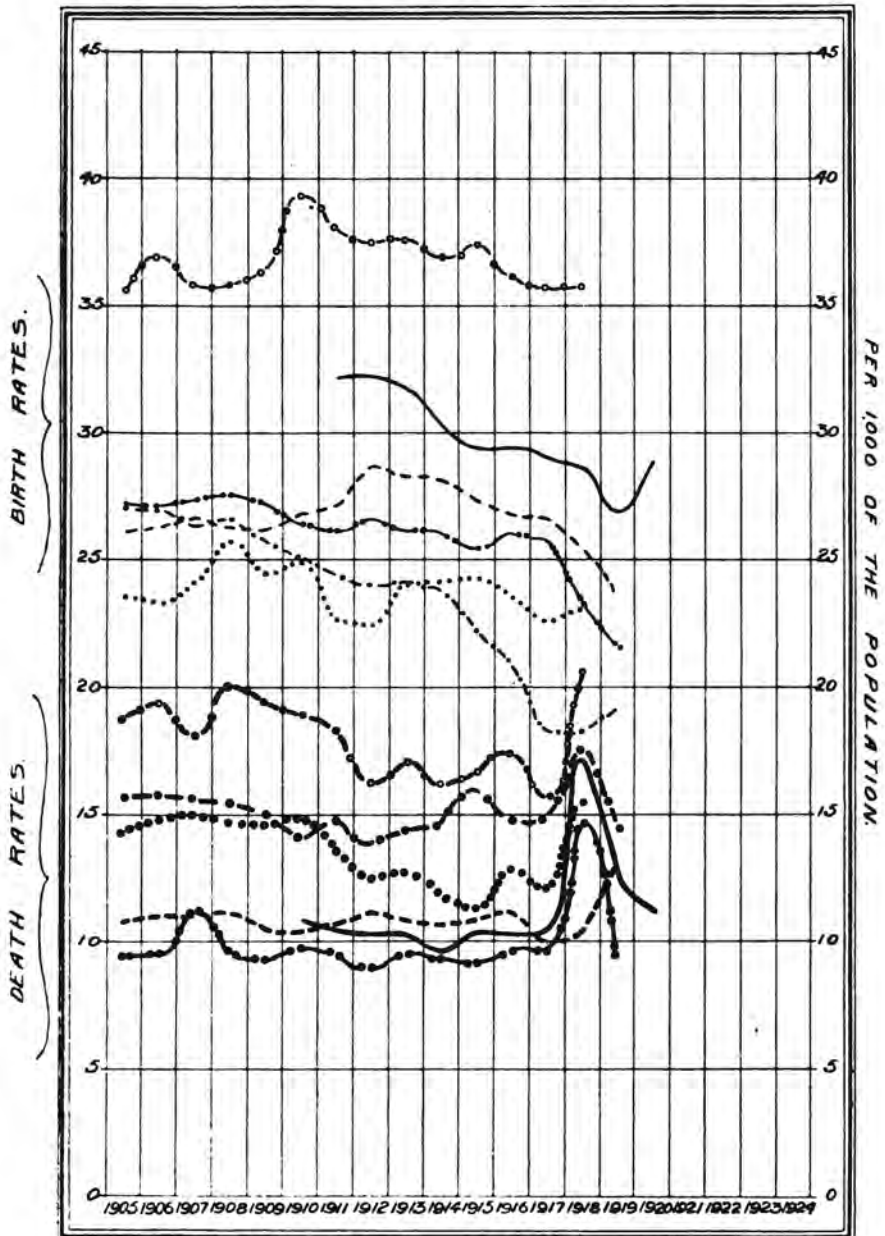
URBAN AND RURAL RATES.



I. UNION OF SOUTH AFRICA. II. CAPE OF GOOD HOPE. III. NATAL. IV. TRANSVAAL. V. ORANGE FREE STATE.

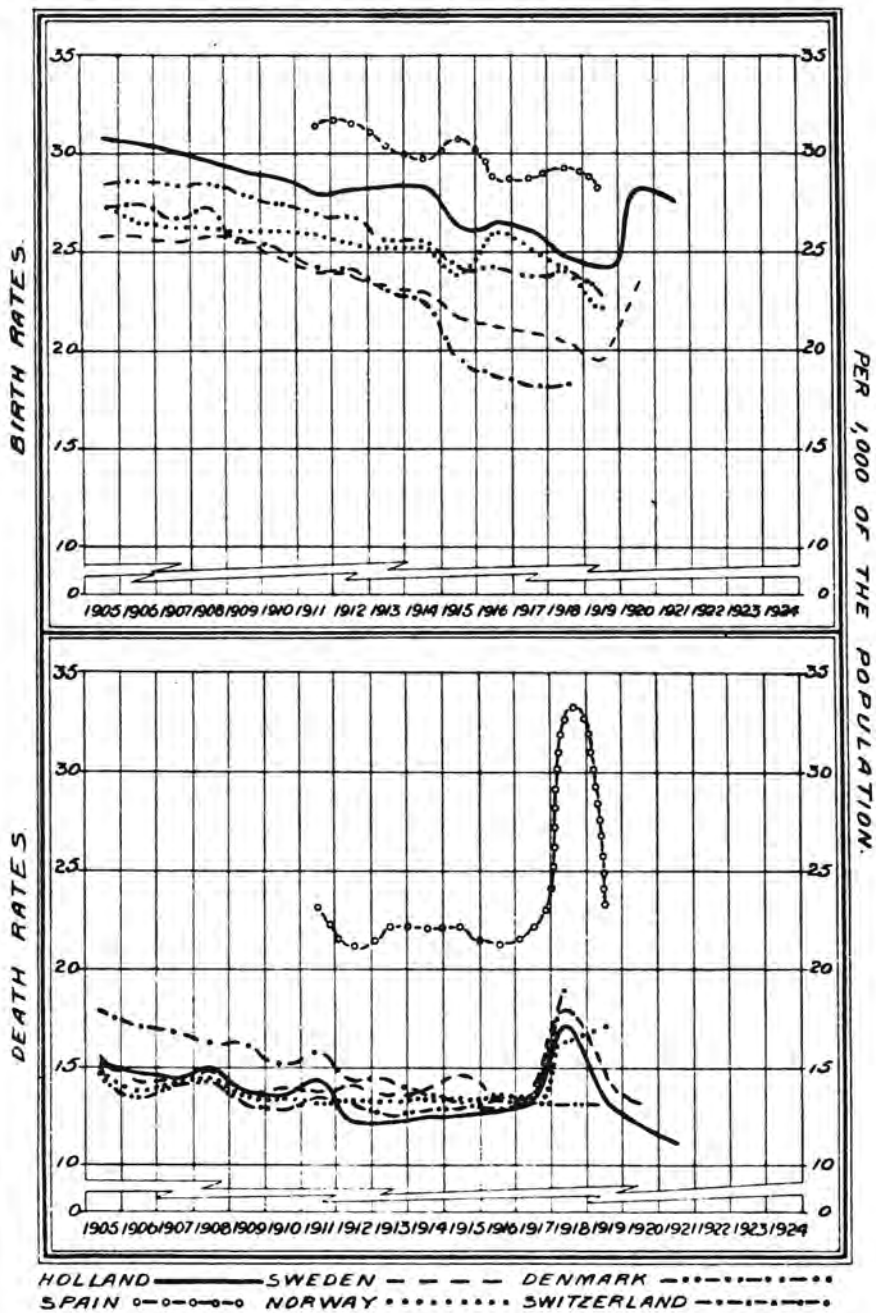


BIRTH AND DEATH RATES OF VARIOUS COUNTRIES, 1905 TO 1921.

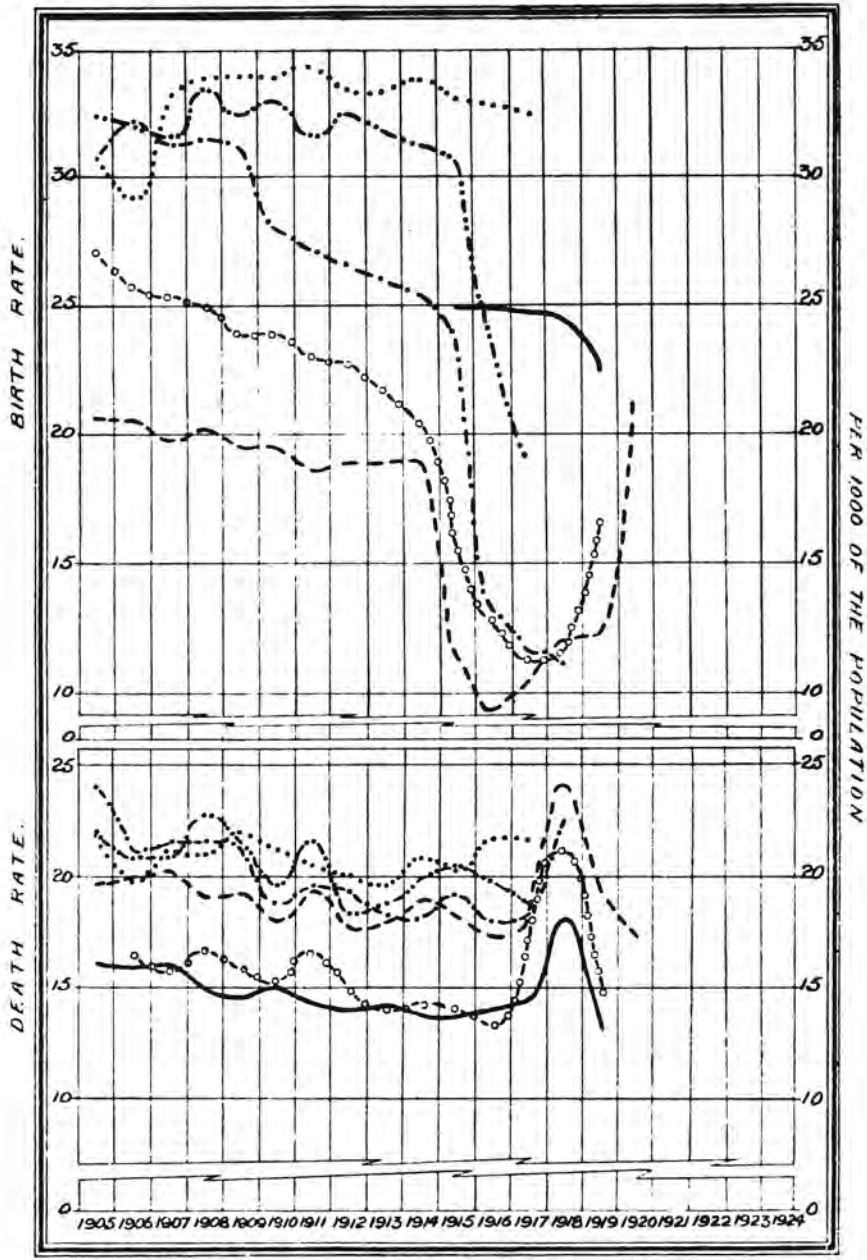


UNION — AUSTRALIA - - - - NEW ZEALAND —●—●—  
 QUEBEC —□—□— ONTARIO ●●●●● UNITED KINGDOM —△—△—

BIRTH AND DEATH RATES OF CERTAIN FOREIGN COUNTRIES, 1905 TO 1921.



BIRTH AND DEATH RATES OF CERTAIN FOREIGN COUNTRIES FROM 1905.



UNITED STATES ——— FRANCE - - - ITALY .....  
 BELGIUM o-o-o-o JAPAN ..... CZECHO SLOVAKIA - . - .

## (iii) MORTALITY OF THE SEXES (GROSS AND STANDARDIZED RATIOS, WHITE PERSONS)—UNION AND PROVINCES, 1910 TO 1920.

Year.	(a) GROSS RATIOS.					(b) RELATIVE MALE MORTALITY.*				
	Union.	Cape.	Natal.	Transvaal.	O.F.S.	Union.	Cape.	Natal.	Transvaal.	O.F.S.
1910..	125.2	116.4	141.9	138.9	110.1	107.1	108.3	122.6	105.9	93.2
1911..	133.3	124.9	138.6	163.0	106.7	115.1	116.5	120.6	119.6	91.2
1912..	131.2	119.4	139.8	150.4	121.4	114.4	111.9	122.2	119.4	105.1
1913..	131.0	119.7	143.7	160.6	121.6	115.3	112.5	126.3	121.7	106.2
1914..	134.2	123.6	152.5	148.0	128.2	119.2	116.6	134.7	121.7	113.3
1915..	130.4	117.6	149.9	146.9	123.2	116.8	111.3	132.9	122.8	110.0
1916..	130.3	119.9	138.9	144.1	125.2	117.5	113.8	123.6	122.3	113.0
1917..	127.7	118.7	152.0	143.5	103.0	116.2	113.0	135.9	123.7	93.7
1918..	145.5	139.4	174.3	153.9	136.4	133.3	133.1	156.3	134.5	125.5
1919..	129.4	122.1	140.6	135.3	129.3	119.4	117.0	126.5	110.9	120.1
1920..	130.5	120.1	152.4	144.8	114.8	122.0	116.5	141.9	130.2	106.5
Average 11 years	132.4	123.0	148.3	146.2	121.4	117.8	120.0	131.2	121.0	107.1

\* Ratio of death rate of males to death rate of females. This method of calculation eliminates the unequal distribution of the sexes in the population.

9. **Infantile Mortality.**—The deaths and death rates of male and female infants have continued to show a steady improvement, the rate for the Union having decreased to the extent of 8.33 per 1,000 births registered since 1910, when it stood at 91.24. The year 1920, however, showed a set-back, which was not maintained in the following year. Table (i) gives the relative rates of mortality for each sex and for urban and rural areas. The excess of males born each year has tended to disappear owing to the greater mortality among male infants during early childhood. During the period 1913–21 the excess of infant male deaths over females was 3,546 or more than 25 per cent.

The distribution of the rates among the four Provinces shows that Natal was consistently the healthiest Province in so far as infant life was concerned, whereas the rate in the Transvaal was almost always the highest. It is interesting to note that since the year 1910 the lowest rate recorded in each Province, and consequently in the Union, was during the year 1917. Table (ii) shows the Provincial distribution for a period of years.

As shown by an experience extending over a fairly long period, an average of 92 out of every 1,000 male children and 78 out of every 1,000 females born in the Union die before attaining the age of one year. The chances of living during the first year of life are therefore greater for female than for male infants, the mortality of males being 1 in every 11 born and of females 1 in every 13 born. In the towns and villages of the Union an average of 94 out of every 1,000 children born die before reaching the age of one year; while in the farming areas of the Union the average number of infantile deaths is 74 out of every 1,000 births registered.

## (i) INFANTILE DEATHS—RATE OF INFANTILE MORTALITY (WHITE PERSONS)—UNION, 1913 TO 1921.

YEAR.	REGISTERED DEATHS UNDER 1 YEAR.			INFANTILE MORTALITY RATE PER 1,000 BIRTHS REGISTERED.				
	Male.	Female.	Total.	Male.	Female.	Total.	Urban.	Rural.
1913.....	2,087	1,729	3,816	97.96	83.51	90.55	103.30	80.09
1914.....	1,875	1,586	3,461	89.21	79.82	84.84	94.01	71.98
1915.....	1,937	1,555	3,492	92.61	79.51	86.31	95.32	74.61
1916.....	1,976	1,569	3,545	93.37	78.82	86.05	96.25	73.27
1917.....	1,840	1,429	3,269	86.27	73.68	80.27	88.58	69.51
1918.....	1,927	1,485	3,412	89.48	74.75	82.37	93.16	66.36
1919.....	1,841	1,409	3,250	89.26	73.77	81.81	88.75	72.31
1920.....	2,168	1,745	3,913	96.30	83.37	90.07	98.06	78.09
1921.....	1,984	1,582	3,566	90.32	75.20	82.92	80.29	73.72
Average for 9 years.....	1,900	1,565	3,525	91.50	78.02	85.02	94.09	73.22

\* Unaudited figures.

(ii) **INFANTILE MORTALITY RATE\*—WHITE PERSONS, 1910 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1910.....	93.26	64.60	93.66	88.54	91.24
1911.....	97.13	82.30	99.15	91.50	96.20
1912.....	83.63	63.37	94.22	88.92	86.66
1913.....	96.60	67.36	89.43	85.41	90.55
1914.....	85.45	65.31	87.60	83.35	84.84
1915.....	86.50	66.03	89.46	87.67	86.31
1916.....	87.23	63.83	91.63	76.57	86.05
1917.....	81.96	62.05	84.53	71.18	80.27
1918.....	84.39	60.53	87.00	72.99	82.37
1919.....	80.66	65.63	86.38	80.81	81.81
1920.....	89.77	71.17	93.99	89.67	90.07
1921†.....	82.21	65.93	90.84	71.60	82.91

\* Proportion of deaths of infants under one year per 1,000 births registered.  
 † Unaudited figures.

10. **Infantile Mortality in Various Countries.**—The following table has been compiled from different sources and contains information to the latest available date. For greater ease of reference, and in view of the relation between the birth rate and infantile mortality, the crude birth rate has also been included in the table for comparison.

**RATE OF INFANTILE MORTALITY IN VARIOUS COUNTRIES.**

Country.	Year.	Infantile Mortality Rate.	Crude Birth Rate.	Country.	Year.	Infantile Mortality Rate.	Crude Birth Rate.
New Zealand.....	1920	51	25.4	United Kingdom...	1919	90	19.0
Norway.....	1917	54	24.4	Transvaal*.....	1921	91	29.9
Queensland.....	1920	63	27.6	Scotland.....	1919	102	21.7
Tasmania.....	1920	65	26.4	Denmark.....	1918	110	21.3
Natal.....	1921	66	24.3	Belgium.....	1918	115	11.4
Western Australia..	1920	66	24.4	France.....	1919	119	12.4
Sweden.....	1916	66	21.2	Newfoundland.....	1919	132	27.5
South Australia.....	1920	67	25.2	Italy.....	1917	140	19.0
Australia.....	1920	69	25.7	Serbia.....	1911	146	36.2
New South Wales..	1920	70	26.6	Germany.....	1913	151	27.4
Orange Free State*	1921	72	27.8		1916	149	15.3
Netherlands.....	1920	73	23.0	Bulgaria.....	1911	156	40.2
Victoria.....	1920	74	24.1	Jamaica.....	1919	161	33.5
Switzerland.....	1918	82	18.4	Japan.....	1917	173	82.4
Cape of Good Hope*	1921	82	23.0	Ceylon.....	1920	182	36.5
England and Wales..	1921	83	22.4	Roumania.....	1914	187	42.5
Union of South Africa*	1921	83	23.3	Austria.....	1913	190	29.6
Michigan.....	1915	86	26.6	Spain.....	1919	192	28.8
Ireland.....	1919	87	20.0	Russia (European)..	1909	248	44.0
United States of America.....	1919	87	22.3	Hungary.....	1915	264	23.6

† White population only.

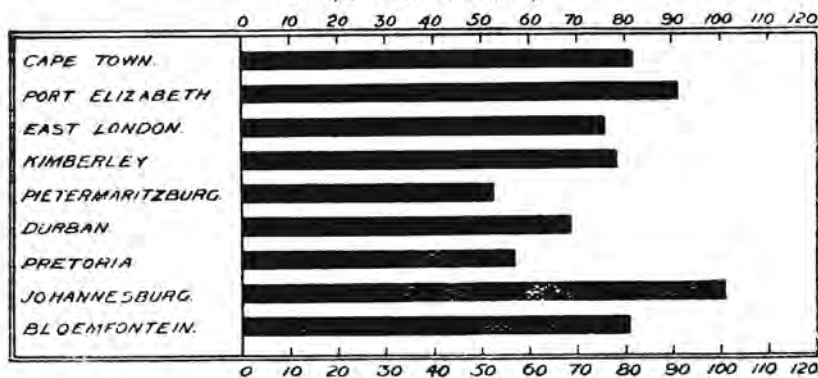
11. **Causes of Infantile Deaths.**—The principal causes of deaths of infants are given in the following table for the years 1918 to 1920. Diarrhoea and enteritis account for over 20 per cent. of infantile deaths each year, and during the period under review the number of deaths from these causes each month increased from October each year, reaching its zenith during December, and falling away again during the month of March. The five months, October to February, which are the warmest months of the year, are therefore responsible for the high death rate from infantile diarrhoea.

**INFANTILE MORTALITY IN THE UNION—CAUSES OF DEATH, 1918-20.**

Cause.	Number of Deaths from each Cause.			Proportion Per Cent. of Total Deaths.		
	1918.	1919.	1920.	1918.	1919.	1920.
Measles.....	84	22	44	0.99	0.68	1.12
Scarlet fever.....	7	10	4	0.20	0.31	0.10
Whooping cough.....	77	38	105	2.26	1.17	2.68
Diphtheria and croup.....	25	11	14	0.73	0.34	0.36
Syphilis.....	18	7	14	0.53	0.22	0.36
Simple meningitis.....	66	54	75	2.00	1.66	1.91
Convulsions.....	413	103	141	12.10	3.17	3.60
Acute bronchitis.....	146	103	150	4.28	3.17	4.06
Broncho-pneumonia.....	222	194	337	6.51	5.07	8.51
Diarrhoea and enteritis.....	707	639	902	20.72	19.67	23.05
Congenital malformations.....	78	61	53	2.23	1.88	1.35
Congenital debility, icterus, and sclerema.....	678	574	602	19.87	17.66	15.38
Other diseases peculiar to early infancy.....	71	47	101	2.08	1.44	2.58
All other certified causes.....	440	367	301	14.07	11.28	7.73
Uncertified causes.....	300	1,020	1,061	11.43	31.38	27.11
<b>TOTAL.....</b>	<b>3,412</b>	<b>3,250</b>	<b>3,913</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

**12. Infantile Deaths in Principal Urban Centres.**—During the year 1921 a monthly statement was received from certain District Registrars of Births and Deaths giving the number of registrations in the nine largest municipalities of the Union, with a view to building up a record of the seasonal variations of infantile mortality. The records for the first year are shown in graphical form at the end of this chapter, and the following table gives the figures for the year 1921 and also the half-yearly figures. The accompanying diagram gives a ready comparison between the towns.

**RATES OF INFANTILE MORTALITY IN LARGE MUNICIPALITIES, 1921 (WHITE INFANTS).**



PROPORTION OF DEATHS OF INFANTS UNDER 1 YEAR PER 1,000 BIRTHS REGISTERED.

**INFANTILE MORTALITY IN NINE PRINCIPAL TOWNS, 1921.\***

Town.	January-June, 1921.			July-December, 1921.			Year 1921.		
	Deaths under 1 Year.	Births Registered.	Infantile Mortality Rate.†	Deaths under 1 Year.	Births Registered.	Infantile Mortality Rate.†	Deaths under 1 Year.	Births Registered.	Infantile Mortality Rate.
Cape Town.....	130	1,158	112.3	64	1,220	52.9	194	2,378	81.6
Port Elizabeth.....	29	388	51.5	49	368	133.1	69	756	91.3
East London.....	20	232	86.2	18	268	67.2	38	500	76.0
Kimberley.....	19	283	67.1	26	291	89.8	45	574	78.4
Pietermaritzburg.....	15	274	54.7	14	275	50.9	20	540	52.8
Durban.....	36	653	55.1	53	640	82.8	89	1,293	68.8
Pretoria.....	28	514	50.6	37	591	62.6	63	1,105	57.0
Johannesburg.....	196	2,058	95.2	236	2,235	105.6	432	4,293	100.0
Bloemfontein.....	22	262	87.3	25	325	70.9	47	577	81.6

\* Unaudited figures.

† Equivalent annual rates.

**13. Certified and Uncertified Deaths.**—There has been a steady improvement in the number of deaths certified by medical practitioners as compared with the uncertified deaths. In the year 1911 the percentage was 75·95. In 1914 nearly four-fifths of the total number of deaths registered were certified. In 1915 there was a falling off of 2 per cent., but in 1916 the percentage reached 80, a recovery of 2·5 per cent. on the previous year and the highest percentage recorded. The figures for 1917 vary very slightly from those of the previous year. The effects of the influenza epidemic are reflected in the figures for the year 1918, especially in the urban areas of the Cape Province.

The lowest percentage of uncertified events is in Natal, where the density of the population is greater than in the other Provinces.

According to the registration laws in the several Provinces there should be no uncertified deaths in proclaimed urban areas, but it frequently happens that in the smaller towns and villages deaths occur of residents well known to the community to have been suffering from long-standing diseases and to have been unattended by a medical practitioner. If the local Registrar or Magistrate is satisfied that death resulted from natural causes in these cases, then an inquest is frequently dispensed with and the event recorded in the usual manner. The figures shown in the following table as uncertified urban events are mainly accounted for by such cases as these. When an inquest or magisterial inquiry has been held into the cause of death the event is recorded as a certified registration.

During the year 1920 there were 728 inquests held in the Union, the figures for each Province being: Cape of Good Hope 296, Natal 18, Transvaal 345, and Orange Free State 69. This gives a ratio of 4·6 inquests for every 100 deaths registered. Of the 728 inquests, 561 were held on male decedents and 167 on female decedents.

**PERCENTAGES OF CERTIFIED AND UNCERTIFIED DEATHS—WHITE PERSONS,  
1912 TO 1920.**

YEAR.	CAPE.		NATAL.		TRANSVAAL.		O.F.S.		UNION.	
	Certi- fied.	Un- certi- fied.	Certi- fied.	Un- certi- fied.	Certi- fied.	Un- certi- fied.	Certi- fied.	Un- certi- fied.	Certi- fied.	Un- certi- fied.
URBAN AREAS.										
1912..	93·78	6·22	98·36	1·64	98·86	1·14	100·00	—	96·55	3·45
1913..	94·52	5·48	97·40	2·60	98·97	1·03	100·00	—	96·80	3·20
1914..	95·93	4·07	98·54	1·46	99·43	0·57	99·70	0·30	97·76	2·24
1915..	94·17	5·83	98·84	1·16	98·68	1·32	98·08	1·92	96·55	3·45
1916..	92·87	7·13	99·54	0·46	99·20	0·80	96·55	3·45	96·22	3·78
1917..	93·81	6·19	100·00	—	98·53	1·47	96·47	3·53	96·35	3·65
1918..	76·87	23·13	98·09	1·91	96·83	3·17	93·80	6·11	86·95	13·05
1919..	89·29	10·71	99·05	0·95	98·12	1·88	93·06	6·94	93·99	6·01
1920..	91·51	8·49	98·37	1·63	98·90	1·10	97·62	2·38	95·43	4·57
RURAL AREAS.										
1912..	29·83	70·17	75·28	24·72	50·06	49·94	73·27	26·73	46·18	53·82
1913..	28·39	71·61	78·61	21·39	52·36	47·64	76·52	23·48	46·18	53·82
1914..	31·14	68·86	67·87	32·13	50·91	49·09	79·22	20·78	46·12	53·88
1915..	32·26	67·74	71·22	28·78	42·70	57·30	76·18	23·82	45·43	54·57
1916..	31·69	68·31	67·55	32·45	48·96	51·04	76·86	23·14	47·13	52·87
1917..	31·70	68·30	68·51	31·49	48·45	51·55	81·50	18·50	47·42	52·58
1918..	36·12	63·88	66·04	33·96	44·49	55·51	66·02	33·98	45·60	54·40
1919..	29·27	70·73	79·69	20·31	43·86	56·14	77·75	22·25	47·09	52·91
1920..	31·45	68·55	81·68	18·32	53·74	46·26	80·83	19·17	50·29	49·71
TOTAL—ALL AREAS.										
1912..	69·65	30·35	90·35	9·65	82·51	17·49	85·31	14·69	77·46	22·54
1913..	69·61	30·39	91·13	8·87	83·31	16·69	87·95	12·05	77·82	22·18
1914..	72·17	27·83	92·04	7·96	83·45	16·55	89·70	10·30	79·40	20·60
1915..	72·52	27·48	91·54	8·46	78·17	21·83	86·03	13·97	77·52	22·48
1916..	72·05	27·95	96·89	3·11	84·61	15·39	86·20	13·80	80·01	19·99
1917..	72·33	27·67	97·47	2·53	82·85	17·15	88·90	11·10	79·73	20·27
1918..	64·17	35·83	88·33	11·67	83·32	16·68	81·64	18·36	74·13	25·87
1919..	67·09	32·91	93·20	6·80	77·86	22·14	84·15	15·85	76·56	23·44
1920..	71·45	28·55	93·71	6·29	83·69	16·31	89·48	10·52	79·78	20·22

14. *Ages at Death.*—(i) *Causes of deaths at various ages.*—The following table shows the number of deaths of white persons during 1920 from the principal causes of death at certain age-periods according to the abridged International Nomenclature.

**AGES AT DEATH AND CAUSES OF DEATH—WHITE PERSONS,  
UNION, 1920.**

(a) MALE.

CAUSES OF DEATH.	TOTAL MALE.	AGE IN YEARS.												
		0-1.	1-4.	5-9.	10-14.	15-19.	20-24.	25-34.	35-44.	45-54.	55-64.	65-74.	75 and over.	Unspec-ified.
Enteric fever.....	210	—	6	10	27	33	14	46	41	23	17	4	—	—
Typhus.....	8	—	—	—	—	—	—	—	1	1	2	1	—	—
Malaria.....	108	5	8	9	6	12	9	13	17	15	11	12	11	—
Smallpox.....	3	—	—	—	—	—	—	—	1	—	1	1	—	—
Measles.....	72	22	42	6	1	—	—	—	—	—	—	—	—	—
Scarlet fever.....	16	2	7	3	2	1	—	1	—	—	—	—	—	—
Whooping cough.....	82	49	29	4	—	—	—	—	—	—	—	—	—	—
Diphtheria and croup.....	97	9	61	18	6	12	—	—	—	1	—	—	—	—
Influenza.....	209	15	17	9	3	28	14	32	42	37	15	18	4	—
Asiatic cholera.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera nostras.....	4	1	—	1	—	—	—	—	—	1	—	1	—	—
Other epidemic diseases.....	91	8	10	—	3	12	3	12	12	11	16	9	5	—
Phthisis, pulmonary tuberculosis.....	418	2	6	3	2	5	25	57	125	118	52	10	4	—
Tuberculous meningitis.....	20	2	3	4	—	12	1	3	1	—	1	—	—	—
Other tuberculous diseases.....	33	4	8	2	3	—	1	5	5	2	3	—	—	—
Cancer, malignant disease.....	505	—	4	2	2	2	4	16	35	94	167	124	55	—
Meningitis.....	122	44	27	9	8	6	3	6	3	7	6	3	—	—
Cerebral haemorrhage and softening.....	244	6	—	4	—	—	—	2	15	32	57	76	62	1
Organic heart disease.....	580	12	3	4	14	11	7	23	56	100	147	145	65	—
Acute bronchitis.....	132	89	31	3	—	—	—	—	—	—	2	5	—	—
Chronic bronchitis.....	106	1	—	1	1	2	1	3	8	23	26	40	—	—
Pneumonia.....	404	27	49	6	3	17	18	38	55	69	52	39	31	—
Broncho-pneumonia.....	305	178	70	6	3	—	4	2	8	7	4	13	9	1
Miners' phthisis and silicosis.....	133	—	—	—	—	—	—	11	62	40	14	6	—	—
Other diseases of the respiratory system.....	150	9	25	5	1	2	3	12	19	19	24	16	15	—
Diseases of the stomach (under 2 years).....	45	8	1	—	—	1	2	3	9	8	5	5	3	—
Diarrhoea and enteritis.....	641	514	127	—	—	—	—	—	—	—	—	—	—	—
Appendicitis, typhilitis.....	78	—	4	5	18	7	5	16	11	8	2	1	1	—
Hernia, intestinal obstruction.....	65	11	1	1	1	1	1	5	9	5	12	11	7	—
Cirrhosis of the liver.....	57	1	1	1	—	—	—	1	6	15	22	8	2	—
Nephritis and Bright's disease.....	191	2	8	5	3	3	1	11	22	31	41	43	20	1
Congenital debility and malformation.....	384	369	13	1	1	—	—	—	—	—	—	9	36	133
Senility.....	178	—	—	—	—	—	—	—	—	—	—	—	—	—
Violent deaths (excluding suicides).....	435	10	44	27	25	35	41	69	73	55	30	18	8	—
Suicides.....	127	—	1	—	1	1	14	21	34	31	15	7	2	—
Other defined diseases.....	1,290	181	60	48	31	32	35	77	143	191	104	177	127	—
Ill-defined or unknown.....	73	4	5	—	3	1	3	7	4	8	13	18	6	1
Uncertified causes.....	1,787	583	231	65	44	43	34	69	74	106	120	178	230	1
<b>TOTAL.....</b>	<b>9,418</b>	<b>2,168</b>	<b>902</b>	<b>261</b>	<b>214</b>	<b>207</b>	<b>244</b>	<b>561</b>	<b>886</b>	<b>1,044</b>	<b>1,078</b>	<b>1,016</b>	<b>832</b>	<b>5</b>



## (b) FEMALE.

CAUSES OF DEATH.	TOTAL FE- MALE.	AGE IN YEARS.											Unspeci- fied.	
		0-1.	1-4.	5-9.	10-14.	15-19.	20-24.	25-29.	30-34.	35-44.	45-54.	55-64.		65-74.
Enteric fever.....	185	2	6	17	26	21	27	40	21	18	9	3	—	—
Typhus.....	10	—	—	—	—	—	—	—	—	—	—	—	—	—
Malaria.....	40	1	8	2	3	3	2	—	1	4	5	3	—	—
Smallpox.....	6	—	—	—	—	—	—	—	—	—	—	—	—	—
Measles.....	67	22	36	4	1	2	1	—	1	—	—	—	—	—
Scarlet fever.....	15	—	—	—	—	—	—	—	—	—	—	—	—	—
Whooping cough.....	130	56	68	5	1	—	—	—	—	—	—	—	—	—
Diphtheria and croup.....	88	5	49	16	9	1	1	2	2	—	1	1	1	—
Influenza.....	138	11	12	8	6	6	10	27	21	10	13	12	3	—
Asiatic cholera.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cholera nostras.....	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other epidemic diseases.....	63	8	6	2	3	3	4	1	4	6	8	9	9	—
Phthisis, pulmonary tuberculosis.....	183	—	1	5	3	14	25	55	35	24	13	5	3	—
Tuberculous meningitis.....	15	3	9	2	—	—	—	—	1	—	—	—	—	—
Other tuberculous dis- eases.....	21	1	1	1	1	1	2	4	4	3	1	2	—	—
Cancer, malignant disease.....	379	1	—	—	1	1	3	21	47	81	103	81	39	1
Meningitis.....	78	31	14	8	9	1	1	7	4	2	1	—	—	—
Cerebral hæmorrhage and softening.....	197	5	—	1	—	1	1	5	10	28	31	64	51	—
Organic heart disease.....	479	9	2	12	15	6	14	34	40	65	78	115	80	—
Acute bronchitis.....	107	70	21	1	—	1	1	—	—	—	4	3	5	—
Chronic bronchitis.....	106	1	2	—	—	—	2	—	2	6	13	28	52	—
Pneumonia.....	267	22	36	19	14	5	11	26	31	24	34	27	18	—
Broncho-pneumonia.....	288	159	84	4	4	1	3	5	4	5	5	8	8	—
Other diseases of res- piratory system.....	110	13	31	8	1	1	2	5	11	10	9	13	6	—
Diseases of the stomach Diarrhoea and enteritis (under 2 years).....	35	4	4	—	—	—	—	2	5	5	4	4	7	—
492	388	104	—	—	—	—	—	—	—	—	—	—	—	—
Appendicitis, typhlitis..	56	1	3	7	3	0	8	6	7	0	4	2	—	—
Hernia, intestinal ob- struction.....	64	12	1	1	1	2	1	5	4	11	5	15	6	—
Cirrhosis of the liver..	19	—	—	—	—	1	—	3	7	3	3	2	—	—
Nephritis and Bright's disease.....	115	5	2	1	3	0	7	11	15	22	28	27	18	—
Non-mal. tumours and other diseases of the genitals.....	44	—	—	—	—	1	1	14	13	8	5	2	—	—
Puerperal fever.....	84	—	—	—	1	5	10	37	21	1	—	—	—	—
Other accidents and dis- eases of pregnancy and parturition.....	94	—	—	—	—	2	16	43	29	3	1	—	—	—
Congenital debility and malformation.....	300	286	8	—	2	1	—	—	1	1	1	—	—	—
Senility.....	212	—	—	—	—	—	—	—	1	—	4	35	170	2
Violent deaths (exclud- ing suicides).....	130	3	39	22	10	8	7	12	11	5	7	1	4	1
31	—	—	—	—	—	1	3	6	11	6	3	1	—	—
Suicides.....	916	137	69	36	34	27	31	98	90	97	108	110	79	—
Other defined diseases, ill-defined or unknown.	45	7	7	—	—	1	—	4	6	3	2	5	10	—
Uncertified causes.....	1,577	478	215	55	46	44	53	84	100	62	93	147	200	—
<b>TOTAL.....</b>	<b>7,216</b>	<b>1,745</b>	<b>843</b>	<b>242</b>	<b>199</b>	<b>177</b>	<b>256</b>	<b>550</b>	<b>571</b>	<b>522</b>	<b>503</b>	<b>726</b>	<b>779</b>	<b>4</b>

(ii) *Age Incidence of Mortality.*—The following tables show the numbers and proportions per cent. of deaths of white persons at certain age periods during five years. Although the proportion of infant deaths under one year has shown a steady improvement it is still high and constitutes nearly a fourth of the total annual deaths, the year 1918 excepted. The subject of infantile mortality is dealt with more fully in paragraph 9 of this section.

**AGE INCIDENCE OF MORTALITY—WHITE PERSONS, UNION,  
1916 TO 1920.**

Age Periods.	Number of Deaths.					Percentage Total Deaths.				
	1916.	1917.	1918.	1919.	1920.	1916.	1917.	1918.	1919.	1920.
0-3 months.....	1,537	1,761	1,745	1,686	2,084	12.8	12.0	7.0	9.6	12.5
3-5 ".....	665	628	667	652	780	4.6	4.3	2.7	3.7	4.7
6-8 ".....	568	472	531	483	575	4.0	3.2	2.1	2.8	3.5
9-11 ".....	475	408	469	429	474	3.3	2.8	1.9	2.5	2.8
<b>TOTAL UNDER 1 YEAR.....</b>	<b>3,545</b>	<b>3,269</b>	<b>3,412</b>	<b>3,250</b>	<b>3,913</b>	<b>24.7</b>	<b>22.3</b>	<b>13.7</b>	<b>18.6</b>	<b>23.5</b>
1 year.....	985	901	1,025	877	942	6.8	6.1	4.1	5.0	5.7
2 years.....	380	337	484	339	391	2.6	2.3	1.9	1.9	2.3
3 ".....	231	260	376	235	258	1.6	1.8	1.5	1.3	1.5
4 ".....	147	182	262	166	154	1.0	1.2	1.0	0.9	0.9
5-9 ".....	474	513	723	586	503	3.3	3.5	2.9	3.3	3.0
10-14 ".....	272	349	537	432	413	1.9	2.4	2.1	2.5	2.5
15-19 ".....	297	329	861	457	384	2.1	2.3	3.5	2.6	2.3
20-24 ".....	439	493	1,869	776	500	3.1	3.4	7.6	4.4	3.0
25-29 ".....	473	510	2,601	980	560	3.3	3.5	10.4	5.6	3.4
30-34 ".....	536	548	2,350	1,006	560	3.7	3.7	9.5	5.7	3.4
35-44 ".....	1,280	1,301	3,746	2,020	1,457	8.9	9.5	15.0	11.5	8.8
45-54 ".....	1,369	1,511	2,307	1,818	1,566	9.4	10.3	9.3	10.4	9.4
55-64 ".....	1,335	1,354	1,672	1,501	1,671	9.4	9.2	6.7	9.1	10.0
65-74 ".....	1,373	1,424	1,486	1,608	1,742	9.6	9.7	5.9	9.2	10.5
75 years and over	1,246	1,276	1,212	1,386	1,611	8.6	8.7	4.8	7.9	9.7
Unspecified.....	3	18	40	9	9	0.0	0.1	0.2	0.1	0.1
<b>TOTAL.....</b>	<b>14,385</b>	<b>14,665</b>	<b>24,972</b>	<b>17,534</b>	<b>16,634</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

(iii) *Average Age at Death.*—The average age at death from certain certified causes of death, calculated for a period of years is shown in the following table (a). The averages are approximate and are calculated on the age incidence of mortality per hundred deaths registered each year. They are substantially correct, any discrepancies being attributable to the system of age grouping adopted in past years. In such cases the mean of the group has been taken. The adoption of electric machine tabulation has made possible the tabulation of the correct average age for 1918 and subsequent years. Table (b) compares the average age at death from all causes in the Union with similar averages in New Zealand. Although there has been a steady improvement in the average for the Union, there is a marked discrepancy between the Union and New Zealand averages. This is partly accounted for by the higher incidence of mortality among infants under one year of age in the former Dominion, the infantile mortality rates being for each country as shown hereunder :—

	1915.	1916.	1917.	1918.	1919.	Mean of 5 Years.
Union.....	86.31	86.05	80.27	82.37	81.81	83.36
New Zealand...	50.05	50.70	48.16	48.41	45.26	48.52

(a) AVERAGE AGE AT DEATH FROM CERTAIN CERTIFIED CAUSES OF DEATH—  
UNION, 1915 TO 1920.

Abridged Classification.*		1915.	1916.	1917.	1918.	1919.	1920.	Average 8 Years, 1912-20.
		Years.	Years.	Years.	Years.	Years.	Years.	
Enteric fever.....	Males...	29.47	29.66	29.24	27.94	26.44	30.60	28.08
	Females	25.74	26.94	26.96	25.41	24.82	25.40	25.78
	Total...	27.07	28.44	28.14	26.78	25.78	23.17	27.54
Malaria.....	Males...	40.39	33.92	35.71	28.81	33.25	34.53	34.56
	Females	29.19	29.55	24.95	27.65	32.46	31.30	33.59
	Total...	36.27	33.08	33.92	28.51	33.02	33.66	33.02
Measles.....	Males...	6.89	4.35	7.67	5.33	4.00	2.59	6.07
	Females	6.37	4.43	7.05	6.66	7.10	3.00	6.74
	Total...	6.63	4.39	7.25	6.91	6.30	2.78	6.40
Scarlet fever.....	Males...	7.17	7.98	5.46	6.53	6.59	6.53	6.38
	Females	3.45	4.55	8.30	7.43	6.15	5.83	6.38
	Total...	4.97	6.19	7.07	7.05	6.34	6.19	6.45
Diphtheria.....	Males...	4.23	4.47	3.88	4.70	6.72	4.21	4.51
	Females	5.09	5.35	6.58	6.53	5.80	8.23	6.12
	Total...	4.67	4.94	5.29	5.63	6.27	6.06	5.85
Influenza.....	Males...	45.67	44.61	49.77	50.06	31.01	34.88	30.69
	Females	43.54	43.27	49.50	28.98	30.48	32.42	30.05
	Total...	44.50	43.96	49.68	29.64	30.77	33.90	30.43
Pulmonary tuberculosis.....	Males...	40.24	41.07	39.98	39.72	40.94	42.61	40.57
	Females	34.00	34.81	33.99	35.04	35.49	34.52	34.39
	Total...	38.02	38.55	38.04	38.17	39.20	40.14	38.51
Tuberculous meningitis.....	Males...	11.27	7.41	11.47	3.74	11.67	18.24	10.16
	Females	10.80	9.70	11.05	10.75	8.25	12.78	9.10
	Total...	11.07	8.69	11.32	6.24	8.65	12.48	9.83
Other tuberculous diseases.....	Males...	32.76	28.53	25.23	30.59	28.23	30.95	25.85
	Females	27.68	22.74	25.83	22.45	27.89	32.46	24.04
	Total...	31.48	23.24	25.53	26.77	28.09	25.43	25.09
Cancer.....	Males...	59.07	58.39	58.81	57.74	58.34	58.61	58.54
	Females	55.41	55.75	56.62	56.33	55.74	56.44	56.22
	Total...	57.29	57.01	57.26	57.13	57.11	57.68	57.43
Cerebral haemorrhage and softening.....	Males...	61.09	62.30	62.85	63.07	62.01	60.54	61.58
	Females	62.99	68.69	59.91	66.18	64.19	62.67	60.46
	Total...	61.92	62.93	61.44	64.58	63.02	61.49	61.88
Organic heart disease.....	Males...	62.60	64.98	53.95	62.50	66.02	65.28	64.19
	Females	52.81	62.77	61.88	62.80	64.98	64.90	63.07
	Total...	52.70	64.01	63.00	62.64	65.53	65.11	63.68
Chronic bronchitis.....	Males...	48.20	67.48	58.63	60.31	62.01	66.88	61.78
	Females	63.91	66.04	62.86	57.61	59.71	69.47	63.89
	Total...	57.37	66.82	60.71	58.94	60.97	68.18	62.56
Pneumonia.....	Males...	37.36	37.78	33.84	30.86	35.50	39.10	35.20
	Females	32.73	35.57	33.97	28.98	33.27	34.56	32.86
	Total...	35.59	36.22	33.89	30.15	34.71	37.30	34.11
Miners' phthisis and silicosis.....	Males...	43.44	44.56	44.50	44.37	44.05	44.89	44.02
	Total...	0.54	0.57	0.57	0.94	0.62	0.53	0.60
	Diarrhoea and enteritis under two years.....	Males...	25.04	30.01	32.96	28.24	32.17	26.41
Appendicitis.....	Females	21.64	31.91	24.88	23.03	26.87	29.37	26.98
	Total...	23.97	30.66	29.73	24.91	29.52	27.65	27.87
	Males...	58.49	50.92	52.12	50.10	51.92	53.49	52.81
Cirrhosis of the liver.....	Females	52.64	44.77	54.46	49.56	51.71	48.18	51.81
	Total...	56.77	49.63	52.57	49.95	51.86	52.16	52.22
	Males...	48.55	47.70	49.58	48.70	53.09	51.84	49.82
Nephritis and Bright's disease.....	Females	46.74	44.84	47.18	48.57	48.07	50.09	46.82
	Total...	47.76	46.49	48.51	49.15	51.09	51.08	48.55
	Males...	43.98	41.62	41.07	39.57	33.84	41.76	40.09
Suicides.....	Females	37.27	32.34	39.64	37.52	43.23	40.16	38.03
	Total...	42.87	40.28	40.67	39.18	35.40	41.45	39.74
	Males...							
TOTAL—ALL DEATHS (certified and uncertified)	Males...	31.87	32.46	33.06	31.71	34.03	34.00	33.15
	Females	30.10	30.10	31.65	30.32	32.39	31.66	31.16
TOTAL..		31.10	31.44	32.37	31.15	33.31	32.97	32.31

\* A number of titles have been excluded from the classification for the reasons that either the small numbers of deaths from such causes give widely fluctuating averages and are therefore unreliable as an index to age mortality, or that owing to their peculiar nature the average age of death is of no value.

## (b) AVERAGE AGE AT DEATH IN THE UNION COMPARED WITH NEW ZEALAND.

YEAR.	UNION OF SOUTH AFRICA.			YEAR.	NEW ZEALAND.	
	Males.	Females.	Persons.		Males.	Females.
1913.....	30·68	27·66	29·29	1913	46·26	43·04
1914.....	31·48	28·71	30·21	1914	46·97	44·27
1915.....	31·87	30·10	31·10	1915	47·24	44·71
1916.....	32·46	30·10	31·44	1916	46·06	44·01
1917.....	33·06	31·65	32·37	1917	48·33	45·51
1918.....	31·71	30·32	31·15	1918	44·56	44·29
1919.....	34·03	32·39	33·31	1919	50·73	48·47
AVERAGE 7 YEARS	33·01	31·07	32·20	—	47·17	44·90

15. **Classified Causes of Death.**—The Government of the Union is a party to the agreement executed in Paris on the 3rd July, 1909, by the International Commission which revised the *International Classification of the Causes of Sickness and Death*. As from the 1st January, 1912, the *International Nomenclature* was adopted as standard throughout the Union for the tabulation of Vital and Morbidity Statistics, so that from that date the vital statistics of the Union are comparable with those of other countries using the same classification. The detailed statistics for the years 1912 to 1915 will be found in the *Statistical Year Book of the Union* Nos. 1, 2, 3, and 4, and for years 1916, 1917, and 1918 in *Statistics of Population* [S.P. 3], [S.P. 7], and [S.P. 24] respectively.

In the first two issues of this publication the causes of death were shown grouped in fourteen categories, but the tables have since been recast and the figures shown for the year 1918 and previous years in more useful form by the adoption of the *International Abridged List*, supplemented by the addition of certain causes of special interest to the Union, such as miners' phthisis and silicosis.

It is interesting to note that other countries using the *International Abridged List* have also found it convenient to amend the original list to suit local conditions, and Australia, the United States, and England and Wales are all using different abbreviated nomenclatures, which, at the same time, are comparable as far as universal diseases are concerned.

The table hereunder shows the number of deaths registered in the Union for the years 1914 to 1920.

## CERTIFIED CAUSES OF DEATH (ABRIDGED INTERNATIONAL LIST)—WHITE PERSONS IN THE UNION, 1914 TO 1920.

Cause of Death.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Enteric fever.....	262	318	243	260	272	227	395
Typhus.....	—	—	—	3	2	9	18
Malaria.....	54	114	47	150	94	84	148
Smallpox.....	2	1	1	2	2	—	9
Measles.....	111	65	309	142	107	74	139
Scarlet fever.....	57	30	23	30	125	102	31
Whooping-cough.....	159	137	165	189	80	66	212
Diphtheria and croup.....	153	240	176	222	190	177	185
Influenza.....	42	60	112	80	6,977	2,246	347
Asiatic cholera.....	—	—	—	—	—	—	—
Cholera nostras.....	—	3	3	1	—	—	4
Other epidemic diseases.....	154	174	173	185	153	141	154
Phthisis (pulmonary tuberculosis).....	517	519	566	624	585	600	601
Tuberculous meningitis.....	31	31	25	35	25	17	35
Other tuberculous disease.....	63	52	52	56	63	44	51
Cancer, malignant disease.....	625	717	672	772	764	811	884
Meningitis.....	173	198	213	184	187	173	200
Cerebral haemorrhage and softening.....	284	303	343	365	333	376	441
Organic heart disease.....	790	790	900	947	986	988	1,068
Acute bronchitis.....	187	217	244	312	200	173	239
Chronic bronchitis.....	106	156	154	158	174	177	212
Broncho-pneumonia.....	300	285	425	340	398	392	593
Pneumonia.....	481	534	755	773	949	713	671
Miners' phthisis and silicosis.....	119	167	165	147	151	141	133

**CERTIFIED CAUSES OF DEATH (ABRIDGED INTERNATIONAL LIST)—WHITE PERSONS IN THE UNION, 1914 TO 1920—continued.**

Cause of Death.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Other diseases of the respiratory system.....	196	250	221	232	269	221	260
Diseases of the stomach.....	93	104	113	98	78	73	80
Diarrhoea and enteritis (under 2 years).....	992	993	949	874	704	786	1,133
Appendicitis and typhlitis.....	95	85	113	100	117	112	134
Hernia, intestinal obstruction.....	88	83	117	100	117	94	129
Cirrhosis of liver.....	49	62	62	74	92	70	76
Nephritis and Bright's disease.....	252	303	206	348	343	310	336
Non-malignant tumours and other diseases of the female genital organs.....	30	22	31	38	42	34	44
Puerperal fever.....	80	63	61	67	73	51	64
Other accidents and diseases of pregnancy and parturition.....	89	98	83	110	98	103	94
Congenital debility and malformation.....	687	641	643	630	631	652	684
Senility.....	347	380	372	359	363	408	390
Violent deaths (excluding suicides).....	687	710	624	597	540	519	660
Suicides.....	139	133	107	100	95	140	167
Other defined diseases.....	1,826	1,828	1,750	1,801	1,861	1,809	2,212
Unspecified or ill-defined diseases.....	215	230	230	188	140	135	118
<b>TOTAL—CERTIFIED.....</b>	<b>10,335</b>	<b>11,105</b>	<b>11,548</b>	<b>11,093</b>	<b>18,476</b>	<b>13,248</b>	<b>13,270</b>
“ UNCERTIFIED.....	2,562	3,106	2,837	2,972	6,406	4,286	3,364
<b>TOTAL—DEATHS.....</b>	<b>12,897</b>	<b>14,211</b>	<b>14,385</b>	<b>14,065</b>	<b>24,972</b>	<b>17,534</b>	<b>16,634</b>

16. **Deaths from Special Causes.**—The following tables relating to the more important causes of death show only the certified deaths. As given under the heading “Certified and Uncertified Deaths,” the proportion of uncertified deaths is so high, averaging 22 per cent. of the total registrations, and the causes of death returned by informants of uncertified deaths are so unreliable that it has been found possible to tabulate only the certified causes. For this reason it is not possible always to arrive at the death rate for any particular disease, and where rates are shown they are based upon the total certified registrations and not upon the total number of deaths registered. There is an exception to this rule, however, in the case of deaths from violence, owing to the fact that there are no uncertified deaths from these causes.

(i) **Deaths from Tuberculosis.**—Table (a) hereunder gives the number of white persons who died from tuberculosis in the Union during seven years, and the number per 100,000 of the estimated mean population each year. Table (b) gives the number of white persons of each sex certified to have died of this disease at various age periods during the years 1918 to 1920.

**(a) CERTIFIED DEATHS FROM TUBERCULOSIS—WHITE PERSONS, UNION, 1914 TO 1920.**

Form of Disease.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Tuberculosis of the lungs.....	501	510	547	608	576	596	595
Acute miliary tuberculosis....	16	9	19	16	9	4	6
Tuberculous meningitis.....	31	31	25	35	25	17	35
Abdominal tuberculosis.....	27	17	21	24	31	15	29
Pott's disease.....	2	6	3	3	5	3	3
White swellings.....	8	1	1	2	3	6	1
Tuberculosis of other organs..	8	7	9	12	11	8	9
Disseminated tuberculosis....	18	21	18	15	13	12	12
<b>TOTAL.....</b>	<b>611</b>	<b>602</b>	<b>643</b>	<b>715</b>	<b>673</b>	<b>661</b>	<b>690</b>
<b>Death Rate per 100,000 of the Population.....</b>	<b>45·10</b>	<b>43·63</b>	<b>45·78</b>	<b>50·02</b>	<b>46·28</b>	<b>44·72</b>	<b>45·98</b>

(b) AGES OF WHITE PERSONS WHO DIED IN THE UNION FROM TUBERCULOSIS  
(CERTIFIED), 1918 TO 1920.

Age Periods.	1918.			1919.			1920.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
0-4 years.....	24	19	43	18	13	31	25	15	40
5-9 ".....	8	8	16	5	4	9	9	8	17
10-14 ".....	7	9	16	5	6	11	7	4	11
15-19 ".....	11	20	31	6	10	16	7	15	22
20-24 ".....	19	29	48	20	28	48	27	27	54
25-29 ".....	34	21	55	23	35	58	35	32	67
30-34 ".....	52	25	77	55	23	78	30	27	57
35-44 ".....	149	41	190	152	44	196	131	40	171
45-54 ".....	97	27	124	107	28	135	121	27	148
55-64 ".....	36	13	49	33	16	49	56	14	70
65-74 ".....	12	3	15	17	10	27	19	7	26
75 and over.....	4	5	9	2	1	3	4	3	7
Not stated.....	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>453</b>	<b>220</b>	<b>673</b>	<b>443</b>	<b>218</b>	<b>661</b>	<b>471</b>	<b>219</b>	<b>690</b>

(ii) *Deaths from Cancer.*—Table (a) hereunder gives the number of white persons certified to have died from cancer in the Union during seven years, and the death rate per 100,000 of the estimated mean population each year. Table (b) gives for the years 1918 to 1920 the number of white persons of each sex who died from cancer at various age periods.

(a) CERTIFIED DEATHS FROM CANCER—WHITE PERSONS, UNION,  
1914 TO 1920.

Seat of Disease.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Cancer, etc., of the—							
mouth.....	36	35	42	55	46	56	40
stomach and liver.....	252	291	284	310	329	318	355
peritoneum, intestines, rectum.....	52	76	65	65	65	69	99
female genital organs....	72	88	91	96	82	105	94
breast.....	36	65	46	59	55	50	61
skin.....	21	16	14	19	19	19	35
other organs.....	156	146	130	168	168	194	200
<b>TOTAL.....</b>	<b>625</b>	<b>717</b>	<b>672</b>	<b>772</b>	<b>764</b>	<b>811</b>	<b>884</b>
<b>Death Rate per 100,000 of the Population.....</b>	<b>46.13</b>	<b>51.97</b>	<b>47.84</b>	<b>54.01</b>	<b>52.54</b>	<b>54.86</b>	<b>58.84</b>

(b) AGES OF WHITE PERSONS WHO DIED IN THE UNION FROM CANCER  
(CERTIFIED), 1918 TO 1920.

Age Periods.	1918.			1919.			1920.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
0-4 years.....	3	2	5	1	3	4	4	1	5
5-9 ".....	2	1	3	2	1	3	2	—	2
10-14 ".....	1	2	3	2	2	4	2	1	3
15-19 ".....	1	2	3	3	2	5	2	1	3
20-24 ".....	2	1	3	5	4	9	4	3	7
25-29 ".....	1	3	4	3	2	5	7	9	16
30-34 ".....	4	14	18	11	9	20	9	12	21
35-44 ".....	39	39	78	25	55	80	35	47	82
45-54 ".....	93	92	185	98	106	204	94	81	175
55-64 ".....	137	75	212	131	78	209	167	103	270
65-74 ".....	110	64	174	110	87	197	124	81	205
75 and over.....	36	40	76	36	35	71	55	39	94
Not stated.....	—	—	—	—	—	—	—	1	1
TOTAL.....	429	385	764	427	384	811	505	379	884

(iii) Deaths from Organic Heart Disease.—Particulars are given below for a series of years of the number of white persons certified to have died from organic heart disease in each Province, the death rate from this disease per 100,000 of the estimated mean population each year, and the ages of persons who died of organic heart disease in 1918 to 1920:—

(a) CERTIFIED DEATHS FROM ORGANIC HEART DISEASE—WHITE PERSONS,  
UNION, 1912 TO 1920.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.	Death Rate per 100,000 of Population.
1912.....	394	78	185	76	733	56.16
1913.....	437	92	220	90	839	63.08
1914.....	411	70	213	96	790	58.31
1915.....	395	94	211	90	790	57.26
1916.....	477	113	217	102	909	64.72
1917.....	475	113	250	109	947	66.25
1918.....	470	122	307	87	986	67.81
1919.....	497	126	269	96	988	66.84
1920.....	569	110	288	101	1,068	71.09

(b) AGES OF WHITE PERSONS WHO DIED FROM ORGANIC HEART DISEASE  
(CERTIFIED), UNION, 1918 TO 1920.

Age Periods.	1918.			1919.			1920.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
0-4 years.....	10	8	18	7	5	12	15	11	26
5-9 ".....	14	11	25	4	8	12	4	12	16
10-14 ".....	14	19	33	7	17	24	14	15	29
15-19 ".....	8	7	15	11	14	25	11	6	17
20-24 ".....	9	7	16	8	10	18	7	14	21
25-29 ".....	18	22	40	11	11	22	12	13	25
30-34 ".....	11	13	24	13	16	29	11	21	32
35-44 ".....	50	43	93	46	45	91	56	40	96
45-54 ".....	115	79	194	103	62	165	100	65	165
55-64 ".....	119	90	209	116	99	215	147	78	225
65-74 ".....	108	99	207	134	105	239	147	115	262
75 and over.....	55	57	112	60	76	136	65	89	154
Not stated.....	—	—	—	—	—	—	—	—	—
TOTAL.....	531	455	986	520	468	988	589	479	1,068

(iv) *Deaths in Childbirth.*—The subjoined tables give for seven years (a) the number of certified deaths in childbirth of white persons in the Union, and (b) the ages of mothers who died in childbirth in age periods:—

(a) **CERTIFIED DEATHS DURING CHILDBIRTH—WHITE PERSONS, UNION, 1914 TO 1920.**

Cause.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Accidents of pregnancy.....	24	24	20	26	21	22	17
Puerperal hæmorrhage.....	15	18	30	32	27	21	26
Other accidents of labour.....	17	29	17	15	21	32	36
Puerperal septicaemia.....	80	63	61	67	74	51	84
Puerperal albuminaria.....	24	20	16	17	18	18	11
Puerperal embolus, sudden death following childbirth (not defined).....	5	2	—	9	3	5	2
Puerperal diseases of the breast.....	4	5	—	11	8	5	8
<b>TOTAL.....</b>	<b>169</b>	<b>161</b>	<b>144</b>	<b>177</b>	<b>172</b>	<b>154</b>	<b>178</b>
<b>Total Births registered.....</b>	<b>40,886</b>	<b>40,471</b>	<b>41,196</b>	<b>40,722</b>	<b>41,582</b>	<b>39,724</b>	<b>43,445</b>
<b>Proportion of puerperal deaths per 1,000 births.....</b>	<b>4·13</b>	<b>3·97</b>	<b>3·49</b>	<b>4·34</b>	<b>4·13</b>	<b>3·88</b>	<b>4·10</b>

(b) **AGES OF MOTHERS WHO DIED IN CHILDBIRTH (CERTIFIED)—WHITE PERSONS, UNION, 1914 TO 1920.**

Age Periods.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
15 to 19 years.....	12	9	3	6	6	6	8
20 " 24 ".....	25	27	26	36	24	41	35
25 " 29 ".....	50	37	32	47	52	32	43
30 " 34 ".....	36	34	37	40	36	32	37
35 " 44 ".....	41	48	40	45	48	40	50
45 " 54 ".....	5	5	6	3	6	3	4
55 " 64 ".....	—	1	—	—	—	—	1
<b>TOTAL.....</b>	<b>169</b>	<b>161</b>	<b>144</b>	<b>177</b>	<b>172</b>	<b>154</b>	<b>178</b>

(v) *Deaths from Infectious and Notifiable Diseases.*—In the first two issues of this Year Book a special table was included showing deaths from notifiable diseases. With the adoption of the international short list of causes of death there is no longer any necessity to show infectious and notifiable diseases separately, as the principal causes are embodied in the short list in the preceding paragraph.



(vi) *Deaths of Infants (Diarrhoea and Enteritis).*—The number of deaths of children (white) who died in the Union and in each Province of diarrhoea and enteritis from 1912 is given in the subjoined table, together with the proportion per cent. of such deaths to the total number of certified deaths:—

**DEATHS OF INFANTS, UNDER TWO YEARS, FROM DIARRHOEA AND ENTERITIS—WHITE PERSONS, 1912 TO 1920.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.	Percentage of Total Certified Deaths.
1912.....	342	100	401	115	967	9.23
1913.....	428	77	424	142	1,071	10.02
1914.....	268	85	414	125	992	9.80
1915.....	410	56	402	125	993	8.94
1916.....	379	53	436	81	949	8.27
1917.....	366	58	351	90	874	7.47
1918.....	302	45	368	79	794	4.29
1919.....	318	54	338	76	786	5.93
1920.....	446	69	496	122	1,133	8.54

(vii) *Deaths from Violence.*—Particulars are given below of the number of deaths by violence amongst white persons, including deaths by suicide of various kinds. Table (a) gives the number of suicides for seven years. Table (b) gives for the years 1918 to 1920 the number and ages of white persons who committed suicide. Table (c) gives the number of white persons whose deaths resulted from violence in the years 1914 to 1920.

**(a) SUICIDES—WHITE PERSONS, UNION, 1914 TO 1920.**

Mode of Death.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Poison.....	23	35	22	30	20	27	49
Asphyxia.....	—	—	—	2	1	3	3
Hanging or strangulation.....	15	16	15	8	10	23	12
Drowning.....	6	8	13	9	7	4	6
Firearms.....	66	44	44	28	35	57	57
Cutting or piercing instruments...	16	22	11	16	11	21	26
Jumping from a high place.....	2	1	—	1	3	1	1
Crushing.....	1	2	—	5	4	1	2
Other modes.....	10	5	2	1	4	3	1
TOTAL.....	139	133	107	100	95	140	157

**(b) AGES OF WHITE PERSONS WHO COMMITTED SUICIDE, UNION, 1918 TO 1920.**

Age Periods.	1918.			1919.			1920.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Under 5 years ..	2	—	2	—	—	—	—	—	—
5 to 9 " ..	1	—	1	—	—	—	—	—	—
10 " 14 " ..	—	1	1	—	—	—	1	—	1
15 " 19 " ..	5	3	8	2	—	2	1	1	2
20 " 24 " ..	6	—	6	8	4	12	14	3	17
25 " 29 " ..	8	3	11	14	3	17	10	2	12
30 " 34 " ..	16	6	22	8	3	11	11	4	15
35 " 44 " ..	28	3	31	37	6	43	34	11	45
45 " 54 " ..	7	3	10	27	2	29	31	6	37
55 " 64 " ..	2	—	2	9	6	15	15	3	18
65 " 74 " ..	—	1	1	4	1	5	7	1	8
75 years and over	—	—	—	5	1	6	2	—	2
Unspecified.....	—	—	—	—	—	—	—	—	—
TOTAL.....	75	20	95	114	26	140	126	31	157

## (c) DEATHS FROM VIOLENCE—WHITE PERSONS, UNION, 1914 TO 1920.

Cause.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Poisoning by food.....	6	6	13	3	1	1	4
Other acute poisonings.....	32	34	34	32	10	21	35
Conflagration.....	4	1	1	5	6	2	1
Burns (conflagration excepted)....	66	79	81	60	66	60	70
Absorption of deleterious gases....	19	8	18	13	10	12	12
Accidental drowning.....	89	133	96	112	95	85	93
<b>Traumatisms—</b>							
By firearms.....	36	30	28	16	16	30	29
By cutting or piercing instruments.....	—	4	5	—	1	1	1
By fall.....	49	33	50	47	41	43	34
In mines or quarries.....	71	78	67	83	73	86	45
By machines.....	3	2	1	6	4	1	4
By other crushing (vehicles, railways, etc.).....	120	112	102	102	125	127	181
Injuries by animals.....	8	9	8	14	9	17	6
Starvation.....	9	3	10	6	3	2	1
Excessive cold.....	2	1	2	1	1	1	1
Effects of heat.....	3	4	4	6	6	4	9
Lightning.....	35	20	25	24	19	17	19
Electricity (lightning excepted)....	1	2	—	1	2	3	—
<b>Homicides—</b>							
By firearms.....	16	14	3	2	1	2	12
By cutting or piercing instruments.....	5	1	5	4	4	4	6
By other means.....	12	16	11	12	12	18	14
Fractures (cause not specified)....	8	12	11	18	8	6	10
Other external violence.....	84	107	49	29	10	27	29
<b>TOTAL.....</b>	<b>687</b>	<b>710</b>	<b>624</b>	<b>597</b>	<b>540</b>	<b>519</b>	<b>566</b>
Death Rate per 100,000 of the Population.....	50.71	51.46	44.43	41.77	37.14	35.11	37.67

(viii) *Deaths from Influenza.*—The previous issue of this Year Book contained a number of graphs and tables relative to the influenza epidemic in the Union during the latter portion of the year 1918, and again in a milder form during the early part of 1919. During the preceding quinquennium the yearly average number of deaths certified as due to influenza was 75. This figure rose to 6,977 (excluding 3,390 uncertified events) in the year 1918, declined to 2,246 in 1919, and to 347 during the year 1920. At no time during 1920 did influenza reach epidemic prevalence, so that it may be assumed that it is resuming its former status as a minor cause of death.

## § 4. Marriages.

1. *Marriages in the Cape of Good Hope.*—(i) *Persons who may not Marry.*—Persons who may not marry in the Cape of Good Hope are males under fourteen and females under twelve years of age; minors, i.e. persons under twenty-one years of age (not being widowers or widows), unless with the consent of parents or guardians or of a Judge; persons of unsound mind; impotent persons, and blood relations in the direct line and collaterals within the third degree. A widow may not marry her deceased husband's brother, though a widower may marry his deceased wife's sister. Persons who have committed adultery with each other may not marry, even after the divorce or death of the innocent party, nor may persons previously married while such marriages subsist. Widowers or widows with minor children may only marry on the production of a certificate from the Master of the Supreme Court that the inheritance of minors has been secured, or that the estate of the deceased spouse is valued at less than £100. A guardian may not marry his ward until his accounts as guardian have been closed and audited.

(ii) *Persons Authorized to Solemnize Marriages.*—Magistrates and Detached Assistant Magistrates are authorized to solemnize marriages, as are also persons (ministers of religion, officers of the Public Service, or private individuals) who may be specially designated as marriage officers by the Minister of the Interior. Persons who were authorized to solemnize marriages in the Cape of Good Hope Province prior to the passing of the Act No. 43 of 1916 still possess that power. A marriage officer's authority may be revoked for misconduct or for other sufficient cause. The solemnization of marriages without proper authority is punishable by fine not exceeding £200, or by imprisonment with or without hard labour for a period not exceeding twelve months.

(iii) *Preliminaries to Marriage.*—In the case of Magistrates or Detached Assistant Magistrates written notice must be posted in a conspicuous place in or near the Court-house for a period of twenty-one days and read out in Court thrice, with an interval of

not less than three days between consecutive readings, during such period, in the district or sub-district in which each of the parties has resided for not less than fourteen days prior to such publication of notice. In the case of ministers of the Christian religion, banns must be published on three Sundays before the congregation to which each of the parties belongs. All other marriage officers must publish notices of marriage by affixing a copy of each notice for a period of not less than twenty-one days in a conspicuous place accessible to the public at the residence of the marriage officer or in or at the building or place of worship of the congregation to which each of the parties belongs; and, if there is no such building, then at the Court of the Magistrate or Detached Assistant Magistrate of the district or sub-district in which each of the parties resides. No period of residence is specified in the case of ministers and marriage officers, other than Magistrates and Detached Assistant Magistrates. When the parties reside in different places, whether within the Province or elsewhere, banns or notice must be published in both such places in accordance with the law of the country in which the places are situated with relation to all marriage officers; and certificates of such publication, signed by the person or persons publishing such banns or notice, must be produced to the officiating marriage officer. Whenever banns are published by any one other than the officiating marriage officer, a certificate or certificates of such publication must be produced. A special licence is obtainable at the office of any Magistrate or Detached Assistant Magistrate at a cost of £5. The marriage must be solemnized within three months after the date of issue of the licence or of the last publication of banns.

(iv) *The Marriage Ceremony.*—In the case of ministers of the Christian religion the ceremony must be that of the denomination concerned. All marriage officers, except ministers of the English and Dutch Reformed Churches, who are allowed to follow the form adopted by their Churches, must in some part of the ceremony require the parties to repeat the words: "I do solemnly declare that I know not of any lawful impediment why I, A B, may not be joined in matrimony to C D, here present," and "I call upon these persons here present to witness that I, A B, do take C D to be my lawful wedded wife (or husband)." Marriages may be solemnized by Magistrates and Detached Assistant Magistrates in the court-room or office between the hours of 9 a.m. and 12 noon, or in a private house at any convenient hour of the day; and by other marriage officers between the hours of 8 a.m. and 4 p.m. There are no specified hours within which marriages by special licence must be performed.

(v) *Registration.*—After the ceremony certain documents are required to be signed by the parties, by at least two witnesses, and by the officiating marriage officer, these being, in the case of Magistrates and Detached Assistant Magistrates, the original register form, which, after being copied into the marriage record book, is forwarded to the Central Office; and in the case of other marriage officers, the original register book and the duplicate original register form, which latter is dispatched to the Central Office for registration.

(vi) *Certificates, Searches, and Fees.*—Magistrates and Detached Assistant Magistrates may not charge a fee for solemnizing marriages, and no provision exists for searches to be made or certificates to be issued by them. Other marriage officers (except ministers of churches established in the Province prior to the 7th September, 1838, who are entitled to the fees customarily paid to them at that date) may charge a fee of 4s. for solemnizing a marriage.

The following are the fees payable to marriage officers and to the Central Office in respect of searches and of the issue of certificates:—

General search, not directed to any particular entry.....	4s.
Search for a particular entry.....	2s.
Search for two or more entries, but not exceeding four entries.....	1s. for each entry.
Search for any number of particular entries exceeding four.....	4s.
Certified copy of an entry.....	2s.

**2. Marriages in Natal.**—(i) *General.*—Ordinance No. 17 of 1846 provides for the solemnization of marriages after the publication of banns by ministers of the Christian religion. After three months from the date of the last publication of banns, marriage may not be performed unless the banns are republished. The Government may appoint marriage officers to perform marriage ceremonies. Before minors are married the consent of their legal guardians must be obtained, and if that is not procurable, then the consent of the chief Civil Judge must be obtained. After the marriage ceremony an entry of the marriage is required to be made in the register kept by the minister or marriage officer, such entry being signed by the parties in the presence of two witnesses and the minister or marriage officer.

Under Law No. 7 of 1889 Magistrates of every district are authorized to issue licences to marry in place of the publication of banns, and such licences lapse after three months from the date of issue. The parties must make a declaration before the licence is issued.

In the event of a minor wishing to obtain a licence to marry, the consent of the legal guardian must first be procured; but if this is not possible, then the consent of the chief Civil Judge is necessary. In the event of false declaration being made, the offender renders himself liable to imprisonment for any period up to five years.

All the foregoing requirements apply to white persons, to natives exempt from the operation of native law, and to Christian Indians.

(ii) *Indian Immigrants*.—All marriages of Indian immigrants are required to be registered with the Protector of Indian Immigrants under Natal Law No. 25 of 1891; and in the case of Christian Indians an additional copy of the marriage register is forwarded to the Protector.

(iii) *Natives*.—Under Natal Law No. 28 of 1865, natives exempted from the operation of native law and having once married are never allowed to marry according to native law. Law No. 46 of 1887 provides that natives, one or both of the parties being subject to native law, may be married by Christian rites. They must apply to the Magistrate for a licence, which holds good for three months. Persons making a false statement in obtaining a licence render themselves liable to a penalty of £10 or to imprisonment for three months. Ministers may not solemnize these marriages without the necessary licence. The children of natives thus married cannot marry according to native law. Under Act No. 44 of 1903, a minister who solemnizes marriages of natives by Christian rites must be licensed by the Governor-General. There is a penalty for officiating at a marriage without being licensed to do so, and also for neglecting to keep a marriage register and to forward copies to the persons proper to receive them. The Registrar-General maintains a general index in which are shown all marriages set out in the copies furnished by ministers and marriage officers.

**3. Marriages in the Transvaal.**—(i) *General*.—Act No. 13 of 1900 of the Transvaal, amending Law No. 3 of 1871, provides that marriages between white persons may be either by banns or by licence, and may be solemnized by the Magistrates of the various districts and all ministers of religion who have been appointed marriage officers by the Minister of the Interior. Banns must be published in public in the ordinary manner on three successive Sundays during Divine Service in a church or other building habitually used for public worship or by their being posted up for a period covering three successive Sundays in a conspicuous place, to which the public have access, at the Magistrate's Office of the district in which either of the parties to the intended marriage resides, or in which both of them reside. If a marriage is not solemnized within three months after the last publication of banns, such publication is no longer valid, and publication must take place afresh. A special licence may be obtained by the parties appearing before a Magistrate or Assistant Magistrate, after satisfying such Magistrate that there are no impediments to the marriage. The fee for a licence, which is valid for three months from the date of issue, is £5. The fee payable to Government in respect of any marriage is 5s.

(ii) *Marriages of Coloured Persons*.—Law No. 3 of 1897 regulates the marriages of coloured persons. The term *coloured person* includes any person who is manifestly coloured, and whose marriage on that account cannot be solemnized under the law for white persons. Before a marriage of coloured persons can be solemnized the parties must appear before a civil marriage officer, and submit a certificate from their parents or guardian, from their captain or chief or the minister of their church, or, in the absence of any of these persons, from any reputable citizen, preferably a person occupying an official position, such as the native or sub-native commissioner, to the effect that there is no impediment to the marriage according to law. The civil marriage officer then grants an enabling certificate on which the marriage can be solemnized. Marriages of coloured persons contracted prior to the promulgation of Law No. 3 of 1897 are not legal, but may be legalized by registration under Ordinance No. 29 of 1903, provided that such marriages were solemnized by ministers of religion authorized to solemnize marriages under Law No. 3 of 1871.

**4. Marriages in the Orange Free State.**—The Law relating to the contracting of marriages in the Province of the Orange Free State is No. 26 of 1890, which came into operation on the 14th July of that year. This Law makes provision for marriages to be entered into either after publication of banns or by special marriage licence.

The administration of sections 8, 9, 11, 15, and 18 of the Law was delegated to the Administrator by the Governor-General-in-Council under the provisions of section 84 of the *South Africa Act*, with effect from the 24th August, 1911; and in terms of Proclamation No. 228 of the same date the duties which were performed under the Law by the Government Secretary now devolve upon the Provincial Secretary. The remaining provisions of the Law continue to be vested in the Governor-General.

In the case of a marriage by banns, it is required by section 3 that the banns shall be publicly published on three consecutive Sundays during the holding of public Divine Service in some church building or other recognized institution for public Divine worship within the parish wherein one or both of the parties reside; should the parties reside in different parishes, the banns must be published in each such parish. Section 7, however,

allows of the publication of banns, under special circumstances, by means of a notice affixed to the outside door of the court-room of a Magistrate or Assistant Magistrate during a period of three weeks.

The procedure to be followed by applicants for a special marriage licence is set forth in sections 9, 10, and 11 of the Law, and in accordance therewith the parties are required to appear together before a Magistrate and there make and subscribe to affidavits containing answers to questions which it is necessary for him to put to them in order to satisfy himself that there are no legal impediments to the issue of the special marriage licence applied for. The application, supported by the affidavits and the Magistrate's certificate of his examination of the parties, is then submitted to the Administrator, who, if all legal requirements have been complied with, issues the licence, which authorizes any lawfully appointed marriage officer in the Province to solemnize the marriage.

Section 7 empowers Magistrates or Assistant Magistrates to act as marriage officers, and section 16 prescribes the marriage formula to be employed in the case of marriage ceremonies to be performed by these officers, but ministers, priests, or missionaries must be specially authorized by the Governor-General-in-Council, in terms of section 4 of the Law, to act as marriage officers before they can solemnize any marriage within the Province.

Section 13 prescribes the qualifications required in parties to marriages, and mentions the disqualifications on account of which marriages are prohibited. It is provided, *inter alia*, that minors must have attained the age of eighteen years in the case of males and fifteen years in the case of females, and that they must produce evidence of the consent of their parents or guardians in respect of their contemplated marriage. Where a parent's consent is unobtainable by reason of his absence from the Province or by reason of any other unforeseen circumstance, the Magistrate or Assistant Magistrate may, after due investigation, and on his being satisfied that there are no reasonable grounds for refusal, grant consent under the provisions of section 19. In the case of a widower three months, and in the case of a widow 190 days, must have elapsed since the death of the deceased spouse before a further marriage may be contracted by him or her. The Law relating to the prohibited degrees of consanguinity referred to in this section is Ordinance No. 31 of 1903.

In terms of section 15 the special leave of the Administrator is necessary for a marriage between persons, both of whom are resident in the Province, who proceed to another Province or country for the purpose of having their marriage solemnized there.

Marriages may be solemnized, as provided by section 17, on any day of the week, including Sunday, but the ceremony must take place between the hours of eight in the morning and four in the afternoon in some church or other public building devoted to Divine Service, public office, or private house with open doors, and in the presence of at least two legally qualified witnesses.

Section 18 prescribes the form of the register to be used in connection with the celebration of marriages and provides for the custody of the original registers and the duplicate original registers respectively, as well as for the kind of evidence of a marriage necessary and sufficient for the purposes of the Courts.

Section 28 provides for the recognition of heathen marriages, and lays down that the children of such marriages shall not be deprived of the right to take, by way of inheritance, the lawfully acquired property of such parents, and further establishes the right of the parents to hold and exercise the same rights over their children that they would have had if such children had been born in lawful wedlock.

The remaining provisions of the Law deal with breach of promise, foreign marriages, marriage fees payable to Magistrates in the case of civil marriages, church rites and rules, and prohibited marriages; also with the penalties which may be imposed for contraventions of the Law.

**5. Union Legislation.**—Act No. 20 of 1913 authorizes the solemnization of marriages after the publication of banns in different places, whether one or both such places be in another Province, or in a country, colony, or territory outside the Union.

Under section 56 of Act No. 24 of 1913, the remarriage of the surviving spouse before the portions of minor children are secured is prohibited, except with the consent of the Master of the Supreme Court.

Act No. 22 of 1914 provides that Indian marriages according to the tenets of an Indian religion may be legalized by registration, provided that a joint application is made to any Magistrate or marriage officer and that each of the parties is desirous that the marriage should be regarded as a valid and binding one in law. Such unions become by the fact of registration valid and binding marriages from the date when they were contracted, and all incidents follow therefrom which follow from any other union recognized in law as a valid and binding marriage.

Act No. 43 of 1916 makes provision for the appointment of marriage officers to solemnize marriages under the laws in force in the several Provinces of the Union.

Act No. 4 of 1919 relates to the custody of marriage registers and the issue of certified copies thereof, given under the hand of an officer being, or acting as, a registrar of births, deaths, and marriages.

6. *Marriages Registered.*—The term *white* in relation to parties to marriages as used in this section indicates that both the groom and the bride were of European descent. If one only of the contracting parties was of such descent, then the marriages have been tabulated as *mixed* and are excluded from all the following tables relating to marriages of white persons.

**MARRIAGES REGISTERED—UNION, 1911 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
WHITE PERSONS.					
1911.....	4,967	934	4,363	1,529	11,793
1912.....	5,351	1,061	4,520	1,629	12,561
1913.....	5,310	965	4,325	1,476	12,076
1914.....	4,695	895	3,934	1,232	10,756
1915.....	4,900	977	4,333	1,294	11,504
1916.....	4,905	920	4,447	1,562	11,834
1917.....	4,982	989	4,817	1,562	12,350
1918.....	4,840	1,043	4,498	1,538	11,919
1919.....	5,837	1,081	4,927	1,668	13,513
1920.....	6,336	1,354	5,432	1,812	14,934
1921†.....	5,338	1,248	4,600	1,407	12,593

COLOURED PERSONS.*					
1911.....	6,429	2,760	2,264	959	12,412
1912.....	7,041	1,644	2,323	1,108	12,116
1913.....	6,823	1,534	2,179	1,148	11,684
1914.....	6,928	2,302	2,183	1,051	12,464
1915.....	6,169	1,764	2,086	1,107	11,126
1916.....	6,439	2,878	2,397	1,264	12,978
1917.....	6,832	2,640	2,483	1,228	13,183
1918.....	6,672	1,573	2,269	1,311	11,825
1919.....	8,457	2,010	2,968	1,559	14,994
1920.....	8,447	2,333	2,964	1,561	15,306
1921†.....	7,589	2,212	2,382	1,346	13,529

\* Including mixed marriages in the Cape of Good Hope, for the details of which see the following table.

† Unaudited figures subject to revision.

7. *Mixed Marriages.*—The term *mixed marriage* is used to denote a marriage contracted by parties, one of whom is of European descent and the other of aboriginal or other coloured descent. There are a few such marriages contracted annually in the Cape Province, where the law permits such unions, and the following table gives the number solemnized during the eight years ended the 31st December, 1920:—

**MIXED MARRIAGES—CAPE OF GOOD HOPE, 1913 TO 1920.**

DESCRIPTION.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
White males to coloured females	107	95	92	95	91	134	93	76
Coloured males to white females	24	21	17	20	62	61	25	41
TOTAL.....	131	116	109	115	153	195	118	117

**8. Marriage Rate.**—The following table shows the number of marriages of white persons contracted per 1,000 of the estimated mean white population of each Province and the Union during a series of years. Although in the years 1914, 1915, 1916, and 1917 there is a falling off compared with the three previous years, the fluctuation, especially in so small a number of marriages, is of no material account. Excluding 1918, an abnormal year, the following two years showed an appreciable rise in the marriage rate; but in 1921 a fall below the average was again recorded. The rates given below have been recalculated and are based on revised estimates of population according to the Census of 1918:—

**MARRIAGE RATE OF WHITE PERSONS—PROVINCES, 1911 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1911.....	8.51	9.46	10.32	8.72	9.21
1912.....	9.07	10.34	10.37	9.23	9.62
1913.....	8.89	9.06	9.64	8.31	9.08
1914.....	7.78	8.11	8.52	6.89	7.94
1915.....	8.03	8.55	9.12	7.19	8.34
1916.....	7.95	7.86	9.11	8.63	8.43
1917.....	7.98	8.11	9.61	8.57	8.64
1918.....	7.67	8.28	8.75	8.39	8.19
1919.....	9.16	8.33	9.34	9.04	9.14
1920.....	9.81	10.08	10.14	9.66	9.94
1921*.....	8.18	9.01	8.41	7.43	8.25

\* Rates subject to revision.

**9. Denominational and Civil Marriages.**—The following tables show the numbers of marriages solemnized by ministers of religion and by civil marriage officers (Magistrates) in the Union. Table (i) gives the actual numbers during a period of seven years, and table (ii) the percentages of marriages solemnized by each of the chief denominations compared with those by civil marriage officers during the same period.

**(i) MARRIAGES IN EACH DENOMINATION—WHITE PERSONS, 1914 TO 1920.**

Religious Denomination.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Dutch Reformed.....	3,846	4,190	4,811	5,055	5,020	5,482	5,782
South African Reformed.....	188	287	279	213	184	168	165
Hervormd.....	251	248	300	425	262	277	198
English Church.....	1,543	1,516	1,371	1,259	1,208	1,378	1,776
Wesleyan.....	657	695	614	637	623	667	765
Primitive Methodist.....	4	5	10	3	14	4	5
Presbyterian.....	391	361	302	296	287	334	439
Congregationalist.....	127	128	110	114	104	121	148
Baptist.....	110	125	124	83	107	117	131
Lutheran.....	120	109	105	107	100	133	65
Roman Catholic.....	412	332	333	346	345	365	409
Salvation Army.....	5	5	2	8	5	5	4
Jewish.....	247	239	248	241	238	271	289
Other.....	8	8	36	39	68	48	131
<b>TOTAL.....</b>	<b>7,909</b>	<b>8,248</b>	<b>8,645</b>	<b>8,820</b>	<b>8,665</b>	<b>9,370</b>	<b>10,305</b>
By Magistrates.....	2,847	3,256	3,189	3,524	3,354	4,143	4,629
<b>TOTAL MARRIAGES.....</b>	<b>10,756</b>	<b>11,504</b>	<b>11,834</b>	<b>12,350</b>	<b>11,919</b>	<b>13,513</b>	<b>14,934</b>

(ii) PROPORTION OF MARRIAGES OF PRINCIPAL DENOMINATIONS—  
WHITE PERSONS, 1914 TO 1920.

RELIGIOUS DENOMINATION.	PERCENTAGE OF MARRIAGES.						
	1914.	1915.	1916.	1917.	1918.	1919.	1920.
Dutch Reformed.....	35.76	36.42	40.85	40.83	42.11	40.57	38.72
Other Dutch Churches.....	4.08	4.85	4.90	5.16	3.78	3.29	2.43
English Church.....	14.35	13.18	11.59	10.20	10.13	10.20	11.89
Wesleyan.....	6.15	6.08	5.27	5.16	5.22	4.94	5.12
Presbyterian.....	3.63	3.14	2.55	2.39	2.40	2.47	2.94
Roman Catholic.....	3.83	3.89	2.81	2.80	2.90	2.70	2.74
Jewish.....	2.30	2.08	2.09	1.95	2.00	2.00	1.84
Other Denominations.....	3.43	3.26	3.19	2.87	3.34	3.17	3.22
<b>TOTAL DENOMINATIONS...</b>	<b>73.53</b>	<b>71.70</b>	<b>73.05</b>	<b>71.46</b>	<b>71.88</b>	<b>69.34</b>	<b>69.00</b>
By Magistrates.....	26.47	28.30	26.95	28.54	28.12	30.66	31.00
	100.00	100.00	100.00	100.00	100.00	100.00	100.00

The foregoing table shows that the tendency for persons to be married before a Magistrate in preference to a marriage by a religious ceremony is increasing, and reached the percentage of 28.30 in 1916, falling to 26.95 per cent. in 1918, and rising again in 1920 to 31.00 per cent., being the highest percentage recorded. This high percentage for the Union is mainly due to the large proportion of civil marriages in the Transvaal, where 45.8 per cent. of the total marriages in the year 1920 were solemnized by Magistrates, while only 17.3 per cent. of the total marriages in the Orange Free State were civil marriages. The proportion of civil marriages to the total marriages registered during the year 1919 in the Union was 30.7 per cent.; in New Zealand, 18.9 per cent.; and in the Commonwealth of Australia, only 4.6 per cent.

10. **Marriages by Banns or Licence.**—The subjoined table gives particulars from 1912 of the number of persons in each Province and in the Union who were married respectively after the publication of banns or by licence:—

NUMBER OF WHITE PERSONS MARRIED BY BANNS AND LICENCE—  
UNION, 1912 TO 1920.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.			
									No.		Per cent.	
	Banns.	L'ce.	Banns.	L'ce.	Banns.	L'ce.	Banns.	L'ce.	Banns.	L'ce.	Banns.	L'ce.
1912.	4,800	551	827	434	3,740	780	1,557	72	10,724	1,837	85.38	14.62
1913.	*	*	577	388	3,494	831	1,382	94				
1914.	3,700	995	545	350	3,037	897	1,144	88	8,426	2,340	78.34	31.66
1915.	3,645	1,255	568	409	3,313	1,020	1,186	108	8,712	2,792	75.73	24.27
1916.	3,858	1,047	580	380	3,431	1,016	1,420	142	9,269	2,565	78.33	21.67
1917.	3,896	1,086	549	440	3,655	1,162	1,422	140	9,522	2,828	77.10	22.90
1918.	3,782	1,108	657	498	3,238	1,260	1,384	154	8,011	3,008	66.24	33.76
1919.	4,180	1,657	571	510	3,462	1,465	1,436	232	9,649	3,864	71.41	28.59
1920.	4,530	1,806	704	650	3,643	1,789	1,537	275	10,414	4,520	69.73	30.27

\* Particulars not available.



11. **Conjugal Condition of Persons Married.**—Table (i) hereunder gives for seven years particulars as to the conjugal condition of white and coloured persons married in the Union. Table (ii) gives similar particulars in respect of each Province for the year 1920 :—

(i) **RELATIVE CONJUGAL CONDITION OF WHITE AND COLOURED PERSONS MARRIED—UNION, 1914 TO 1920.**

CONJUGAL CONDITION.		1914.	1915.	1916.	1917.	1918.	1919.	1920.
<b>WHITE PERSONS.</b>								
Bachelors to	Spinsters.....	9,218	9,800	10,171	10,499	10,075	10,596	11,548
	Widows.....	355	451	430	406	456	722	879
	Divorced.....	164	165	137	169	176	233	284
Widowers to	Spinsters.....	562	617	605	691	646	1,004	1,079
	Widows.....	272	292	313	362	317	604	700
	Divorced.....	31	31	31	35	35	49	73
Divorced to	Spinsters.....	115	103	99	125	161	183	220
	Widows.....	22	19	22	30	33	56	85
	Divorced.....	17	23	25	29	24	61	58
Previously married <i>de facto</i> ....	—	3	1	4	6	6	8	
<b>TOTAL.....</b>		<b>10,756</b>	<b>11,504</b>	<b>11,834</b>	<b>12,350</b>	<b>11,919</b>	<b>13,513</b>	<b>14,934</b>
<b>COLOURED PERSONS.</b>								
Bachelors to	Spinsters.....	10,377	9,310	10,928	10,967	9,881	11,683	11,810
	Widows.....	363	264	265	310	244	351	399
	Divorced.....	19	18	29	34	12	23	17
Widowers to	Spinsters.....	769	718	819	876	757	1,492	1,583
	Widows.....	243	229	253	269	255	532	527
	Divorced.....	5	7	8	8	7	13	21
Divorced to	Spinsters.....	18	27	30	35	36	59	60
	Widows.....	7	5	5	22	7	4	4
	Divorced.....	2	—	—	—	5	9	4
Previously married <i>de facto</i> or by Native Custom.....	661	548	641	662	721	829	880	
<b>TOTAL.....</b>		<b>12,464</b>	<b>11,126</b>	<b>12,978</b>	<b>13,183</b>	<b>11,925</b>	<b>14,994</b>	<b>15,305</b>

(ii) **CONJUGAL CONDITION OF WHITE AND COLOURED PERSONS MARRIED—PROVINCES, 1920.**

CONJUGAL CONDITION.		Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
<b>WHITE PERSONS.</b>						
Bachelors to	Spinsters.....	5,131	1,080	4,024	1,313	11,548
	Widows.....	315	80	374	110	879
	Divorced.....	59	34	183	8	284
Widowers to	Spinsters.....	480	71	334	194	1,079
	Widows.....	208	39	299	154	700
	Divorced.....	27	12	28	6	73
Divorced to	Spinsters.....	71	24	111	14	220
	Widows.....	22	9	46	8	85
	Divorced.....	15	5	33	5	58
Previously married <i>de facto</i> ....	8	—	—	—	8	
<b>TOTAL.....</b>		<b>6,336</b>	<b>1,354</b>	<b>5,432</b>	<b>1,812</b>	<b>14,934</b>

(ii) CONJUGAL CONDITION OF WHITE AND COLOURED PERSONS MARRIED—PROVINCES, 1920—*continued.*

CONJUGAL CONDITION		Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
<b>COLOURED PERSONS.</b>						
Bachelors to	Spinsters.....	6,021	2,038	2,573	1,178	11,810
	Widows.....	273	41	63	22	399
	Divorced.....	14	1	1	1	17
Widowers to	Spinsters.....	1,027	188	238	130	1,583
	Widows.....	369	55	76	27	527
	Divorced.....	14	6	1	—	21
Divorced to	Spinsters.....	42	3	12	3	60
	Widows.....	3	—	—	1	4
	Divorced.....	3	1	—	—	4
Previously married <i>de facto</i> or by Native Custom.....		681	—	—	109	880
<b>TOTAL.....</b>		<b>8,447</b>	<b>2,333</b>	<b>2,964</b>	<b>1,561</b>	<b>15,305</b>

12. **Age and Conjugal Condition of Persons Married.**—Table (i) hereunder gives particulars as to the ages and conjugal condition of white persons married in the Union in 1920. Table (ii) gives the same particulars with respect to coloured persons. The terms "Full age" and "Minor" indicate that the information as to age was so recorded in the marriage register. The marriage laws of Natal and the Orange Free State permit the use of such terms, but, this notwithstanding, endeavour is being made to obtain the actual age in every case. Table (iii) gives particulars as to the relative ages of white persons married in the Union during 1920. Table (iv) gives the numbers and percentages at each age period of Bridegrooms and Brides who married during the period 1916 to 1920. It will be observed that the ages at which men most commonly marry was between twenty-five and twenty-nine years throughout the whole period of seven years, while that for Brides remained constant during the same period at from twenty to twenty-four years.

## (i) AGES AND CONJUGAL CONDITION OF WHITE PERSONS MARRIED, 1920.

AGES.	BRIDEGROOMS.					BRIDES.				
	Bachelors.	Widowers.	Divorced.	Previously Married <i>de facto</i> .	Total.	Spinsters.	Widows.	Divorced.	Previously Married <i>de facto</i> .	Total.
13 years.....	—	—	—	—	—	—	—	—	—	—
14 ".....	—	—	—	—	—	6	—	—	—	6
15 ".....	—	—	—	—	—	61	—	—	—	61
16 ".....	—	—	—	—	—	343	—	—	—	343
17 ".....	2	—	—	—	2	584	3	—	—	588
18 ".....	14	—	—	—	14	709	1	1	—	711
19 ".....	74	—	—	—	74	910	6	1	—	917
20 ".....	175	—	—	1	176	1,066	16	—	—	1,082
21-24 ".....	3,122	23	4	1	3,150	4,844	192	52	—	5,088
25-29 ".....	4,989	150	37	1	5,177	2,781	374	111	1	3,267
30-34 ".....	2,242	302	61	—	2,605	850	371	100	2	1,322
35-39 ".....	997	356	86	—	1,439	323	255	73	—	651
40-44 ".....	448	233	80	1	762	130	172	39	—	341
45-49 ".....	203	225	47	2	477	60	127	21	—	218
50-54 ".....	77	188	25	—	290	23	56	9	—	88
55-59 ".....	33	136	13	—	182	17	25	5	—	47
60-64 ".....	14	76	6	1	97	1	29	1	—	31
65-69 ".....	3	53	—	—	56	—	—	—	—	56
70-74 ".....	3	28	—	—	31	—	—	—	—	31
75-79 ".....	1	14	—	—	15	—	—	—	—	15
8 years and over.....	—	3	—	—	3	—	—	—	—	3
"Minors".....	—	—	—	—	—	—	—	—	—	—
"Full Age".....	14	5	1	1	21	20	3	1	—	24
Unspecified.....	—	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>12,711</b>	<b>1,852</b>	<b>303</b>	<b>8</b>	<b>14,934</b>	<b>12,847</b>	<b>1,051</b>	<b>415</b>	<b>8</b>	<b>14,934</b>

## (ii) AGES AND CONJUGAL CONDITION OF COLOURED PERSONS MARRIED, 1920.

AGES.	BRIDEGROOMS.					BRIDES.				
	Bachelors.	Widowers.	Divorced.	Previously Married <i>de facto</i> .	Total.	Spinsters.	Widows.	Divorced.	Previously Married <i>de facto</i> .	Total.
18 years.....	—	—	—	—	—	—	—	—	—	—
14 ".....	—	—	—	—	—	1	—	—	—	1
15 ".....	—	—	—	—	—	14	—	—	—	14
16 ".....	—	—	—	—	—	63	—	—	—	63
17 ".....	1	—	—	—	1	150	1	—	3	164
18 ".....	16	—	—	2	18	591	2	—	11	604
19 ".....	51	1	—	1	53	799	1	—	9	800
20 ".....	170	—	—	3	173	1,426	8	—	25	1,450
21-24 ".....	2,560	20	1	63	2,644	5,715	98	3	195	6,008
25-29 ".....	4,944	202	8	196	5,350	3,036	221	7	216	3,480
30-34 ".....	2,278	368	15	136	2,797	824	205	10	146	1,185
35-39 ".....	1,074	436	19	132	1,661	400	154	—	107	669
40-44 ".....	502	367	11	127	1,007	203	106	—	72	387
45-49 ".....	272	260	—	77	614	118	59	—	33	213
50-54 ".....	165	189	—	50	406	50	42	—	25	117
55-59 ".....	87	124	—	32	246	21	17	—	17	57
60-64 ".....	41	85	—	19	147	18	9	—	8	37
65-69 ".....	28	32	—	20	82	7	4	—	5	16
70-74 ".....	12	28	—	10	50	2	—	—	1	3
75-79 ".....	6	6	—	5	17	—	1	—	—	1
80 years and over.....	3	5	—	2	10	—	—	—	—	—
" Minors ".....	—	—	—	—	—	—	—	—	—	—
" Full age ".....	16	8	1	4	29	16	7	1	6	30
Unspecified.....	—	—	—	—	—	—	—	—	—	—
TOTAL.....	12,226	2,131	69	879	15,305	13,454	930	42	879	15,305

## (iii) RELATIVE AGES OF PERSONS MARRIED—WHITE PERSONS, 1920.

AGES OF BRIDEGROOMS.	TOTAL.	AGES OF BRIDES.											
		Under 16.	15 to 20.	21 to 24.	25 to 29.	30 to 34.	35 to 39.	40 to 44.	45 to 49.	50 and over.	" Minors."	" Full Age."	Not stated.
Under 20 years.....	90	—	63	23	3	1	—	—	—	—	—	—	—
20 years.....	176	—	112	50	9	3	2	—	—	—	—	—	—
21-24 ".....	3,450	3	1,560	1,476	335	61	12	2	1	—	—	—	—
25-29 ".....	5,177	3	1,459	2,101	1,292	260	48	6	3	—	—	—	—
30-34 ".....	2,005	—	402	883	827	371	90	23	8	—	—	—	—
35-39 ".....	1,439	—	144	347	444	278	155	50	17	—	—	—	—
40-44 ".....	822	—	22	133	208	186	160	84	22	7	—	—	—
45-49 ".....	477	—	15	43	94	91	95	76	46	17	—	—	—
50-54 ".....	290	—	8	25	84	39	47	58	41	37	—	—	—
55-59 ".....	182	—	3	3	14	26	26	32	41	37	—	—	—
60-64 ".....	97	—	2	1	4	11	10	11	24	34	—	—	—
65-69 ".....	58	—	1	1	2	1	3	6	11	33	—	—	—
70-74 ".....	31	—	1	1	1	3	2	2	1	20	—	—	—
75-79 ".....	19	—	1	—	—	1	2	—	3	12	—	—	—
80 and over.....	—	—	—	—	—	—	—	—	—	—	—	—	—
" Minors ".....	—	—	—	—	—	—	—	—	—	—	—	—	—
" Full age ".....	21	—	3	1	—	—	—	—	—	—	—	17	—
Unspecified.....	—	—	—	—	—	—	—	—	—	—	—	—	—
TOTAL..	14,934	6	3,796	5,088	3,267	1,332	652	350	218	201	—	24	—

(iv) AGE AT MARRIAGE OF WHITE PERSONS. NUMBER AND PROPORTION PER CENT., 1916 TO 1920.

AGES.	NUMBER.					PERCENTAGE.				
	1916.	1917.	1918.	1919.	1920.	1916.	1917.	1918.	1919.	1920.
<b>BRIDEBOOMS.</b>										
13 years...	—	—	—	—	—	—	—	—	—	—
14 "...	—	—	—	—	—	—	—	—	—	—
15 "...	—	—	—	—	—	—	—	—	—	—
16 "...	—	—	1	—	—	—	—	0.01	—	—
17 "...	2	3	3	—	2	0.02	0.02	0.03	—	0.01
18 "...	13	11	14	12	14	0.11	0.09	0.11	0.08	0.09
19 "...	62	61	52	64	74	0.52	0.49	0.44	0.48	0.49
20 "...	185	199	174	156	176	1.56	1.60	1.46	1.16	1.18
21-24 "...	2,978	3,172	3,041	3,193	3,450	25.16	25.68	25.51	23.63	23.10
25-29 "...	4,067	4,396	4,360	4,832	5,177	34.87	35.60	36.66	35.76	34.67
30-34 "...	1,024	1,955	1,950	2,219	2,605	16.26	15.83	16.36	16.42	17.45
35-39 "...	1,053	1,038	957	1,235	1,439	8.90	8.40	8.03	9.14	9.64
40-44 "...	415	521	523	701	822	3.51	4.22	4.40	6.18	5.50
45-49 "...	285	311	329	463	477	2.41	2.52	2.76	3.43	3.19
50-54 "...	185	193	205	233	290	1.56	1.56	1.72	1.72	1.94
55-59 "...	91	114	104	154	182	0.77	0.92	0.87	1.14	1.22
60-64 "...	67	81	79	102	97	0.67	0.66	0.66	0.76	0.65
65-69 "...	37	42	61	61	58	0.31	0.34	0.51	0.45	0.39
70-74 "...	21	34	26	33	31	0.18	0.28	0.22	0.24	0.21
75-79 "...	11	8	11	—	15	0.09	0.07	0.09	—	0.10
80 years and over.....	5	6	3	22	4	0.04	0.05	0.03	0.16	0.03
"Minors".....	4	—	—	1	—	0.03	—	—	—	0.01
"Full age".....	470	206	2	31	21	4.05	1.67	0.01	0.23	0.14
Unspecified....	—	—	15	1	—	—	—	0.12	0.01	—
<b>TOTAL....</b>	<b>11,834</b>	<b>12,350</b>	<b>11,919</b>	<b>13,513</b>	<b>14,934</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

<b>BRIDES.</b>										
13 years...	—	1	1	—	—	—	0.01	0.01	—	—
14 "...	2	2	11	2	6	0.02	0.02	0.09	0.02	0.04
15 "...	27	25	36	58	61	0.23	0.20	0.30	0.43	0.41
16 "...	166	179	159	264	245	1.40	1.45	1.33	1.95	2.31
17 "...	416	498	423	434	588	3.52	4.03	3.55	3.21	3.94
18 "...	785	785	801	716	808	6.46	6.35	6.72	5.29	5.38
19 "...	1,041	1,092	910	1,043	917	8.80	8.84	7.63	7.72	6.14
20 "...	1,074	1,140	1,057	1,067	1,082	9.08	9.23	8.87	7.90	7.24
21-24 "...	4,074	4,521	4,450	4,805	5,088	34.43	36.61	37.33	35.55	34.07
25-29 "...	2,186	2,219	2,327	2,734	3,267	18.47	17.97	19.52	20.23	21.97
30-34 "...	744	710	803	1,029	1,322	6.29	5.75	6.74	7.62	8.92
35-39 "...	370	435	388	573	662	3.20	3.52	3.26	4.24	4.37
40-44 "...	239	243	240	324	350	2.02	1.97	2.01	2.40	2.34
45-49 "...	139	129	152	209	218	1.17	1.04	1.27	1.55	1.40
50-54 "...	64	90	84	119	108	0.54	0.73	0.70	0.88	0.72
55-59 "...	40	46	45	62	47	0.34	0.37	0.38	0.46	0.32
60-64 "...	23	23	15	23	32	0.19	0.23	0.12	0.17	0.22
65-69 "...	5	8	10	13	11	0.04	0.06	0.10	0.09	0.07
70-74 "...	—	1	3	4	3	—	0.01	0.03	0.03	0.02
75-79 "...	—	—	—	—	—	—	—	—	—	—
80 years and over.....	—	—	—	1	—	—	—	—	0.01	—
"Minors".....	30	13	—	—	—	0.25	0.11	—	—	—
"Full age".....	420	185	1	32	24	3.55	1.50	0.01	0.24	0.16
Unspecified....	—	—	3	1	—	—	—	0.03	0.01	—
<b>TOTAL....</b>	<b>11,834</b>	<b>12,350</b>	<b>11,919</b>	<b>13,513</b>	<b>14,934</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>	<b>100.00</b>

13. **Marriages of Minors.**—The number of marriages of minors in the Union during a series of years and the proportion per cent. of that number to the total number of marriages are given below. On comparison with figures for the United Kingdom and various British Dominions, the percentage of bridegrooms under twenty-one years is slightly lower in the Union, but, on the other hand, the percentage of brides who marry under that age is higher. In the United Kingdom the percentage in 1916 was—grooms 3.89 per cent., brides 14.42 per cent.; in New Zealand—grooms 2.08 per cent., brides 15.07 per cent.; in Tasmania—grooms 3.37 per cent., brides 22.94 per cent.; in New South Wales—grooms 4.14 per cent., brides 21.53 per cent.; and in the Commonwealth of Australia—grooms 3.52 per cent., brides 19.02 per cent.

**MARRIAGES OF MINORS—WHITE PERSONS, 1912 TO 1920.**

YEAR.	BRIDEGROOMS.		BRIDES.		PERCENTAGE OF MINORS.	
	Adults.	Minors.	Adults.	Minors.	Bride-grooms.	Brides.
*1912.....	7,014	196	4,648	2,562	2.72	35.53
1913.....	11,721	355	8,160	3,916	2.84	32.43
1914.....	10,498	258	7,441	3,315	2.39	30.82
1915.....	11,283	221	8,121	3,383	1.92	29.41
1916.....	11,568	266	8,313	3,521	2.25	29.75
1917.....	12,077	273	8,628	3,722	2.21	30.14
1918.....	11,675	244	8,521	3,398	2.05	28.50
1919.....	13,280	233	9,929	3,584	1.72	26.52
1920.....	14,668	266	11,132	3,802	1.78	25.46

\* Union, excluding Cape Province for 1912. Figures not available.

14. **Mark Signatures at Marriage.**—Particulars are given below of the number of white persons married in the Union and each Province during the years 1912 to 1920 who signed at marriage by mark only and the percentage of such number to the total number married:—

**NUMBER OF MARK SIGNATURES AT MARRIAGE—WHITE PERSONS, 1912 TO 1920.**

PROVINCE AND SEX.	1912.	1913.	1914.	1915.	1916.	1917.	1918.	1919.	1920.
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(i) PROVINCES.—SIGNATURES BY MARK.

Cape of Good Hope.....	84	84	62	79	65	84	72	79	70
Natal.....	5	4	4	6	3	5	0	6	6
Transvaal.....	43	30	36	25	17	48	44	28	18
Orange Free State	5	5	7	4	12	13	16	11	12
UNION.....	137	123	109	114	97	150	138	124	101

(ii) SEXES.—SIGNATURES BY MARK.

Husband only...	73	62	44	60	39	67	65	62	53
Wife only.....	49	45	48	44	40	53	50	54	36
Both parties....	15	16	17	10	18	30	23	18	12

## CHAPTER V.

## PUBLIC HEALTH AND HOSPITALS.

## § 1. Public Health.\*

1. **Public Health prior to the Constitution of the Union.**—Except in regard to epidemics (mainly of smallpox) the early records contain little information about public health. This is to be expected in a country with a sparse and largely pastoral population. It is only when population increases, and especially as a consequence of its aggregation into towns and villages, that matters of public health assume greater importance and attract increased attention from the writers of the time.

Shortly after the landing of Van Riebeck and his companions in 1652 a hospital was established on the shores of Table Bay. In 1699 it is recorded that a new hospital was completed at Cape Town, and "the sick moved into it from the old building on the beach." This hospital did duty until 1772, when a new one, accommodating 1,450 patients, was erected on the site which subsequently became known as Caledon Square. This hospital was replaced in 1817 by an institution named later the Old Somerset Hospital, the buildings in Caledon Square being thereafter converted into military barracks.

Responsibility for dealing with outbreaks of infectious disease and other health matters at first rested with the Government, the duties being carried out by the district surgeons in addition to their medical and medico-legal duties. In 1836, the year of the *Great Trek* from the Cape, an Ordinance was passed authorizing the establishment of municipalities. These bodies, and later, in the Cape, the Divisional Councils (established in 1885, but not vested with public health powers until 1897), largely took over the care of the public health within their areas. The duties continued, however, to be done either by the district surgeons or by other local medical practitioners. Whole-time medical officers of health were subsequently appointed by the larger local authorities as follows:—Johannesburg, 1897; Kimberley, 1898; Bloemfontein, 1901; Cape Town, 1902; Pretoria, 1902; Durban, 1903; East London, 1913.

From the establishment of an administration at the Cape, health matters on vessels entering the port and at the ports themselves were dealt with by the Government through its district surgeons, and later—in the cases of the larger ports—by special port health officers. The first *Quarantine Law* was passed in Natal in 1858, and between that date and 1899 eight amending *Quarantine Laws* were enacted.

In 1883, following a severe epidemic of smallpox, the Cape Parliament passed a *Public Health Act* dealing with infectious disease, vaccination, quarantine, and disinfection. This was supplemented by an amending Act in 1897, which provided for the appointment of a Medical Officer of Health for the Colony, and contained important provisions regarding water supply, drainage, housing, and sanitation.

In Natal a *Public Health Act* dealing with infectious disease and sanitation was passed in 1901, and a *Vaccination Act* in 1906. In the Transvaal a Law relating to infectious and contagious diseases and vaccination was passed in 1895. In the Orange Free State a Law was passed in 1899 dealing with plague and other infectious diseases, and another dealing with contagious diseases. A *Vaccination Ordinance* was passed in 1903; but its application was postponed, and in 1909 it was amended in material respects. A comprehensive *Public Health Act* was passed by the Orange River Colony Parliament in 1907, but its adoption was discretionary and few local authorities availed themselves of the privilege.

Whole-time Government health officers were first appointed for the Cape in 1892; for the Transvaal in 1900; and for Natal and the Orange River Colony in 1901. About the

\* Contributed by Dr. J. Alexander Mitchell, Secretary for Public Health and Chief Health Officer

same dates Public Health and Bacteriological Laboratories were established in Cape Town, Durban, Pretoria (transferred to Johannesburg in 1904), and Bloemfontein. The Government health officers acted mainly or entirely as advisers and inspectors, the administration of public health being carried out by a Government Department, usually that of the Colonial Secretary, which also dealt with local government and other matters.

In 1906 a Conference of Government health officers of the Cape, Natal, Transvaal, Orange River Colony, Southern Rhodesia, Basutoland, and the Bechuanaland Protectorate was held in Cape Town, and made important recommendations which were submitted to the several Governments concerned.

**2. History of Health Administration from 1910.**—The *South Africa Act, 1909*, assigned to the Provincial Councils the administration of all Local Government matters and of hospitals and charitable institutions; also of elementary education, which has since been interpreted as including school medical inspection and hygiene. Public health is not mentioned in the Act (indeed it does not appear to have been mentioned during the discussions at the Convention), but was considered to have been a matter under the control of the Union Government. After the constitution of the Union, administration was carried on by the Department of the Interior, with an Advisory Medical Officer of Health for the Union at Pretoria, and three Assistant Health Officers, with headquarters at Cape Town, Durban, and Bloemfontein respectively.

Short amending *Public Health Bills* were introduced in the Union Parliament in 1911 and 1912, but were not proceeded with. On 1st December, 1917, following a Conference of Government health officers held at Cape Town in May preceding, a separate sub-Department of Public Health in the Department of the Interior was constituted, under the direction of the Medical Officer of Health for the Union.

A comprehensive consolidating and amending *Public Health Bill*, designed to replace the existing public health legislation of the several Provinces, was drafted in 1913; this draft Bill was published and distributed to local authorities for their information and criticism in the following year, but owing to the War and other circumstances it was not proceeded with. Meanwhile, owing to the indefiniteness of the *South Africa Act* regarding public health and cognate matters, the Administrations of the several Provinces had proceeded on lines which were in certain respects divergent, so that a full discussion by all parties concerned had become highly desirable. A conference, comprising the Administrators of the several Provinces, representatives of the Government, the Provincial Municipal Associations and Divisional Councils, and other bodies concerned, was accordingly convened by the Minister of the Interior and met at Bloemfontein in September, 1918, under the chairmanship of the Minister, Sir Thomas Watt. The conference discussed most of the important questions at issue, and unanimously passed a series of resolutions regarding general policy and the respective spheres of the Government and the Provincial Administrations.

Subsequently the draft Bill was revised so as to embody or harmonize with these resolutions. The Bill, so revised, was introduced in January, 1919; and was, with certain amendments, passed by Parliament, receiving assent of His Excellency the Governor-General on 20th June, 1919. Sections two to five of the Act, relating to the establishment of a Department of Public Health with separate portfolio, the functions and duties of the Department, the establishment of a Council of Public Health, and the appointment and duties of officers of the Department, were proclaimed in force on 1st July, 1919. *Gazette Notices* were simultaneously published notifying the appointment of the Honourable Sir Thomas Watt, K.C.M.G., as Minister of Public Health, and the establishment of a Department of Public Health to administer all matters relating to public health, adulteration of food or drugs, district surgeons, medical councils and pharmacy boards. The remainder of the Act came into force on 1st January, 1920. Matters relating to leper institutions, and to mental hospitals and mental diseases continue under the administration of the Department of the Interior.

**3. History and Prevalence of certain Diseases in the Union.**—Particulars are given hereunder as to the occurrence of certain diseases in the Union, and the history of past occurrences.

(i) *Acute Poliomyelitis* (Infantile Paralysis).—Occasional sporadic cases occur throughout the Union; but in 1918 there were considerable outbreaks in Johannesburg and Pretoria. In Johannesburg 145 cases with 24 deaths occurred, whilst 17 cases with 2 deaths occurred in Pretoria.

(ii) *Cholera*.—In 1888 the *Quathlamba*, with immigrants from Indian ports, arrived at Durban, and reported having had 27 cases of cholera with 9 deaths during the voyage, among the Indians on board. She was refused pratique, but this was subsequently given when it was ascertained that the disease had died out.

In 1890 the *Congella*, with some 400 Indians on board, arrived at Durban from Madras, and reported 9 deaths from "acute diarrhoea" (attributed to fish-poisoning) during the voyage; five persons were still sick. The sick were landed for isolation at the General Hospital, one of them dying before reaching the shore; another died on the following day. The 400 immigrants were landed and removed to a depot on shore, where five of them were on the following day taken suddenly ill with vomiting and purging; one of them died on the same day and another on the day following. The remainder of the immigrants were then removed to the quarantine station on the Bluff. No further spread of the disease occurred. The outbreak and the circumstances attending the arrival of the vessel were investigated by a Committee of Inquiry, comprising the Magistrate, the Chairman of the Harbour Board, the Senior Medical Officer of the Imperial troops in Natal, and the Port Health Officer. This Committee reported that they had no doubt that the disease was Asiatic cholera.

No other outbreaks of the disease in the Union are recorded.

(iii) *Diphtheria*.—This disease occurs throughout the Union—mostly in sporadic cases and during the colder months. Serious outbreaks are rare.

(iv) *Dysentery*.—This disease is not prevalent in any part of the Union, but in some places bacterial dysentery of mild type is not uncommon during the summer months. Amoebic dysentery is comparatively rare.

(v) *Enteric or Typhoid Fever*.—This was formerly very prevalent. With the improvement of water supplies and general sanitation prior to the Anglo-Boer War its prevalence had considerably decreased, but during that war serious mortality from this disease occurred among the troops, and concurrently there was a great increase of prevalence among the civil population.

Serious outbreaks are uncommon, the disease chiefly occurring sporadically in the larger centres and in certain rural areas where the water supplies are specially exposed to pollution. In recent years the number of notifications has been about 4,000 to 5,000 annually.

(vi) *Epidemic Cerebro-Spinal Meningitis* occurs sporadically, chiefly amongst Indians in Natal and natives on the Rand mines. No serious prevalence of the disease has occurred. During the recent War considerable numbers of cases amongst troops on board military transports were dealt with at the ports.

(vii) *Influenza*.—An epidemic occurred in South Africa in 1890, during the pandemic prevalence of the disease throughout the world. The epidemic began at the Ports, the infection having apparently been introduced by passengers from Europe. The disease was of mild type, and the mortality trifling.

During the last quarter of 1918, and concurrently with the further world-wide pandemic, a devastating wave of the disease swept through South Africa. The infection was introduced by sea—first at Durban via the East Coast, and a little later at Cape Town by vessels from the West Coast and Europe. On this occasion the disease developed great virulence, with a frequent tendency to pneumonia and other complications, and the mortality was high. Cape Town, Kimberley, Bloemfontein, and indeed most of the larger centres, suffered very heavily.

Up to the end of November, 1918, a total of 2,616,805 cases (454,653 European and 2,162,152 coloured and native) were reported, with 139,471 deaths (11,726 European and 127,745 coloured and native).

(viii) *Leprosy*.—This disease existed among the Hottentots of the Cape before the arrival of Europeans. The earliest record of the disease being recognized in Europeans occurs in 1756. Theal, in his "History of South Africa," states: "The coloured races of South Africa, though singularly free from disease, were subject to one of the most dreadful maladies with which mankind is afflicted. There are no means of ascertaining the ravages made by leprosy among the Hottentots, but it is tolerably certain that though they were acquainted with the disease, the number of individuals affected was very small. It is not once named in the early records, and it is only from tradition that it is known to have existed among these people before their intercourse with strangers. Whether the Bushmen were liable to be attacked by it is uncertain. Among the Bantu tribes it was by no means rare, and the slaves of all nationalities who were brought into the colony were subject to it. It was now proved that Europeans also were liable to its attacks. Some cases having been suspected, in May, 1756, a Commission of medical men was appointed, who examined the sufferers, and reported that one man, who had been eighteen years ill, was afflicted with leprosy, that his eldest daughter was showing symptoms, and that another man, who had been nine years ill, was suffering from the same disease. The Government recommended isolation of the sufferers, but did nothing more."

A leper asylum was established by the Government of the Cape at Hemel-en-Aarde, in the Caledon District, in 1818. The early records of this institution are scanty, but in



1823, when a Moravian missionary from Genadendal was appointed to administer it, there were 104 inmates, with some 60 healthy persons—wives and children of the patients. These healthy persons were removed from the institution later in the same year, on the orders of the famous Dr. Barry, who was for a time in medical charge. Subsequently the inmates averaged about 100, and the deaths 22, annually. Altogether about 400 lepers died at Hemel-en-Aarde. The asylum was closed in 1845, and the patients transferred to Robben Island in Table Bay, where a new asylum was established, and has been continued since.

A leper asylum for natives was established at Emjanyana in the Engcobo District of the Transkei in 1892. At first the inmates were accommodated in huts of the ordinary Kaffir type, and the sexes mixed freely. In 1898 the huts were demolished and separate compounds, about a mile apart, were established for male and female patients. During the fourteen years 1897-1910, the admissions numbered 1,079 males and 717 females, and the deaths 587 males and 339 females.

In the Transvaal, a leper asylum existed at Daspoort, Pretoria, from about 1880. There was another asylum, for natives only, at Pankop, near Pienaars River. In 1898 a third asylum was established at Rietfontein, near Johannesburg.

In 1899 a new asylum was established at West Fort, Pretoria, and during the three following years the patients at Daspoort, Rietfontein, and Pankop were removed there, and the old asylums closed.

Up to 1909 leper patients from the Free State were accommodated at Robben Island, but in that year a new asylum was completed at Sydenham, near Bloemfontein, and the Free State patients were removed there. The Sydenham asylum was closed in 1912, the patients having been removed to the Pretoria asylum.

Further leper asylums have since been established—at Amatikulu, Zululand, in 1903, and at Bochem, northern Transvaal, in 1914.

At the end of 1918 the lepers segregated at Robben Island, Emjanyana, Pretoria, Amatikulu, and Bochem numbered 175 Europeans, 1,803 natives, 249 coloured, and 3 Indians—making a total of 2,230. The disease occurs in sporadic cases, or in small family or local groups, all over the Union, but is especially common in the Transkeian Territories. It is estimated that the unsegregated lepers in the Union—most of them natives—considerably exceed 1,000.

(ix) *Malaria*.—Malaria is endemic in the river valleys and coastal belt of Zululand, and in the river valleys and the low veld of the northern and eastern Transvaal. At intervals of several years, under favourable conditions of season and rainfall, the disease becomes epidemic over wider areas, sometimes involving the whole coastal belt of Natal, or the greater part of the Transvaal (all except the high veld), or the river valleys of the northern part of the Cape Province. The last serious prevalence of this nature occurred in 1909, but there have been smaller prevalences since, especially in 1913 and 1914. With settlement by Europeans, increase of cultivation and drainage, the areas in which the disease is endemic are gradually decreasing.

(x) *Malta Fever*.—Twenty or thirty years ago a form of fever called "Kimberley fever" was of frequent occurrence in the diamond fields and neighbouring parts of the Cape Province, and subsequently, with the development of goat-farming, the disease spread to many other districts. In 1902, following on the discoveries of Sir David Bruce in Malta, the disease was proved by clinical and bacteriological investigation to be Malta, Mediterranean, or undulant fever. Although there has been no considerable prevalence of the disease for many years past, sporadic cases occur from time to time in all districts of the Union where goat-farming is carried on. In recent years the notifications have been less than 100 annually, but doubtless many cases escape recognition or notification.

(xi) *Measles*.—This disease has existed in the Cape from the earliest times. The natives and coloured people are highly susceptible to it, and the early epidemics caused great mortality amongst them. One serious epidemic occurred in 1839. In recent years the disease has been almost invariably of a mild type.

(xii) *Pellagra*.—It is interesting to note that although mealies and mealie-meal constitute the staple diet of a large proportion of the natives of South Africa, pellagra is unknown in the country. One or two suspected cases have been reported in recent years, but the existence of the disease in the Union has not yet been definitely established.

(xiii) *Plague*.—Plague was unknown in South Africa prior to 1899, when a small outbreak occurred at Delagon Bay, with an extension to Middelburg, Transvaal. Infection was introduced from India. In the same year another small outbreak occurred at Mochudi, in Portuguese territory, near Lourenço Marques. During the Anglo-Boer War, large quantities of forage and other articles were imported for military purposes from plague-infected ports in South America and India, with the result that during 1900 and succeeding years several introductions of the disease took place.

The history of the disease in South Africa, apart from the small outbreaks already mentioned, is summarized in the following table:—

### SUMMARY OF OUTBREAKS OF PLAGUE IN THE UNION.

#### (a) CAPE COLONY PRIOR TO 1910.

Year.	Place.	Cases.	Deaths.	Remarks.
		No.	No.	
1900	Transport <i>Kilburn</i> at Cape Town	5	—*	Vessel brought cargo of forage from Rosario where plague existed at the time. No rodent infection found on board. *Captain died during voyage: cause of death possibly plague, but not definitely ascertained.
1900	Ixell, King Wil- liams Town	13	4	First case in native who returned sick from work in military forage depot at Modder River.
1901 } to } 1902 }	Cape Peninsula, Somerset West, and Stellenbosch	764	371	Disease began among rats at Docks, Cape Town. An extensive epizootic and severe epidemic followed. Cases mostly bubonic, but also considerable number of pneumonic and some septicæmic cases.
1901	Mafeking.....	2	—	Cases infected in Cape Town.
1901	Imvami.....	1	1	Infection from Cape Town.
1901 } to } 1905 }	Port Elizabeth...	343	183	Infected rats first found in forage from Buenos Ayres stacked at Docks. First human case in a native who had been working with this forage.
1901	Uitenhage.....	5	3	Infection from Port Elizabeth.
1901 {	Mossel Bay..... Ladsmith (Cape).	15	6	Infected rats first found in bonding store in Harbour area.
1903	Grahamstown...	1	1	Infected at Port Elizabeth.
1903	Graaff-Reinet....	1	1	Extensive prevalence in rodents.
1903 } to } 1905 }	East London.....	96	61	Infected rats first found in Harbour area. Early cases in natives working in same area.
1903	s.s. <i>Nereida</i> at Cape Town	5	3	A coolie ship. Infection from Indian ports. Rats on board infected.
1903	King Williams Town & Kei Road	44	22	Began among rodents at railway goods sheds. Infection doubtless from East London.
1903	Queenstown.....	12	10	Cases all pneumonic. Associated plague in rodents.
	Knyana.....	1	—	Plague prevalence in rats and mice, and also in "vold rats" ( <i>Arvicanthus pusillus</i> ).

Summary—1901 to 1905 inclusive: European cases—328, deaths 99; coloured cases—471, deaths 257; native cases—434, deaths 255; Chinese cases—14, deaths 9; other Asiatic cases—80, deaths 45. Total cases—1,307, deaths 665.

\* Outbreaks of the disease in rodents, without cases in man, occurred at Burghersdorp, Seymour, Thomas River, Riversdale, and Lady Grey Bridge (Huguenot).

#### (b) NATAL.

Year.	Place.	Cases.	Deaths.	Remarks.
		No.	No.	
1902 } to } 1903 }	Durban..... Maritzburg..... Elsewhere in Natal	201 9 11	145 7 10	Infection probably introduced with a cargo of forage by s.s. <i>Kassala</i> from Argentina. Extensive prevalence of the disease in rodents at Durban. Infected rodents also found at Maritzburg.
1904	Durban and Suburbs	18	13	In April, rats were noticed to be dying at the Point. Bacteriological examination proved death to be due to plague. Infected rats subsequently found in various places in the town.
1905	Durban and Suburbs	25	21	Probably continuation of 1904 outbreak.

## (c) TRANSVAAL.

Year.	Place.	Cases.	Deaths.	Remarks.
1903	Johannesburg....	No.	No.	Nine cases, with seven deaths, occurred in which there was suspicion of plague, but <i>B. pestis</i> not found on bacteriological examinations.
1904	Johannesburg....	112	82	
	Germiston.....	8	3	Original source of infection not traced. Plague-infected rodents found in several localities.
	Krugersdorp.....	1	—	
	Benoni.....	1	—	
1905	Johannesburg....	1	1	Infection from Johannesburg, directly or indirectly.
				Source of infection not traced.

## (d) UNION (SINCE 1910).

Year.	Place.	White.		Coloured.		Total.		Remarks.
		Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.	
1912	Durban and neighbourhood	2	1	30	25	32	26	A plague epizootic occurred amongst rodents at the Docks and in three or four other localities.
1914	Midland District of Cape Province	2	2	33	29	35	31	
1915	Do. do.	8	5	37	21	45	26	
1916	Orange Free State (Hoopstad, Winburg, and Senekal Districts)	7	3	30	20	37	23	
	Cape Province (Ultenhage District)	—	—	24	13	24	13	
1917	Transvaal (Potchefstroom District)	—	—	15	14	15	14	
	Orange Free State (Winburg and Hoopstad Districts)	—	—	29	21	29	21	No infection in rodents or other animals discovered.
	Cape Province (Tarka District)	—	—	1	1	1	1	
	Cape Province (Glen Grey District)	—	—	1	1	1	1	
1918	Orange Free State (Hoopstad District)	—	—	2	2	2	2	
	Transvaal (Johannesburg)	2	2	—	—	2	2	
1920	Orange Free State (Hoopstad and Bothaville Districts)	1	—	11	4	12	4	
1921	Orange Free State (Hoopstad, Bothaville and Kroonstad Districts)	7	4	26	12	33	16	Existence of epizootic plague in wild rodents—chiefly gerbilles, multimammate mice and malacostrich—established. This is believed to have been the cause of the recurring outbreaks in these districts since 1916.

At the ports and in the larger centres, rodents are systematically trapped and poisoned, and specimens are submitted each week for bacteriological examination.

(xiv) *Relapsing Fever*.—The insect "carrier" of this disease, the *tampan* tick, is to be found in many parts of the Union, especially in Zululand, the Transvaal, and north-western part of the Cape Province. The disease occurs in Zululand, especially in the sandy coastal belt, and in parts of the Transvaal. It is probably of more frequent occurrence in *tampan*-infested localities than has hitherto been recognized.

(xv) *Scarlet Fever*.—This has been known in South Africa since the early days of European settlement, and outbreaks from time to time occur in the principal centres. Ordinarily the disease is of a mild type, but virulent outbreaks with a tendency to dangerous complications occasionally occur. A curious circumstance is that the native races are largely immune from the disease, whilst the susceptibility of the *Cape Coloured* and other classes of mixed European race is much less than that of pure Europeans.

(xvi) *Scurvy and Beriberi*.—Scurvy was formerly of frequent occurrence amongst natives employed on certain mines and diamond diggings, especially where stomp or kiln-dried mealies formed their staple diet. In recent years it has been comparatively rare.

Small outbreaks of a form of beriberi have in the past occurred in certain institutions, such as the Pretoria and Robben Island Mental Hospitals, but there have been none in recent years. Cases of beriberi are of frequent occurrence on ships at the ports.

(xvii) *Sleeping Sickness*.—This is unknown in the Union, except for two or three "imported" cases, infected in other parts of Africa. Throughout the greater part of Zululand there is a species of tsetse fly (*Glossina pallipides*) which is associated with "nagana" in cattle. The parasite of this disease is very similar to—indeed, according to some authorities identical with—that of one variety of sleeping sickness (*Trypanosomiasis rhodesiense*). Up to the present, however, no case of sleeping sickness has been found in the "fly" areas of Zululand where "nagana" is prevalent.

(xviii) *Smallpox*.—The first invasion of South Africa by smallpox occurred in 1713, when the infection was introduced by infected clothing from a vessel on which cases had occurred on the voyage from India, but which had recovered before reaching Table Bay. Clothing from the vessel was washed at the Dutch East India Company's slave lodge, where, out of 570 slaves, nearly 200 died of the disease. The disease rapidly spread to the European population, and a widespread and very fatal epidemic resulted. The death-rate was especially high amongst the Hottentots, some of whom fled to the mountains, carrying the infection with them. In some instances these refugees were attacked and killed by their people, with the object of preventing the spread of the disease. It is recorded that the entire populations of many kraals died, and the very names of tribes for a great distance inland disappeared.

A second outbreak occurred in 1755, when the infection was introduced by vessels from Ceylon. The disease was of a very fatal type, and it is recorded that in Table Valley, during six months, 963 Europeans and 1,109 natives died of it. The epidemic spread far and wide, and caused great havoc among the Hottentots. A third outbreak occurred in 1767, the disease being introduced by a Danish vessel from Europe. Active precautions were taken, and the spread was limited. It had been noticed in the two previous outbreaks that the disease died out entirely when the hot weather set in; but in this outbreak it persisted, cases occurring up to April, 1769. Some 1,900 persons in all were attacked, of whom 179 Europeans and 396 natives died. Further outbreaks, of a milder type, occurred in 1807, 1812, 1839, and 1858.

Another severe epidemic occurred in 1881 and 1882. Prior to its commencement the steamers "Garonne" and the "Drummond Castle" had arrived at Cape Town with cases of smallpox on board, or having had smallpox during the voyage. Precautions were instituted, and the vessels sent to Saldanha Bay in quarantine; but by some means the infection had already been conveyed ashore. A devastating and very fatal epidemic followed. The large Malay population of Cape Town, who, on religious grounds, were "conscientious objectors" to vaccination, suffered most severely. The *Public Health Act* passed by the Cape Parliament in the following year made vaccination compulsory on all. Since then, although the disease has never been absent from some part or other of the Union, and although considerable local outbreaks have from time to time occurred, there has been no severe or widespread epidemic. These outbreaks have almost all been of a mild type, which has come to be known as "amaas" or "kaffir-pox," natives being principally affected. In this type of the disease the skin symptoms are often fairly well marked, and conform to the classic descriptions of smallpox; but the initial and constitutional symptoms are generally mild, and the death-rate low—as a rule only about 2 per cent. to 5 per cent. Most of the fatalities occur in weak or badly nourished patients. A considerable prevalence of this type of the disease occurred in British Bechuanaland and in the northern and north-western parts of the Union in 1917, with small scattered outbreaks in various other parts.

The modification in virulence of the disease is probably due in part to the fairly thorough vaccination of the population for several generations, similar mildness of type having been noted in recent years in European countries, even where the patients themselves were unvaccinated. Climatic conditions have doubtless also played an important part. Smallpox is essentially a disease of cold or temperate climates, and in warmer countries is apt to spread during the cool season, and to tail off or disappear when the hot weather sets in. Vaccination is an effective remedy against the disease, and outbreaks can always be limited and arrested by it.

(xix) *Tuberculosis*.—Very little information exists as to tuberculosis in South Africa up to about forty years ago. Prior to this, although doubtless the disease existed, it certainly was not common either amongst Europeans or Natives. References to its existence occur in the records of travellers and historians in 1781, 1796, 1798, and 1820. Moodie (1820-1830) says that the disease was uncommon among the Dutch and English, but frequent among Hottentots. He observes: "The climate of the Cape is found beneficial to incipient consumption, but not in the more advanced stages of the malady." Dr. Livingstone (1857) says: "Pulmonary diseases, in comparison with European statistics, exhibit a remarkably low figure, as, amongst upwards of 1,000 observed cases, only three of confirmed tuberculosis occurred." Writing in 1881, Hirsch says: "In Cape Colony phthisis is oftenest met with among Hottentots inhabiting the plains nearest the coast. In other classes of the population it is much rarer than in the East African Islands within the tropics, whilst in the interior plateaux of southern Africa it hardly occurs at all."

From about 1880 consumptive patients began to come out to South Africa from Europe. The majority of these proceeded to the towns and villages in the dry, elevated areas of the interior. Within the next two decades the infection was widely disseminated, and the disease had taken a firm hold on the coloured and native population, in which it found a virgin and congenial soil. In them it generally runs an acute course, and the percentage of recoveries, even under favourable conditions, is small. The disease is now widely prevalent amongst the coloured and native population, especially in the Cape Peninsula and south-western districts of the Cape Province, and in the other towns of the Union. In some districts, however, it is becoming increasingly prevalent among the natives of the rural areas.

A Commission to investigate the history and prevalence of the disease, and to formulate measures for combating it, was appointed by the Government in 1912, and reported in 1914. The War and other circumstances have since prevented the inauguration of any comprehensive scheme for dealing with the disease, but this will now be possible under the new *Public Health Act*. Certain measures regarding dispensary treatment and the sanatorium treatment of suitable cases have, in recent years, been taken by several of the larger municipalities. Although not uncommon in some places, the disease cannot be said to be prevalent amongst Europeans, and does not appear to be increasing among them. Under the *Immigrants Regulation Act*, 1913 (*vide* Chapter III), immigrants suffering from tuberculosis can only enter the Union under permit, and subject to certain conditions.

(xx) *Typhus Fever*.—In 1867 an epidemic of what was described as "low fever" occurred in several districts of the Cape Colony, and was worst in Cape Town. It was estimated that one in five of the population was attacked. The disease was especially severe amongst the coloured people, and the class of European persons which consorted with them. Medical men and others in close contact with the sick were frequently attacked. The rate of mortality was high, particularly where overcrowding and underfeeding existed. Fully 1,000 persons died in Cape Town alone, and there was considerable loss of life in other parts of the Colony. The outbreak was investigated by a Medical Committee, which attributed the disease to dirt, want, and overcrowding. The records of symptoms of the disease are scanty, but strongly suggest that it was typhus fever.

Somewhat similar outbreaks, variously referred to as low fever, typho-malarial fever, and Cape typhus, subsequently occurred in several parts of the Cape Colony and Transkei. One medical man, in practice in the Transkei for many years, first came across the disease in the Tsomo District about 1887. The disease was first investigated by Government health officers, in the King Williams Town District of the Cape Province, in 1900. The similarity of the disease to typhus was recognized, but none of the cases then seen had any rash. The natives termed the disease "ifiva-mnyama" (black fever), owing to the fact that the tongue often became covered with a dark brown fur, or "mbatelala" ("knock-down disease"). Thereafter small outbreaks from time to time occurred in certain Transkeian and Ciskeian districts, but mostly in remote and inaccessible localities.

In 1916 a serious outbreak of fever occurred in the Queenstown Native Location, with a certain number of cases among Europeans. This was at first considered to be enteric, but further investigation showed that the disease was not enteric; that its course and clinical symptoms (apart from skin symptoms) were identical with those of typhus; and that in a small percentage of native cases and in a large percentage of European cases the typical rash of typhus was present. Several nurses were attacked, and also Dr. D. C. Rees—one of the Government medical officers sent to investigate the nature of the disease. The latter had characteristic skin symptoms, and a severe and in all respects typical attack of typhus, which unfortunately proved fatal. Further investigation has established the fact that the disease is spread mainly, and probably entirely, by lice, and that spread can be controlled or arrested by thorough deverminizing. Unfortunately, a large percentage of the natives are lousy, and until their standard of personal and domestic cleanliness and freedom from vermin has been raised the disease is likely to persist.

**TYPHUS FEVER IN THE UNION—CASES AND DEATHS REPORTED,  
1917 TO 1921.**

Year.	White.		Coloured.		Total.	
	Cases.	Deaths.	Cases.	Deaths.	Cases.	Deaths.
1917.....	31	5	3,935	832	3,966	837
1918.....	9	3	2,690	492	2,708	495
1919.....	25	4	4,803	1,118	4,828	1,122
1920.....	81	12	11,195	1,779	11,276	1,791
1921.....	132	17	9,025	1,123	9,157	1,140

(xxi) *Veneral Diseases*.—It is probable that venereal disease has existed in South Africa since the early days of European settlement, but up to comparatively recent times the references to it are exceedingly scanty. Whether syphilis existed previous to the arrival of Europeans is uncertain. It was doubtless introduced first at Cape Town and other ports, and later became disseminated inland. Writing of it in 1857, Livingstone states: "It seems incapable of permanence in any form in persons of pure African blood anywhere in the centre of the country. In persons of mixed blood it is otherwise. . . . Among the Korannas and Griquas of mixed breed it produces the same ravages as in Europe." The tradition amongst the Bechuanas is that the disease was first introduced among them by women captured in wars with Korannas, Hottentots, Griquas, and other bastard tribes, from or in touch with the coastal areas. It would appear, however, that the disease was not seriously prevalent in Bechuanaland until after the diamond discoveries at Kimberley. For the development of the diamond fields native labour was procured from all over South Africa, and there was a rush of Europeans from all parts. Immorality was rife, and no regard whatever was paid to the health conditions under which the natives lived and worked. Large numbers of them contracted syphilis and carried it back to their kraals. The official reports in connection with Warren's expedition in 1885 showed that the natives of Bechuanaland were then badly infected, and the diseased condition of prisoners taken in the Langeberg campaign is historical. The disease rapidly became disseminated among the natives throughout Bechuanaland and the western and northern Transvaal.

At present the disease is especially common in the areas mentioned, and also amongst the coloured and native population of the Cape Peninsula and most of the larger towns. In 1910 it was estimated that at least 5 per cent. of the entire native population of Bechuanaland were suffering from active syphilis, and that a further considerable percentage were tainted with the disease. In certain locations it was estimated that as many as 25 per cent. were infected. Somewhat similar estimates of prevalence were made in respect of a number of Transvaal districts in 1909. Active measures to deal with the disease have been taken by Government, both before and since the constitution of the Union, and it is believed that in some districts at least prevalence has been appreciably reduced. It is noteworthy that the later sequelae of syphilis, such as locomotor ataxy and general paralysis of the insane, are exceedingly rare in natives. Among Europeans the prevalence of the disease in the coastal towns and large inland centres is probably about the same as that of towns in other countries. In some rural areas considerable numbers of Europeans, especially children, have been infected through the agency of infected natives or coloured nursemaids or domestic servants. Gonorrhoea is common amongst the natives and coloured population at the ports and in the larger centres, and sometimes considerable prevalences of the disease occur in natives in other parts of the Union.

(xxii) *Yellow Fever*.—This is unknown in South Africa.

The nearest place to the Union where yellow fever is known to have occurred is Sao Paulo de Loanda. The *Stegomyia* mosquito, the "carrier" of the disease, is to be found, though in small numbers, in most of the hotter parts of the Union. ☐

**4. Public Health and Sanitation, etc.**—Considerably increased attention has in recent years been paid to matters of public health and sanitation in South Africa, especially in the larger urban centres. All of these, practically all the smaller towns, and a good many villages, now have gravitation water supplies—purification works being provided where the supply is taken from streams or rivers liable to pollution.

The majority of the larger centres and some of the smaller towns have water-carried sewerage systems, public slaughterhouses, isolation hospitals, and other essential requirements of up-to-date towns.

Infant and maternity welfare and town planning have, in the past, been neglected, but during the last few years a greatly increased amount of interest has been taken in these and kindred matters.

**5. Notifiable Infectious Diseases.**—The table given below contains a list of notifiable diseases in the Union together with particulars as to the number of cases reported in respect of each disease for the years 1918 to 1921. Weekly bulletins, published in the *Union Government Gazette* by the Department of Public Health, give particulars regarding outbreaks of the more dangerous epidemic diseases in the Union and in other countries.

**NOTIFICATIONS OF CASES OF INFECTIOUS DISEASES (WHITE AND COLOURED)  
BY MEDICAL PRACTITIONERS, 1918 TO 1921.**

W = White. C = Coloured.

Diseases.	1918.	1919.	1920.	1921.								
	Union.	Union.	Union.	Union.	Cape of Good Hope.		Natal.		Transvaal.		Orange Free State.	
					W.	C.	W.	C.	W.	C.	W.	C.
Anthrax.....	17	53	75	110	7	70	—	—	0	19	4	4
*Chickpox...	40	—	—	—	—	—	—	—	—	—	—	—
Diphtheria...	1,030	1,036	1,110	1,014	371	72	96	12	239	72	141	11
*Dysentery...	21	—	—	—	—	—	—	—	—	—	—	—
Encephalitis	—	—	—	—	—	—	—	—	—	—	—	—
Infective...	—	—	25	33	7	1	1	—	3	20	1	—
Erysipelas...	103	129	197	167	67	24	10	2	29	14	12	9
Glanders.....	—	—	1	—	—	—	—	—	—	—	—	—
Leprosy.....	113	71	115	108	8	29	3	16	5	43	—	4
Malta Fever...	15	13	37	27	20	7	—	—	—	—	—	—
Meningitis	—	—	—	—	—	—	—	—	—	—	—	—
Epidemic	—	—	—	—	—	—	—	—	—	—	—	—
Cerebro-	—	—	—	—	—	—	—	—	—	—	—	—
spinal....	31	21	128	113	13	8	1	—	7	82	2	—
Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	—
Gonorrhoeal	—	—	10	22	1*	1	—	—	17	1	—	2
Ophthalmia	—	—	—	—	—	—	—	—	—	—	—	—
Neonatorum	—	—	52	98	17	34	1	2	34	4	5	1
Plague.....	—	—	6	33	—	—	—	—	—	—	7	26
Poliomylitis...	50	10	35	33	10	4	7	—	5	2	5	—
Puerperal	—	—	—	—	—	—	—	—	—	—	—	—
Fever.....	106	96	105	134	30	36	10	2	39	3	13	1
Rabies.....	—	—	1	—	—	—	—	—	—	—	—	—
*Relapsing	—	—	—	—	—	—	—	—	—	—	—	—
Fever.....	2	—	—	—	—	—	—	—	—	—	—	—
Scarlet Fever...	5,055	2,783	1,756	920	450	47	33	5	304	6	91	8
Smallpox.....	193	559	1,036	787	4	383	4	30	51	121	12	182
Tuberculosis...	2,230	2,305	3,504	2,962	309	1,070	55	107	53	723	22	23
Typhoid or	—	—	—	—	—	—	—	—	—	—	—	—
Enteric	—	—	—	—	—	—	—	—	—	—	—	—
Fever....	2,923	3,114	5,515	4,511	1,660	1,357	275	58	554	266	224	117
Typhus.....	2,699	4,803	6,992	6,257	89	5,553	—	165	1	49	7	393
TOTAL....	14,946	14,993	20,790	17,320	3,069	9,296	496	390	1,347	1,425	516	781

\* Not now notifiable.

**6. Local Health Authorities.**—For certain purposes, such as the control of sanitation, outbreaks of infectious disease, and other measures undertaken in the interests of the health of any urban community, most municipalities and some other local authorities in the Union have health officers and health departments attached to the local authority responsible for the area concerned. Owing to the absence of uniform legislation the scope of these departments varies considerably and cannot here be taken in review.

**7. District Surgeons.**—In order to carry through health and medical work for which the Government is responsible in the various districts of the Union medical officers known as district surgeons are generally employed, a few in large centres devoting the whole of their time to the work, the large majority engaging their services to the Government for Government work concurrently with their private practice.

**8. Port Health Work.**—A port health officer is appointed by the Union Department of Public Health at each port of the Union to carry through the usual inspection and control for public health purposes of vessels arriving at and leaving the Union. Such officers act with the immigration officers in an advisory capacity in determining the physical fitness of immigrants into the Union. Entry is debarred, except under approved conditions, in the cases of such persons as are suffering from mental or physical defects, or are afflicted with disease. Tuberculosis is a disease specially cited as a disqualification in the case of an immigrant, and special authority is necessary for a person suffering from the disease to enter the Union. [See Section 4 (1) (g) and (h) of Act No. 22 of 1913.]

## § 2. General Hospitals.

1. **Cape of Good Hope Hospitals.**—Under Ordinance No. 5 of 1912 all Divisional Council areas in which there is a state-aided hospital, dispensary, or convalescent home, are constituted hospital districts. In every hospital district there is a hospital board, and these boards have control and management of every state-aided hospital, dispensary, or convalescent home within the area for which the board is constituted. The boards are financed by Provincial subsidies calculated on the amount of their revenue derived from patients' fees and voluntary contributions and bequests. Boards may establish, with the approval of the Administrator of the Province, any of the following kinds of institutions: (a) hospitals for the reception or relief of persons requiring medical treatment; (b) dispensaries; (c) maternity homes; (d) convalescent homes; (e) sanatoriums; (f) institutions established for any other purpose which the Administrator by proclamation in the *Gazette* declares to be a public charitable purpose within the provisions of the Ordinance; (g) institutions established for any two or more of the above-mentioned purposes.

Committees of management may be established from among the members of a board for the administration of any matters within the power of the board. A board may make regulations in respect of any institutions under its control on certain matters provided for in the Ordinance.

2. **Natal Hospitals.**—There are seven hospitals in Natal, directly controlled by the Provincial Administration, viz., Addington Hospital, Durban, Grey's Hospital Pietermaritzburg, and Cottage Hospitals at Newcastle, Dundee, Eshowe, Port Shepstone, and Vryheid.

In addition to the above, there are other institutions which receive financial assistance from Provincial funds but are controlled by other than Government authority. These are as follows: Ladysmith, Estcourt, and Pietermaritzburg Sanatoriums; native hospitals at Dundee, Ridge Road, Durban, and Kwamagwaza; Indian Hospitals at Amatikulu, Felixton, and Estcourt; and hospitals at Empangeni and Lansdowne Mission Station at Somkele.

Grey's Hospital was established under Law No. 4 of 1877, but has now been taken over by the Provincial Administration under Ordinance No. 9, 1922.

The medical control of the hospital is exercised by a resident medical superintendent appointed by the board, but there is also a visiting medical staff, entirely honorary, consisting of four surgeons, two physicians, and one ophthalmic physician.

Addington Hospital, Durban, is entirely under the control of a permanent medical staff appointed by the Provincial Administration. There is a board of management representative of various interests and elected annually, but this board has no executive functions and acts only in an advisory capacity. This institution was opened in 1879, the number of patients admitted in that year having been 642. The buildings consisted of two large wards and an administration block. Subsequently another storey was added, and from time to time additions have been erected including an operating theatre, laundry, nurses' home, new kitchen, Indian quarters, isolation ward, mortuary, and separate buildings for the treatment of native and Indian patients. The present staff consists of a resident medical superintendent and 4 assistants, a nursing staff of 100, and a clerical and house staff of 150, including Indians.

The five cottage hospitals at Dundee, Newcastle, Eshowe, Vryheid, and Port Shepstone serve the interior districts and are maintained solely at Government expense. A local practitioner is in medical charge at each place, and a matron assisted by an adequate nursing staff is in residence.

The sanatoriums at Pietermaritzburg, Estcourt, and Ladysmith are controlled by the Roman Catholic mission and receive substantial grants-in-aid from Government, provided that they have qualified hospital nurses on their staffs.

3. **Transvaal Hospitals.**—The following hospitals are maintained by the Provincial Administration, and committees are appointed under the provisions of the *Hospital Committees Ordinance*, 1917, for their management:—

Johannesburg.  
Pretoria.  
Krugersdorp.

Pretoria.  
Germiston.  
Lydenburg.

Barberton.  
Klerksdorp.  
Petersburg.

The Chronic Sick Home at Rietfontein, near Johannesburg, and the Cottage Hospital at Tzaneen, are managed directly by the Provincial Administration.



The following hospitals are supported by grants-in-aid:—Elim; Queen Victoria Maternity Hospital, Pretoria; South African Hospital, Pretoria; Hope Convalescent Home for Children, Johannesburg; and cottage hospitals at Ermelo, Heidelberg, Middelburg, Potchefstroom, Roo-depoort-Maraiburg and Schweizer Reneke;

**4. Orange Free State Hospitals.**—The administration of general hospitals which are public in character is provided for by the *Hospitals and Charitable Institutions Ordinance, 1913*, in terms whereof these institutions are subsidized by the Administration on the £ for £ basis. The management of such hospitals, as well as the full financial responsibility in respect of them, is vested in boards which consist of six or twelve members according to determination by the Administrator in consultation with the old members, if any. One-third of the members are appointed by the Town Council or Councils, one-third by the Administrator, and the remaining one-third are elected by registered contributors. In the event of a deficit occurring in any year and the Administrator being satisfied that the board has done all in its power to guard against such an occurrence, the deficit is paid in whole or in part by the Administration, and the Town Council or Councils concerned, in equal proportions. All movable and immovable property is vested in the board, which may also borrow money, whether by way of bank overdraft or in any other manner, for the purpose of erecting buildings or making additions or alterations to buildings or of purchasing land, and on every loan raised for any of such purposes one-half of the interest and sinking fund charges on such loan forms a direct charge on the revenues of the Provincial Administration. A board may further, with the approval of the Administrator, borrow money by way of bank overdraft for the purpose of meeting any ordinary recurrent expenditure. The board, besides controlling and managing the hospital for the district defined in terms of the Ordinance, also has the control and management in accordance with the Ordinance of every other hospital or kindred charitable institution in the district.

The admission of patients applying to the board for treatment, as well as the terms on which treatment will be afforded, whether free, at reduced rates, or at full rates, is governed by section 53 of the Ordinance, and in terms of section 54 (2) indigent patients may be admitted at the instance of the Administrator for free treatment.

Section 62 provides for the framing of regulations not inconsistent with the Ordinance—

- (1) regulating the admission or discharge of patients and the amounts of the fees to be paid by them;
- (2) prescribing the duties of officers, nurses, attendants, and servants, and the conditions upon which registered medical practitioners not on the staff may attend patients at the institution;
- (3) maintaining order and discipline; and
- (4) generally making provision for all matters affecting the management, care, control, and superintendence of the institution and the fulfilment of the purposes thereof.

The accounts of the board are audited from time to time by auditors appointed by the Administrator, and for general administrative purposes hospitals are inspected from time to time by the medical inspector of hospitals appointed under the Ordinance, who is required to furnish the Administrator annually with a report upon the administration of the Ordinance, such report being laid before the Provincial Council.

### § 3. Mentally Disordered or Defective Persons.

**1. Legislation.**—Act No. 38 of 1916 repeals all previous Acts in force in the Provinces of the Union on this subject. The Act covers all cases of mental disorder or defect where, as a result of such disorder or defect, the patient is incapable of managing himself or his affairs, is a danger to himself or others, or requires care, treatment, and control. The provisions of the Act apply to and the procedure is the same for persons of all ages. Detention of patients, whether in public institutions, single care, licensed institutions, general hospitals, or elsewhere is, with certain exceptions specially provided for, legal only when authorized by a magistrate, court, or a judge. The Act authorizes the appointment of a Commissioner of Mentally Disordered or Defective Persons, and of boards to visit and report on the institutions and the welfare of the patients. The care and administration of the property of mentally disordered or defective persons is placed in the hands of the Master of the Supreme Court. Other provisions of the Act cover mentally disordered or defective persons under detention in respect of criminal offences, the admission of patients from other states or territories of Africa, voluntary boarders, patients residing in private dwellings, the establishment of licensed institutions, reception of patients in general hospitals and similar institutions, offences and penalties, use of mechanical restraint, recovery of cost of maintenance, and other matters relative to the care and control of mentally disordered persons.

2. **Mental Hospitals.**—There are eight mental hospitals in the Union, the names and other particulars of which are given below:—

**MENTAL HOSPITALS—CLASS OF ACCOMMODATION, 1921.\***

Name of Institution.	Province.	Races Treated.
Valkenberg Mental Hospital.....	Cape of Good Hope	All races.
Grahamstown Mental Hospital.....	" "	All races.
Port Alfred Mental Hospital.....	" "	All races.
Fort Beaufort Mental Hospital.....	" "	Coloured races only.
Alexandra Hospital.....	" "	Europeans only.
Pietermaritzburg Mental Hospital...	Natal.....	All races.
Pretoria Mental Hospital.....	Transvaal.....	All races.
Bloemfontein Mental Hospital.....	Orange Free State	All races.

\* The Mental Hospital section at Robben Island was closed in 1921 and the patients were transferred to the mainland.

3. **Patients and Staff (Mental Hospitals).**—Particulars are given in the subjoined table (i) as to staff, patients, expenditure, and receipts at mental hospitals in the Union for six years, and (ii) the average cost per patient.

**(i) MENTAL HOSPITALS—STAFF, PATIENTS, AND EXPENDITURE, 1916 TO 1921.**

Particulars.	1916.	1917.	1918.	1919.	1920.	1921.
Number of institutions.....	8	8	8	8	8	8
<b>Staff—</b>						
Medical.....	16	16	18	10	21	26
Nursing.....	868	274	549	810	771	877
Attendants.....	31	398	176	38	31	36
Clerical.....	265	52	35	387	31	36
Other employees.....		354	303		345	446
<b>TOTAL.....</b>	<b>980</b>	<b>1,094</b>	<b>1,141</b>	<b>1,254</b>	<b>1,168</b>	<b>1,385</b>
Per 100 Patients.	20	21	21	22	19	22
<b>Patients—</b>						
First admissions.....	1,159	1,270	1,308	1,390	1,320	1,356
Readmissions.....	247	202	272	304	540	548
Discharges (recovered).....	464	413	519	596	534	541
Discharges (not improved).....	64	38	72	67	54	64
Relieved.....	76	130	80	138	100	121
Transferred.....	165	82	115	194	331	347
Deaths.....	452	419	748	409	489	510
Remaining 31st December	4,907	5,305	5,421	5,771	6,123	6,434
Expenditure..... £	175,816	201,975*	247,793*	310,379*	422,080*	392,035†
Receipts from paying patients £	20,485	30,764	35,303	39,450	41,501	51,309†

\* Does not include Robben Island. Total expenditure on Robben Island shown under Leprosy Hospitals.

† Unaudited figures, financial year 1921-22.

## (ii) MENTAL HOSPITALS—AVERAGE NET COST PER PATIENT, 1915 TO 1920.

INSTITUTION.	1915.	1916.	1917.	1918.	1919.	1920.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Cape of Good Hope—						
Valkenberg.....	1 11-25	1 11-75	1 10	2 4-5	2 10	3 10
Robben Island.....						
Grahamstown.....	2 2-87	2 3-13	2 5-24	2 10-8	3 6	4 9
Port Alfred.....	1 9	1 11-03	1 11-00	2 5-7	2 11	4 6
Fort Beaufort.....	1 8-25	1 7-75	1 0-75	2 3-1	2 5	2 7
Natal—						
Pietermaritzburg.....	1 4-50	1 5-38	1 10-51	2 0-2	2 8	3 4
Transvaal—						
Pretoria.....	1 10	1 0-75	1 11-75	2 3-75	3 0	3 8
Orange Free State—						
Bloemfontein.....	2 0	2 1-20	2 4	2 2-2	2 4	3 5
All Institutions*—						
Average cost per patient per diem.....	1 10-30	1 10-11	2 3	2 3-9	2 10	3 8

\* Separate details of expenditure on mentally deficient persons for Robben Island not available. The amount is included in the cost of maintenance of lepers.

4. **Mentally Disordered Persons.**—The subjoined tables show for a period of years in each case (i) the proportion of mentally disordered persons per 100,000 of the population (revised estimates), (ii) the race and sex, (iii) the conjugal condition of such persons, and (iv) for the year 1921 the conjugal condition and race:—

## (i) MENTALLY DISORDERED PERSONS IN THE UNION PER 100,000 OF ESTIMATED POPULATION, 1916 TO 1921.

RACE.	1916.	1917.	1918.	1919.	1920.	1921.
European.....	172	183	180	193	204	214
Native.....	40	43	42	47	49	50
Mixed and other coloured (including Asiatics).....	112	119	110	126	130	137
ALL RACES.....	76	81	81	87	91	95

## (ii) MENTALLY DISORDERED PERSONS—RACE AND SEX, 1916 TO 1921.

RACE AND SEX.	1916.	1917.	1918.	1919.	1920.	1921.
Number of patients on mental hospital registers at 31st December—						
European—Male.....	1,344	1,445	1,461	1,527	1,647	1,670
Female.....	1,011	1,108	1,202	1,251	1,323	1,444
Native—Male.....	1,333	1,446	1,441	1,595	1,688	1,750
Female.....	442	473	473	525	563	614
Coloured—Male.....	380	309	406	422	429	461
Female.....	251	278	289	298	314	332
Indian—Male.....	112	117	110	122	123	122
Female.....	34	29	30	31	36	41
TOTAL—ALL RACES.....	4,907	5,305	5,421	5,771	6,129	6,634
Number of mentally disordered persons in licensed houses, single care, gaols, and institutions other than mental hospitals at 31st December—						
European—Male.....	27	36	10	17	20	58
Female.....	27	31	31	57	65	99
Native—Male.....	1	3	4	5	6	3
Female.....	—	—	1	—	3	1
Coloured—Male.....	6	4	3	1	1	2
Female.....	—	3	2	3	7	6
Indian—Male.....	—	1	—	—	—	—
Female.....	—	—	—	1	—	—
TOTAL—ALL RACES.....	61	78	51	81	102	160
GRAND TOTAL.....	4,968	5,383	5,472	5,855	6,231	6,694

(iii) **MENTAL HOSPITAL PATIENTS—CONJUGAL CONDITION,  
1916 TO 1921.**

CONJUGAL CONDITION.	1916.	1917.	1918.	1919.	1920.	1921.
Single— Male.....	1,993	2,118	2,126	2,281	2,375	2,525
Female.....	756	840	932	994	1,058	1,151
Married— Male.....	711	779	760	755	826	796
Female.....	692	721	740	758	803	872
Widowed— Male.....	115	118	113	128	137	145
Female.....	214	241	218	251	247	275
Unknown— Male.....	350	402	428	472	549	532
Female.....	76	86	104	112	128	138
<b>TOTAL.....</b>	<b>4,907</b>	<b>5,305</b>	<b>5,421</b>	<b>5,771</b>	<b>6,123</b>	<b>6,434</b>

(iv) **MENTAL HOSPITAL PATIENTS—CONJUGAL CONDITION AND RACE,  
1921.**

RACE AND SEX.	Single.	Married.	Widowed.	Unknown.	Total.
On register 31st December—					
European— Male.....	1,138	385	76	71	1,670
Female.....	770	513	153	8	1,444
Native— Male.....	1,007	284	49	410	1,750
Female.....	213	222	73	106	614
Coloured— Male.....	347	78	15	20	460
Female.....	160	115	42	15	332
Indian— Male.....	33	49	5	36	123
Female.....	8	22	7	4	41
<b>TOTAL—ALL RACES....</b>	<b>3,676</b>	<b>1,668</b>	<b>420</b>	<b>670</b>	<b>6,434</b>

§ 4. **Venerae Diseases Hospitals.**

1. **Institutions, Patients and Expenditure.**—Particulars are given in the subjoined tables as to the venereal diseases hospitals in the Union administered by the Department of Public Health, the number of patients treated, and the expenditure incurred. In addition to these, hospital accommodation for cases of venereal diseases is also provided at a number of State-aided general and private hospitals, as well as at certain isolation hospitals managed by local authorities.

## (i) VENEREAL DISEASES HOSPITALS, ACCOMMODATION AND STAFF, 1915 TO 1920-21.

HEADING.	1915.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
NUMBER OF INSTITUTIONS*.....	11	9	9	8		9†
ACCOMMODATION :—						
White.....	—	27	27	14	17	64
Coloured.....	—	260	260	177	177	477
TOTAL.....	—	287	287	191	194	541
STAFF :—						
Medical‡.....	—	—	—	—	7	8
Nursing—						
White.....	7	6	6	6	5	12
Clerical—						
Male.....	—	—	—	—	1	3
Inspectors, Stewards, Caretakers, etc.—						
White Male.....	6	6	6	6	6	11
White Female.....	1	1	1	1	3	4
Coloured Male.....	1	1	1	1	4	21
Coloured Female.....	4	4	4	4	4	6
TOTAL.....	19	18	18	18	30	65

\* Excluding Bochem and Elin, State-aided private hospitals.

† Part time

‡ Including Rietfontein.

## (ii) VENEREAL DISEASES HOSPITALS—PATIENTS TREATED, 1914 TO 1921.

INSTITUTION.	1914.	1915.	1916.	1917.	1918.	1919.	1920.†	1921.
Cape Town—								
Under Part I of Contagious Diseases Act	185	142	87	70	82	10	498	113
Under Part II of Contagious Diseases Act	61	54	64	88	90	96	—	—
Port Elizabeth—								
Under Part I of Contagious Diseases Act	30	34	28	41	57	27	202	177
Under Part II of Contagious Diseases Act	37	55	115	170	96	102	—	—
Kingwilliamstown—								
Under Part I of Contagious Diseases Act	6	6	4	3	—	—	173	141
Under Part II of Contagious Diseases Act	86	122	90	107	111	101	—	—
Umtata*—								
Under Part I of Contagious Diseases Act	6	6	—	—	—	—	—	—
Under Part II of Contagious Diseases Act	—	—	—	—	—	—	—	—
Calvinia*.....	10	2	—	—	—	—	—	—
Colesberg.....	3	4	6	14	—	14	18	8
Cradock.....	30	66	60	35	31	25	33	23
Kuruman and Oliphants Hoek.....	5	15	18	58	6	7	38	66
Malmesbury*.....	23	—	—	—	—	—	—	—
Victoria West.....	10	23	17	22	12	22	10	15
Vryburg.....	110	129	141	135	123	134	103	69
Worcester.....	47	45	25	48	—	—	—	—
Bochem‡.....	—	—	—	—	—	—	945	1,023
Elin‡.....	—	—	—	—	—	—	693	1,233
Rietfontein.....	—	—	—	—	—	—	3,479	2,760
TOTAL.....	649	703	655	806	608	547	6,192	6,278

\* Now closed.

† Act No. 36 of 1919 came into operation on 1st January, 1920.

‡ State-aided private hospitals.

(iii) **VENEREAL DISEASES HOSPITALS—EXPENDITURE, 1917-18 TO 1920-21.**

INSTITUTION.	1917-18.		1918-19.		1919-20.		1920-21.	
	Total.	Total.	Total.	Salaries, Wages, and Allowances.	Main-tenance Charges.	Total.	Salaries, Wages, and Allowances.	Main-tenance Charges.
	£	£	£	£	£	£	£	£
Cape Town.....	1,176	1,308	1,243	655	588	1,221	531	690
Port Elizabeth.....	562	849	1,130	334	796	1,294	548	746
King William's Town.....	363	380	463	169	294	574	235	359
Colesberg.....	80	69	46	—	46	35	—	35
Craddock.....	277	264	219	21	198	235	27	208
Karuman.....	174	215	259	119	140	518	129	389
Victoria West.....	191	173	175	—	175	344	—	344
Vryburg.....	646	551	820	339	481	869	407	462
Worcester.....	303	27	—	—	—	—	—	—
Blentienstein.....	—	—	—	—	—	18,049	5,337	12,712
<b>TOTAL.....</b>	<b>4,178</b>	<b>3,836</b>	<b>4,355</b>	<b>1,037</b>	<b>2,718</b>	<b>23,130</b>	<b>7,214</b>	<b>15,925</b>

## § 5. Lepers.

1. **Legislation.**—Compulsory segregation of lepers is enforced by legislation in each Province of the Union. All cases of leprosy are reported to the Government and when the nature of the disease has been fully established the patients are removed to one of the leper institutions. No uniform legislation for the Union has yet been introduced.

2. **Leper Institutions.**—The subjoined tables give particulars as to the various leper institutions in the Union, and as to the number of patients in segregation:—

(i) **LEPER HOSPITALS IN THE UNION—CLASS OF ACCOMMODATION, TOTAL STAFF, NUMBER OF PATIENTS, AND EXPENDITURE, 1921.**

Institution.	Accommodation.	Staff.	Patients.*	Expenditure.†
Robben Island.....	All Races.....	135	132	£ 72,749
Emjanyana.....	Native only.....	116	696	33,702
Mkamabati (Pondoland).....	Native only.....	21	11	5,812
Amatikhulu.....	Native only.....	42	315	8,567
Pretoria.....	All races.....	88	819	49,110
Bochem.....	Native only.....	13	78	2,990

\* Average daily number resident.

† Estimates, 1921-22.

(ii) **LEPER HOSPITALS—STAFF, PATIENTS, AND EXPENDITURE, 1916 TO 1921.**

Particulars.	1916.	1917.	1918.	1919.	1920.	1921.
<b>Staff—</b>						
Medical.....	5	5	5	5	7†	8
Nursing.....	171	59	61	135	93	71
Attendants.....	23	79	75	24	27	20
Clerical.....	121	43	25	105	98	102
Other—European.....		216	237	144	151	215
Native.....						
<b>TOTAL.....</b>	<b>320*</b>	<b>402*</b>	<b>403*</b>	<b>413*</b>	<b>376</b>	<b>416</b>
<b>Patients—</b>						
First admissions.....	542	416	434	366	380	434
Readmissions.....	39	22	30	35	70	58
Discharges and escapes.....	189	144	159	108	209	229
Deaths.....	277	243	407	257	241	222
Remaining, 31st December.....	2,281	2,332	2,230	2,260	2,248	2,280
Average daily number of patients resident.....	2,252	2,307	2,350	2,260	2,281	2,261
Expenditure.....	£ 115,481	122,461†	152,930†	168,820‡	205,118‡	161,574§

\* Includes staff employed at Robben Island Mental Section. Separate statements in respect of Robben Island Leper and Mental Institutions cannot be given.

† Includes expenditure Robben Island Mental Hospital.

‡ Including one visiting medical officer.

§ Unaudited figures, financial year 1921-22.

(iii) **LEPER HOSPITALS—AVERAGE NET COST PER PATIENT PER DIEM, 1915 TO 1920.**

Institution.	1915.	1916.	1917.	1918.	1919.	1920.
<b>Cape of Good Hope—</b>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Robben Island*.....	3 1-60	3 6-11	3 10-50	4 10	5 7	7 10
Emjanyama.....	1 6-40	1 6-39	1 5-87	2 1-2	2 4	3 1
Pondoland.....						
<b>Natal—</b>						
Amatikulu.....	0 5-06	0 9-49	0 10-45	1 4-4	1 3	1 4
<b>Transvaal—</b>						
Pretoria.....	2 1-34	2 0-70	2 2-70	2 6-17	3 1	3 6
Bochem.....	1 4-70†	1 5-37	1 7	1 9-5	1 1	1 9
<b>Union—All Institutions—</b>						
Average net cost per patient per diem.....	2 3-50	2 3-70	2 5-40	3 0-69	3 6	3 1‡

\* \* Includes expenditure on mentally disordered persons. Separate details of expenditure on lepers at Robben Island not available.

† Opened December, 1914.

‡ Excluding Robben Island.

(iv) **LEPERS IN UNION—RACE AND SEX, 1912 TO 1921.**

Year.	European.			Coloured.			Grand Total.
	Male.	Female.	Total.	Male.	Female.	Total.	
1912.....	120	64	184	1,179	863	2,042	2,226
1913.....	121	89	190	1,194	860	2,054	2,244
1914.....	119	67	186	1,159	847	2,006	2,192
1915.....	122	65	187	1,170	810	1,980	2,167
1916.....	126	67	193	1,227	861	2,088	2,281
1917.....	123	63	186	1,272	874	2,146	2,322
1918.....	113	62	175	1,212	843	2,055	2,230
1919.....	111	69	180	1,269	856	2,065	2,245
1920.....	111	67	178	1,173	897	2,070	2,248
1921.....	100	66	166	1,297	915	2,212	2,288

### § 6. Registration of Medical Practitioners, Dentists, Nurses, and Chemists and Druggists.

1. **Legislation.**—The law in the Provinces of the Union affecting the registration of medical practitioners, dentists, nurses, and chemists has not yet been rendered uniform, and registration in each Province is effected under the laws in force prior to the constitution of the Union.\* A Medical Council exists in each Province concerned with the work of registering medical practitioners, dentists, midwives, and nurses under the regulations in force; and Pharmacy Councils control the registration of chemists.

2. **Number of Registrations.**—Particulars are given in the table below for a period of years as to registrations of medical practitioners, dentists, chemists and druggists, nurses, midwives, and nurses of the insane. It should be noted that, as the same person may be registered in more than one Province, the figures given for the Union include some persons enumerated more than once.

#### MEDICAL PRACTITIONERS, DENTISTS, NURSES, MIDWIVES, ETC., REGISTERED IN THE UNION, 1912 TO 1921.

Year.	Medical Practitioners.	Dentists.	Chemists and Druggists.	Nurses.	Midwives.	Nurses of the Insane.
UNION, 1912 TO 1921.						
1912.....	1,934	307	1,061	1,162	756	43
1913.....	2,024	343	1,092	1,259	823	46
1914.....	2,084	364	1,123	1,343	879	52
1915.....	2,056	380	1,124	1,489	984	55
1916.....	2,101	404	1,148	1,655	1,102	56
1917.....	2,132	420	1,162	1,857	1,230	56
1918.....	2,193	437	1,188	2,050	1,360	59
1919.....	2,162	460	1,171	2,250	1,535	63
1920.....	2,234	505	1,194	2,407	1,740	70
1921.....	2,388	550	1,235	2,797	1,998	74
PROVINCES, 1921.						
Cape of Good Hope	1,126	216	564	1,426	913	38
Natal.....	313	72	214	406	143	20
Transvaal.....	696	183	359	934	864	7
Orange Free State	253	49	98	31	78	—
TOTAL.....	2,388	550	1,235	2,797	1,998	74

\* A consolidating measure has been drafted for introduction during the session of 1923.



## CHAPTER VI.

## EDUCATION.

## § 1. Higher Education.

1. **History and Development of Higher Education in South Africa.**—The first beginnings of a system of higher education in South Africa are to be found in the establishment of the South African College at Capetown in 1829. It was not, however, until the passing of the University Act of 1873 by the Cape Parliament and the establishment of the University of the Cape of Good Hope that any notable advance was made.

A short summary of the history and development of the Cape of Good Hope University up to its dissolution in 1918 is contained in the first three issues of the Year Book. Statistics are also given therein as to the examinations conducted under that University.

2. **University of South Africa.**—(i) *General.*—The University of South Africa from the 2nd April, 1918, became the legal successor of the University of the Cape of Good Hope, the headquarters of which have been removed from Cape Town to Pretoria, and which embraces the following constituent colleges:—Grey University College, Bloemfontein; Huguenot University College, Wellington; Natal University College, Pietermaritzburg; Rhodes University College, Grahamstown; University College, Potchefstroom; and the Transvaal University College, Pretoria. In the case of each College there is a Governing Council responsible for general administration, and academic matters and discipline are controlled by the College Senate, consisting entirely or mainly of the Professors on the staff, the executive functions being discharged by the Registrar, or, in some cases, by the Principal.

There have also been established two bodies, one named the "Joint Matriculation Board," consisting of representatives of the four Universities (South Africa, Cape Town, Stellenbosch, and Witwatersrand), the Provincial and Union Education Departments, and of the teachers of public and private secondary schools, which is charged with the conduct of the matriculation examination, and the other named the "Joint Committee for Professional Examinations," for the control and conduct of the examinations in law and surveying and the final examination for patent agents.

## OFFICERS OF THE UNIVERSITY OF SOUTH AFRICA.

Chancellor.....	Field-Marshal H.R.H. the Duke of Connaught and Strathearn, P.C., K.C., K.T., K.P.
Vice-Chancellor.....	John E. Adamson, M.A., Litt.D.
Deputy Vice-Chancellor.....	W. J. Viljoen, M.A., Phil.D.
Chairman of Senate.....	Professor A. C. Paterson, M.A.
Deans of Faculties—	
Arts.....	Professor H. Reinink, Litt.D.
Science.....	Professor J. W. Bews, M.A., D.Sc.
Law.....	Advocate W. Pittman, B.A.
Engineering.....	Professor J. Orr, B.Sc., M.Inst.C.E.
Agriculture.....	Professor J. M. Hector, B.Sc.
Commerce.....	Professor J. E. Holloway, B.A., D.Sc.
Registrar.....	C. C. Grant, M.A., M.B.E.
President of Convocation.....	Professor P. G. Gundry, B.Sc., Ph.D.

(ii) *Grey University College.*—The College was founded in 1855 by Sir George Grey, but it was not until 1904 that the classes were organized in such a way as to permit of the separate constitution of a University College, which took place in 1907. The erection of the College buildings was completed in 1909, and in 1910 the University College was incorporated by statute. The work undertaken comprises the usual preparation for the examinations of the University of South Africa in literature and science, survey, education, and law, including preliminary classes for the study of medicine, engineering, and agriculture.

(iii) *Huguenot University College.*—The College dates back to 1874, when, as the Huguenot Seminary, it was founded in Wellington by the late Rev. Andrew Murray, D.D. It was formally incorporated by Act of Parliament in 1907 as a College for women students (with the right of retaining male students for a limited period); and is named in the *University of South Africa Act, 1916*, as one of the constituent Colleges of the University. An amendment to the Charter in 1920 inserted the word "University" in the name of the College, and opened its doors to male students from Wellington. Matriculated students are prepared for the B.A., B.Sc., and M.A. degrees of the University of South Africa and the T.I., Lower Secondary and Domestic Science Certificate.

(iv) *Rhodes University College*.—The Rhodes University College developed out of St. Andrew's College, which was founded in Grahamstown in 1855 and in connection with which a college department was added in 1878. In 1902 a sum of £50,000 was set apart by the Rhodes Trustees for the establishment of a University College, and this was supplemented by £17,000 raised locally, and afterwards by a Boit Bequest of £25,000. The College was incorporated by Act of Parliament in 1904. Teaching is carried on in the Drostdy Buildings as temporary quarters, but a full building scheme was prepared in 1905, of which science and arts blocks have been completed. Hostels have been erected, one for men and one for women students, and also two dining halls. Courses are given in all the usual arts and science subjects, as well as for the higher Teachers' Certificates and first year medicals, engineering, and commerce (first and second years). Bursaries and scholarships have been established in connection with the principal municipalities of the Eastern Province.

(v) *Transvaal University College*.—In 1908, university classes in arts, science, and law were established at Pretoria by the Transvaal Government, and were placed under the control of the Council of the Transvaal University College at Johannesburg, the constitution of that body being altered so as to give Pretoria equal representation. A separation took place in 1910, the Johannesburg section being re-incorporated as the South African School of Mines and Technology, whilst the Pretoria section retained the name of the Transvaal University College. In 1917 was instituted a Faculty of Agriculture, financial provision for which (an endowment of £100,000) had been made by the last Parliament of the Transvaal in 1910. The following faculties have since been established: 1918, Theology; 1919, Commerce and Public Administration; 1920, Veterinary Science. The original college buildings were erected and equipped at a cost of £50,000; those of the Faculty of Agriculture at a cost of £100,000; while those of the Faculty of Veterinary Science, now in process of erection, involve an expenditure of £150,000.

Courses are provided for all degrees and diplomas of the University of South Africa in arts, science, agriculture, veterinary science, law, divinity, and commerce and public administration.

(vi) *Natal University College*.—The College was incorporated by Act of the Natal Parliament of 1909, and teaching was started in 1910 in the Town Hall of Pietermaritzburg until the College buildings at Scottsville were erected in 1912, on a site of forty acres presented by the municipality for the purpose. The cost of the original buildings and equipment, amounting to about £60,000, was defrayed by the Government. Lately, additional buildings have been erected at a cost of £33,000, met from Union loan funds. The teaching staff includes nine professors and eight lecturers.

(vii) *Potchefstroom University College*.—The Potchefstroom University College developed out of the literary department of the "Theologiese School van de Gereformeerde Kerk," which was founded the 29th November, 1869, at Burgheersdorp, Cape Province, and solely supported by the Gereformeerde Kerk. In February, 1905, this school with its literary department was transferred to Potchefstroom. In April, 1919, a Government subsidy was granted to this literary department, whereby a complete separation took place between the two departments. The College was placed under the management of its own council under the present name. In June, 1921, the Potchefstroom University College (Private) Act was passed by Parliament. On the 6th July, 1921, it was incorporated, by proclamation, as a constituent college of the University of South Africa. The work undertaken comprises the preparation for the B.A., B.Sc., M.A., M.Sc., and B.D. examinations of the University of South Africa and the T.I. Certificate.

**3. University of Cape Town.**—The University of Cape Town was created in 1916 by an Act of Parliament which provided for the incorporation of the South African College as a University on 2nd April, 1918.

The University provides for the residence as well as the teaching of students and confers degrees in the faculties of arts, science, engineering, law, commerce, music, and medicine, and diplomas and certificates in teaching, and in public health. The degrees and diplomas of the Medical School are recognized for purposes of registration in the Cape Province by the Colonial Medical Council and the degrees in law are accepted for admission to the bar. There is also attached to the University a school of African Life and Languages for the special study of native languages and customs.

There are forty-three professorial chairs established at the University and over forty lectureships. The number of students is over 900, of whom about 250 are accommodated in the two men's residences and the women's residence.

The tutorial and administrative work of the University is at present carried on in the buildings of the old South African College and those of the old University of the Cape of Good Hope; but by its Act of Incorporation it is provided that new buildings, with residential blocks, shall be erected on the Groote Schuur Estate. The general scheme for the new University was designed by the late J. M. Solomon and approved by Sir Edwin Lutyna.

In close proximity to the new University there is to be erected a public hospital of 800 beds, which will serve also as a clinic for the medical school and which is expected to

cost over one and a half millions sterling. In the course of 1920 an ambitious development scheme was launched, and a sum of nearly £250,000 was raised for the better endowment and equipment of the University. The institution receives liberal support from the State, and the Corporation of the City of Cape Town and the Cape Divisional Council provide annual grants of £5,000 and £500 respectively.

The South African College, which became merged in the University in 1918, was founded as a private institution in 1829, and was the first college of the kind to be established in South Africa. In 1837 it was incorporated by statute as a public institution for male students. In 1886 women students were admitted. In 1900 it began to confine itself to University work, and the classes below matriculation were organized as the South African College School, which was later divided into a High and a Junior School, and now numbers over 1,200 pupils.

#### OFFICERS OF THE UNIVERSITY OF CAPE TOWN.

Visitor.....	His Royal Highness the Governor-General.
Chancellor.....	H. R. H. Edward, Prince of Wales, K.G., G.C.M.G., G.B.E., M.C.
Principal and Vice-Chancellor.....	Sir J. Carruthers Beattie, Kt., D.Sc., F.R.S.E. (Chairman of Senate).
Registrar.....	W. G. R. Murray, M.A.
President of Convocation.....	Advocate R. W. Close, K.C., B.A., LL.B., M.L.A.

**4. University of Stellenbosch.**—The Victoria College developed out of the Stellenbosch Gymnasium, which was founded in 1866, and in connection with which an Arts Department was established in 1874. An Act of incorporation was passed by Parliament in 1881.

By the *University of Stellenbosch Act*, passed by the Union Parliament in 1916, the College, on the 2nd April, 1918, was incorporated as the University of Stellenbosch, and in addition to fulfilling its previous functions is entitled to examine its own students and grant degrees. A special feature of this University is its Agricultural Faculty, which makes provision for the training of future farmers and agricultural experts, besides providing special courses in agriculture for students who are being trained as teachers. Other faculties in existence are: Arts, science, education, law, and theology.

#### OFFICERS OF THE UNIVERSITY OF STELLENBOSCH.

Chancellor.....	The Rev. Professor P. G. J. de Vos.
Vice-Chancellor.....	The Rev. Professor A. Moorrees, Litt.D.
President of Convocation.....	A. J. Stals, B.A., M.D.
Principal.....	G. G. Gillie, M.A., Ph.D.
Registrar.....	D. J. Ackermann, B.A.

**5. University of the Witwatersrand.**—This institution has developed out of the South African School of Mines at Kimberley, which was transferred to Johannesburg in 1903 under the name of the Transvaal Technical Institute. In 1906 it was renamed the Transvaal University College, and in 1908 took over the arts and science classes which had been established in Pretoria. In 1910 a further change took place, the Pretoria classes being incorporated as a separate body which retained the title of Transvaal University College, the Johannesburg institution receiving the name of South African School of Mines and Technology, and being restricted to the departments of applied science and technology. During the year 1916 arts and science departments were organized in order to enable the institution to participate fully as a constituent College of the new University of South Africa. These developments were the result of a public meeting called by the Mayor in March, 1916, which led to the formation of the Witwatersrand University Committee pledged to find the necessary funds for the expansion of the school into a University College with a view to the ultimate establishment of a Johannesburg University. The Municipal Council showed its interest in the movement by making a substantial grant in aid and by reserving an area of eighty acres in Milner Park as a site for University buildings and ground. By an arrangement arrived at in June, 1919, a system of close co-operation between the University College and the Johannesburg Normal College, in the interests of teachers undergoing training, was instituted. In 1920 a commencement was made with the erection of a building for the Medical School and of hostels for men and women. An arrangement was also made for the retransfer to the Government of Plein Square, which was assigned as a site for the Transvaal Technical Institute in 1904, along with the permanent building thereon erected in 1909 at a cost of £90,000. The erection of the main University buildings at Milner Park was commenced in 1921. On 20th September, 1920, the name of the South African School of Mines and Technology was changed to University College, Johannesburg. In 1920 Parliament passed the University of the Witwatersrand, Johannesburg (Private) Act, incorporating the College as a University, with effect from 1st March, 1922. The University has faculties of arts, science, medicine (including dentistry), commerce, engineering (including mining and metallurgy, mechanical and electrical engineering, civil engineering, chemical technology, and architecture), and law. There are also departments of education, veterinary science, and music.

## OFFICERS OF THE UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG.

Chancellor.....	H.R.H. Prince Arthur of Connaught, K.G., K.T., K.P.
Vice-Chancellor.....	Sir Robert Kotzé, Kt.
Principal.....	Professor Jan H. Hofmeyr, M.A.
President of Convocation.....	H. J. Hofmeyr, B.A.
Registrar.....	H. W. J. van der Brugge, M.A., LL.B.

6. **Statistics of Teaching Universities and University Colleges.**—The tables hereunder give (i) comparative statistics of Higher Education from the year 1910, and (ii) in respect of each Teaching University and College the dates of foundation and incorporation, the number of Professors, Lecturers, and Assistants, the number of Students in 1921 and the expenditure for that year; also the annual value of bursaries granted by the College, and (iii) the number of Students during the six months ended 31st December, 1920 and 1921.

## (i) STATISTICS OF HIGHER EDUCATION IN THE UNION, 1910 TO 1921.

Year.	Average No. of Students.	State Expenditure.	Expenditure per Student.	No. of Professors.	No. of Lecturers, etc.	Total Value of Bursaries held.
		£	£			£
1910.....	1,171	79,657	68-0	—	—	0,780
1911.....	1,125	97,429	86-6	—	—	—
1912.....	1,203	102,368	85-1	99	83	—
1913.....	1,285	104,293	81-2	102	94	18,592
1914.....	1,208	130,800	108-3	112	91	—
1915.....	1,155	107,790	93-3	102	91	—
1916.....	1,355	109,784	81-0	100	99	20,546
1917.....	1,618	124,610	77-0	100	103	22,488
1918.....	2,060	132,000	64-1	115	137	23,322
1919.....	2,429	176,346	72-6	125	145	26,220
1920.....	2,946	230,570	78-3	147	172	38,210
1921.....	3,389	277,470	81-8	173	205	33,167

## (ii) GENERAL STATISTICS IN REGARD TO TEACHING UNIVERSITIES AND CONSTITUENT COLLEGES OF THE UNIVERSITY OF SOUTH AFRICA, 1921.

College.	Year of Foundation and Incorporation.	Normal Expenditure for year 1921.	No. of Professors.	No. of Lecturers and Assistants.	Average No. of Students, 1921.			Total Value of Bursaries held in 1921.
					Male.	Female.	Total.	
		£						£
University of Cape Town	1829 (Incorporated 1837)*	112,005	42	68	684	179	803	8,164
University of Stellenbosch	1866 (Incorporated 1881)†	67,815	38	25	417	137	554	7,647
University of South Africa: Constituent Colleges—	1918‡							
Grey University College, Bloemfontein	1855 (Incorporated 1910)	20,445	13	11	103	26	129	2,792
Huguenot University College, Wellington	1874 (Incorporated 1907)	9,335	6	7	12	72	84	870
Rhodes University College, Grahamstown	1904	26,730	13	17	115	81	196	4,255
Transvaal University College, Pretoria	1908	52,070	24	26	422	105	527	8,350
Natal University College, Pietermaritzburg	1909	18,000	9	8	83	69	152	280
University College, Johannesburg	1903	60,380	28	43	624	163	787	5,800
TOTAL.....	—	375,780	173	205	2,460	832	3,292	33,167

\* As the South African College. Constituted the University of Cape Town on the 2nd April, 1918.

† As the Victoria College. Constituted the University of Stellenbosch on 2nd April, 1918.

‡ On the dissolution of the University of the Cape of Good Hope (founded 1873).

§ Now the University of the Witwatersrand (from 1st March, 1923).

(iii) NUMBER OF STUDENTS AT UNIVERSITIES—SIX MONTHS ENDING  
31st DECEMBER, 1920 AND 1921.

Faculty.	University of Cape Town.		University of Stellenbosch.		University of South Africa.		TOTAL.	
	1920.	1921.	1920.	1921.	1920.	1921.	1920.	1921.
Arts.....	300	317	280	243	520	555	1,405	1,115
Pure Science.....		3	123	126	257	311		440
Applied Science.....	97	87	—	—	147	120	244	216
Agriculture and Veterinary Science.....	—	—	34	27	34	58	68	85
Medical.....	231	203	4	2	106	155	341	360
Dentistry.....	24	20	—	—	25	32	49	61
Survey.....	3	5	—	—	10	10	18	15
Law.....	52	65	1	6	123	158	176	220
Education.....	65	82	112	120	91	103	268	305
Commerce.....	—	53	—	—	148	215	148	268
Theology.....	—	—	7	9	9	8	16	17
Special and Occasional Students.....	12	10	15	21	56	141	83	181
TOTAL.....	793	863	582	574	1,526	1,875	2,901	3,292

7. **Examinations under the New University Organization.**—The examining bodies created under the new University system in the Union are the Universities of South Africa, Cape Town, and Stellenbosch, the Joint Matriculation Board, and the Joint Committee for professional examinations. The results of the examinations conducted by these bodies during the year 1921 are given in the following tables:—

## (i) JOINT MATRICULATION BOARD—RESULT OF EXAMINATIONS, 1921.

## MATRICULATION.

PROVINCE.	Interim Regulations			New Regulations.		
	Candi- dates.	Passed.	Failed.	Candi- dates.*	Passed.*	Failed.*
Cape of Good Hope.....	1,662	904	45.7	277	83	29.0
Natal.....	238	118	50.4	118	25	21.2
Transvaal.....	367	143	38.9	256	48	18.7
Orange Free State.....	343	192	56.0	66	9	13.6
Union.....	2,610	1,357	51.9	717	165	23.0
Outside Union.....	33	19	57.6	24	7	29.2
GRAND TOTAL.....	2,643	1,376	51.9	741	172	23.2

## SCHOOL LEAVING CERTIFICATE.

PROVINCE.	Interim Regulations.			New Regulations.		
	Candi- dates.	Passed.	Failed.	Candi- dates.*	Passed.*	Failed.*
Cape of Good Hope.....	285	145	50.9	4	1	25.0
Natal.....	7	3	42.9	1	—	100.0
Transvaal.....	25	11	44.0	1	—	100.0
Orange Free State.....	131	67	50.4	—	—	—
Union.....	448	226	50.4	6	1	16.7
Outside Union.....	—	—	—	—	—	—
GRAND TOTAL.....	448	226	50.4	6	1	16.7

\* Complete Examination.

(ii) **DEGREES GRANTED, 1920 AND 1921.**

Heading.	University of South Africa.		University of Cape Town.		University of Stellenbosch.		TOTAL.	
	1920.	1921.	1920.	1921.	1920.	1921.	1920.	1921.
<b>Graduated—</b>								
LL.D.....	—	—	—	—	—	—	—	—
D.Sc.....	—	1	—	1	—	—	—	2
LL.B.....	11	9	1	7	—	—	12	16
M.Sc.....	11	10	—	1	11	8	22	19
B.Sc. (Agriculture).....	7	6	—	—	1	5	8	11
B.Sc. (Engineering).....	14	4	14	14	—	—	28	18
B.Sc. (Pure Science).....	41	42	—	—	41	26	82	68
B.D.....	—	2	—	—	—	—	—	1
M.A.....	10	11	19	14	10	2	39	27
B.A.....	140	123	70	62	82	75	292	260
B.Educ.....	—	—	—	—	—	1	—	1
B.Com.....	1	5	—	—	—	—	1	5
B.Sc. Engineering (admitted under the provisions of par. 86 of Statute I).....	8	—	1	—	—	—	9	—
Admitted under the Statutes.....	—	—	2	—	—	—	2	—
Honorary Degrees.....	3	1	2	1	—	—	5	2

(iii) **JOINT COMMITTEE FOR PROFESSIONAL EXAMINATIONS—UNIVERSITY OF SOUTH AFRICA—RESULT OF EXAMINATIONS, 1920 AND 1921.**

EXAMINATION.	NUMBER OF PASSES.						
	1920.			1921.			
	Part I.	Part II.	Part III.	Part I.	Part II.	Part III.	Final.
Law Certificate Examination.....	77	63	—	168	89	—	—
Union Civil Service Lower Law....	32	19	—	129	41	—	—
Union Civil Service Higher Law....	6	1	—	3	6	—	—
Rhodesian Civil Service Lower Law	9	12	—	20	14	—	—
Land Surveying Examination.....	1	8	4	24	13	9	—
Patent Agents.....	—	—	—	—	—	—	1

**8. Financial Statistics: Higher Education.**—The subjoined tables give particulars as to expenditure by Government and from University and College Funds on Higher Education in the Union, and as to fees received during the years 1916 to 1921:—

(i) **EXPENDITURE ON HIGHER EDUCATION—GENERAL, 1916 TO 1921.**

HEADING.	1916.	1917.	1918.	1919.	1920.	1921.
<i>Administration</i> (Union Education Department)—	£	£	£	£	£	£
Government.....	5,250	4,550	4,500	5,000	5,600	7,000
* <i>Joint Matriculation Board</i> —						
Government.....	—	—	—	—	—	—
Other Funds.....	—	—	3,135	6,758	8,635	9,485
† <i>Joint Professional Committee</i> —						
Government.....	—	—	—	171	350	—
Other Funds.....	—	—	808	1,363	1,550	1,980
<i>Bursaries, Scholarships, and Grants to Intending Teachers</i> —						
Government.....	10,180	9,200	11,620	17,620	10,700	15,610
University Funds.....	1,685	1,985	11,702	8,388	18,510	18,470
<b>TOTAL.....£</b>	<b>17,115</b>	<b>15,735</b>	<b>31,855</b>	<b>30,330</b>	<b>54,845</b>	<b>52,545</b>

\* Established in 1918 in terms of Section 16 (1) of Act No. 12 of 1916.  
 † Established in 1918 in terms of Section 23 (1) of Act No. 12 of 1916.

## (ii) EXPENDITURE ON HIGHER EDUCATION—UNIVERSITIES AND COLLEGES, 1916 TO 1921.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
<i>Cape Town University—</i>	£	£	£	£	£	£
Government.....	10,095	22,400	25,500	35,700	53,115	69,806
University Funds.....	22,500	23,730	28,260	40,200	39,485	42,143
<i>Stellenbosch University—</i>						
Government.....	13,360	26,280	18,210	28,150	33,230	42,100
University Funds.....	8,375	13,858	11,350	16,100	19,590	25,715
* <i>University of South Africa, Central Office—</i>						
Government.....	5,550	5,170	5,265	5,375	6,500	5,985
University Funds.....	15,780	17,010	25,290	20,150	27,875	31,060
<i>Transvaal University College—</i>						
Government.....	11,280	12,470	16,585	21,900	26,145	36,030
College Funds.....	3,568	3,370	4,075	5,800	11,475	16,040
<i>Natal University College—</i>						
Government.....	5,930	5,630	5,965	7,150	9,000	13,380
College Funds.....	1,445	1,380	1,635	2,840	4,325	4,620
<i>Rhodes University College—</i>						
Government.....	8,044	8,080	8,850	12,100	13,250	17,645
College Funds.....	6,396	6,000	7,300	8,400	9,100	9,085
<i>Grey University College—</i>						
Government.....	9,225	9,130	9,900	12,600	15,945	16,610
College Funds.....	1,205	1,215	1,650	2,750	2,955	3,835
<i>University College, Johannesburg—</i>						
Government.....	18,230	18,550	22,275	26,100	40,835	45,165
College Funds.....	6,635	16,470	20,120	20,150	22,990	24,215
<i>Huguenot University College</i>						
Government.....	3,040	3,170	3,930	4,480	5,200	6,340
College Funds.....	2,200	1,960	2,415	2,090	2,650	2,995
TOTAL.....£	162,548	195,843	218,575	272,035	344,665	412,825

\* The figures given for the years 1916 and 1917 refer to expenditure of administrative headquarters of the University of the Cape of Good Hope, including the South African and Victoria Colleges.

## (iii) FEES RECEIVED—INSTITUTIONS CONNECTED WITH HIGHER EDUCATION IN THE UNION. 1916 TO 1921.

Institution.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
<i>University of South Africa—</i>						
* Head Office.....	10,596	21,656	14,660	15,429	18,855	20,912
Transvaal University College.....	1,888	3,013	3,289	3,320	4,083	6,836
Natal University College.....	721	945	2,208	2,270	2,816	2,945
Rhodes University College.....	1,057	832	1,462	2,018	2,558	2,505
Grey University College.....	1,000	1,630	1,768	1,874	1,926	2,296
University College, Johannesburg.....	4,384	4,839	5,230	8,233	15,500	17,088
Huguenot University College.....	996	996	918	783	927	910
TOTAL, UNIVERSITY OF SOUTH AFRICA.....£	29,642	33,920	29,535	33,927	46,667	53,492
<i>University of Cape Town.....</i>	10,617	10,936	17,861	23,434	23,297	24,953
<i>University of Stellenbosch.....</i>	5,184	6,674	11,264	12,479	13,698	14,594
TEACHING UNIVERSITIES.....£	15,801	17,610	29,125	35,913	36,995	39,547
Joint Matriculation Board.....	—	—	5,774	7,088	9,604	9,833
Joint Professional Committee.....	—	—	956	1,343	1,624	1,977
ALL INSTITUTIONS.....£	45,443	51,530	65,390	78,271	94,290	104,849

\* The figures given for the years 1916 and 1917 refer to administrative headquarters of the University of the Cape of Good Hope, including the South African and Victoria Colleges.

## § 2. State and State-aided Education other than Higher Education.

1. **General.**—Under the *South Africa Act*, for a period of five years after the establishment of the Union and thereafter subject to decree of Parliament, control of education other than higher education was granted to the four Provincial Administrations. This arrangement still obtains, and as the result each Province has continued to follow its own system and to shape its development according to its own separate policy. Thus four systems of state or state-aided education exist, which though akin in some respects are entirely dissimilar in others. Further there are in the Union numbers of schools independent of state aid or state control, statistics relating to which are given in § 4 of this chapter. The information contained in this section relates entirely to education under public control.

2. **Central Administration.**—Subject to final control by the Provincial Administration the central direction of public education in each Province is exercised by the Provincial Education Department, the permanent head of which in the Cape of Good Hope is the Superintendent-General, in Natal the Superintendent, in the Transvaal and the Orange Free State in each case the Director. In the *Cape of Good Hope* there are forty-one Circuit Inspectors, an Inspector of High Schools, an Inspector of Training Colleges, a Relieving Inspector, an Inspector of Science, and two Language Inspectors. There are also thirteen Departmental Inspectors in special subjects (drawing, kindergarten, domestic science, needlework, vocal music, and woodwork). These officers visit schools throughout the Province with a view to promoting efficiency in the instruction of pupils in the subjects for which they are respectively responsible. There are in addition two Medical Inspectors of Schools and four School Nurses. In *Natal* there is an inspectorate of twelve, of whom seven are for European, coloured, and Indian schools, and five for native schools. In the *Transvaal* the inspecting staff numbers twenty-five officers, including two Inspectors of Secondary Education, an Inspector of Continuation Classes, an Organizer of Technical Education, and three Inspectors of Native schools. In the *Orange Free State* there are eleven School Inspectors and a Medical Inspector of Schools.

3. **General Powers and Policy.**—(i) *Cape of Good Hope.*—The great majority of schools for European pupils in this Province are controlled by School Boards with statutory powers. Schools for non-European pupils are mostly controlled by denominational bodies. The general policy of the Department aims at the encouragement of local efforts for the extension and improvement of school education, both for European and non-European children. The Department fixes the salaries of teachers; issues loans for the erection of school buildings; lays down the syllabus of instruction in all schools; grants bursaries to pupils; carries out, through its inspectors, a formal annual inspection of every school; collects and publishes educational statistics, and prescribes general and special courses of training for teachers and issues certificates of competency to successful students. It exercises general control over the proceedings of school boards, including the application of compulsory school attendance regulations. It devotes special attention to questions of school organization in urban areas, school centralization in rural areas, provision of school buildings, apparatus, and equipment; and it also publishes fortnightly the *Education Gazette*, for the benefit of teachers and school managers. The various acts and ordinances dealing with education have been co-ordinated and extended in the *Consolidated Education Ordinance*, 1921.

(ii) *Natal.*—The Department has power to establish and maintain primary schools, and also to make grants-in-aid out of public funds to any private schools established by private persons or by local boards or committees. Such grants may include contributions to the salaries of teachers, the purchase of apparatus, books, or equipment, and the cost of sites and buildings. The Department has direct management of two high schools at Pietermaritzburg (one for boys and one for girls), and similarly two at Durban. Grants-in-aid may be issued to other secondary schools provided that such schools agree to come under the system of inspection and maintain the same standard of education as in the Government schools. The Department has authority generally to regulate all schools which it has established, or to which grants are made. Authority similarly exists for the establishment and maintenance of schools for native children, and for grants to mission schools, also for native children. The Department also, upon request, undertakes the inspection of private schools.

(iii) *Transvaal.*—The system of primary and secondary education in the Transvaal Province owes its origin to the *Education Act* of 1907, while certain important modifications, especially in regard to language and fees, have been made from time to time by two amending Acts, and by a succession of Ordinances. Primary education is compulsory and both primary and secondary education are free, while books and school material are provided by the Provincial Administration. The Department establishes and maintains public schools for primary education of white children, also schools in which both primary and secondary education are given, and secondary or high schools; it also maintains trades school- at



Johannesburg and Pretoria. It further establishes boarding-houses in connection with public schools, and has power, if it so desires, to maintain them. The establishment and maintenance of schools for white children form the bulk of the Department's work. In regard to children of other than European parentage the Department has also power to establish and maintain schools, a power which has been exercised on the Witwatersrand and in Pretoria. The Department establishes and maintains normal colleges, with or without boarding establishments, for the training of teachers in public schools; and further maintains continuation and other special classes. The Department makes grants-in-aid to the following:—Private farm schools; boarding-houses managed by committees in connection with public schools; the Langlaagte Orphanage; the Potchefstroom Industrial School; the institution for blind, deaf, and dumb children at Worcester (Cape Province); and schools and training institutions for natives. Bursaries are granted by the Department (1) to enable children to travel to and from primary or secondary schools by road or rail; (2) to enable them to board in the neighbourhood of such schools; (3) to pupils at secondary schools to cover the cost of boarding in whole or in part; (4) to pupils at trades schools; (5) to candidates for the teaching profession to enable them to attend normal colleges. In addition to the above general powers, the Department regulates the courses of instruction in the various public schools, the duties of the officers of the Department, and the election of school boards and school committees, while it has a limited inspectorial power over private schools, which, if attended by ten or more pupils, are required to register and to supply returns.

(iv) *Orange Free State*.—The Department has power to establish and maintain primary public schools, schools in which primary and secondary education are both given, secondary schools, trade and industrial schools, continuation classes, and teachers' training institutions or classes. It has power also to establish public school libraries, orphanages, institutions for the education of physically and mentally defective children, and boarding-houses in connection with public or aided private schools. The Department makes grants-in-aid to public school libraries, orphanages (including the maintenance of the inmates), institutions for the education and training of defective children, boarding-houses in connection with public or aided private schools, trade and industrial schools, continuation classes, teachers' training institutions, and institutions making provision for instruction of a technical, scientific, or advanced literary character. It also makes capitation grants to private schools which comply with certain conditions laid down in the Education Ordinance. Such schools are known as aided private schools. Bursaries are granted by the Department under conditions prescribed by regulations (1) to enable children to travel to and from public or aided private schools; (2) to enable them to board in the neighbourhood of such schools; (3) to pupils at secondary schools to cover the cost of tuition and cost of maintenance while receiving instruction at such schools; (4) to assist in the maintenance of candidates for the teaching profession who are undergoing a course of instruction or training at any of the schools established under the Education Ordinance. In addition to the above powers, the Department regulates the courses of instruction in the various public schools, the conditions of appointment and service of teachers, the length of the school vacation, the election of school boards and school committees, the powers and duties of governing and managing bodies, and the administration of public money voted for educational purposes. The Department has also inspectorial power over private schools. The Director of Education or any inspector of schools authorized by him may visit and inspect any private school which is attended by five or more pupils, and, if, upon report of such inspection, it appears to him that such school is conducted in a manner calculated to be detrimental to the physical, mental, or moral welfare of the pupils, the Administrator may, upon the recommendation of the Director, require such alterations in the conduct of the school as may seem expedient to be made within a fixed time, and, if the same be not done, order such school to be closed forthwith and the pupils transferred to another school. All private schools are required to register and to supply returns to the Department. There is also a Council of Examiners in respect of teachers. On the recommendation of the Council professional certificates are issued by the Department. The Council also classifies teachers according to competence.

4. *Local Administration*.—(i) *Cape of Good Hope*.—Local school administration is conducted by school boards and school committees, the unit of administration being the school district. There are now 122 such districts, each under the control of a school board, two-thirds of whose members are elected by the ratepayers and one-third nominated by Government and the Municipal or divisional council. Boards have the power, subject to the Department, to establish and maintain schools; subject to Departmental approval, further, they have the general financial control of schools under their jurisdiction, including the hiring of buildings. They also have power to enforce school attendance. Every public school under a board is ordinarily managed by a committee elected by the parents or, in default, nominated by the board. Such committees have the general supervision of the school, and the selection of the teaching staff also rests with them.

(ii) *Natal*.—There is no system of local administration in the Natal Province in respect of Government schools, but advisory school committees have been established in some localities to promote local interest.

(iii) *Transvaal*.—The Transvaal is divided into thirty-one school districts, for each of which there is a school board consisting partly of elected and partly of nominated members. The board is an advisory local body with general powers of supervision over all public schools in its district except high schools and special schools or classes specified in the third schedule of the *Education Act, 1907*. Further, the board must be consulted by the Department in regard to the provision of schools in its district, and has control over the funds allocated from the general revenue of the Province for minor repairs and alterations to school buildings, for the purchase of school furniture and for primary school bursaries. The board is also responsible for the carrying out of the compulsory clauses of the *Education Act* in its district. A member of a school board may during school hours enter any school which is under the supervision of the board of which he is a member and examine the attendance registers. The board exercises certain advisory functions in connection with the appointment and dismissal of teachers. Under its control provision is made for the election of school committees which exercise certain supervision, but otherwise act only in an advisory capacity. The secondary and trades schools are under the local control of governing bodies.

(iv) *Orange Free State*.—The Province is divided into fifty-five school districts, for each of which there is a board consisting of elected members. Each board is an advisory body, with certain powers of supervision. It is also responsible for carrying out the provisions of the law as to compulsory school attendance. The boards have certain advisory functions with regard to the appointment of teachers. Public schools, with certain special exceptions, are under the supervision of school committees, the members of which are elected. The functions of these committees also are advisory, but they may nominate teachers for appointment, subject to the approval of the Director.

5. **Sources of Revenue.**—The central expenditure on school education is met from grants made by Provincial Councils supplemented from certain other local sources of revenue. In the *Cape of Good Hope* expenditure on teachers' salaries, hire of buildings, purchase of equipment, etc., is defrayed almost entirely from Provincial Revenue Funds, the payment of school fees up to and including Standard VI having been abolished as from the 1st July, 1920, in the case of all schools, European and non-European, except in certain high schools and in a few special schools. In *Natal* the entire cost is paid out of the central fund, receipts from school fees being paid into the credit of that fund. Local contributions are not required by the Administration. Primary Education is entirely free in Government Schools. In the *Transvaal* school education is free, the whole cost being met from the Provincial revenue. In the *Orange Free State* the total expenditure is similarly met. No local contributions towards expenditure are required. Education up to and including the matriculation standard was made free in 1920; but certain schools approved of by the Provincial Administration are allowed to charge tuition fees, the amount of such fees being placed at the disposal of the respective school committees for expenditure at their discretion for the benefit of the school.

6. **Classification and Curriculum of Schools.**—(i) *Cape of Good Hope*.—European schools are classified as training colleges, training schools, high schools, secondary schools, primary schools, farm schools, special schools, and part-time schools.

There are 66 high schools and 102 secondary schools providing differentiated courses in secondary education. There are 1,923 primary schools in which instruction is given on the lines of the complete primary school course, consisting of two sub-standards and six standards. Farm schools, of which there are 470, provide instruction on the lines of the primary course at centres where it is not possible to secure a regular attendance of at least ten pupils, the minimum requirement for primary schools.

The non-European section includes 1 first class public school, 1 second class (or intermediate) school, 20 third class (or primary) schools, 18 training schools (with an enrolment of 2,091 students), 9 industrial schools, 914 non-European schools in the Province proper, and 1,059 non-European schools in the Transkei. The mission and aborigine schools are managed by the various religious denominations and are aided by the Government.

(ii) *Natal*.—The Government schools are divided into primary schools, higher grade elementary, and secondary schools; the former covering a syllabus of six standards. No free scholars are admitted to the high schools except those who gain "freeplace" under the bursary system, or the dependents of those who went on active service. No native, Indian, or coloured children are allowed in schools other than those specially provided for them. Farm schools may hardly be said to be schools in the ordinary sense, but merely groups of children under a tutor or governess. Separate syllabus arrangements exist for all classes of schools, and also for schools where Dutch is the mother tongue of the children.

(iii) *Transvaal*.—Primary schools cover a course of six standards. A seventh has been approved in certain cases. Secondary or high schools have in five cases complete and separate primary departments, and in other cases have at least two preparatory classes corresponding to Standards IV and V, before the ordinary high school course which commences with Standard VI as the first of the five forms provided for in the curriculum. There are 40 high schools in the Province, 3 being for a commercial and 1 for a technical education and 4 for the preliminary training of teachers. Of these, 5 are for boys only, 4 for girls only, and 31 for both boys and girls. On the 31st December, 1920, there were 6,021 pupils in these schools, while 581 pupils were receiving the higher education in the secondary departments of primary schools. Marked progress is being made in the various subjects classified under the head of domestic science, and also in manual training, elementary science, and technical and trades education. Specially qualified instructors are provided for these subjects.

(iv) *Orange Free State*.—Kindergarten schools are provided for children between the ages of four and seven years. Primary schools cover a course of six standards. Intermediate schools provide for continuation work up to the school leaving certificate and including the National Commercial certificates of the Union Education Department. Secondary schools, in addition, provide for courses up to matriculation and equivalent examinations. Thus three types of school may be combined in one institution. The public school is regarded as complete when it covers the whole ground from the kindergarten to University matriculation.

**7. Religious Instruction.**—The practice in each Province in all public schools is for school to be opened with prayer and the reading of the Bible. Teaching of Bible history in school, subject to a conscience clause, may be and generally is provided; but no sectarian or doctrinal teaching is allowed, except in the Cape Province under certain conditions laid down in the *Religious Instruction in Schools Ordinance*, 1913, which governs the matter.

**8. Attendance.**—(i) *Cape of Good Hope*.—Education for European children between the ages of seven and sixteen years is compulsory throughout the Province unless the child is engaged in a regular occupation and has already passed the sixth standard. Provision is made for the transport or boarding of children when necessary. Primary Education up to and including Standard VI is free, except in certain high schools.

(ii) *Natal*.—Education for European children between the ages of seven and fifteen years is compulsory. Fees are charged in primary schools only in respect of pupils who have passed Standard VI and are engaged in vocational work.

(iii) *Transvaal*.—Education in respect of white children between the ages of seven and fifteen years is compulsory. Education is free.

(iv) *Orange Free State*.—Education in respect of white children between the ages of seven and sixteen years is compulsory, unless a child is receiving adequate instruction elsewhere, or has passed the sixth standard and is in regular employment. If a pupil resides more than three miles from school and if the parent is unable to provide transport, the Department gives assistance, either for transport or for board.

**9. Qualifications and Grading of Teachers.**—(i) *Cape of Good Hope*.—The chief classes of certificates issued by the Department to student-teachers after training and examination are:—

- (a) Primary Teachers' Lower Certificate (formerly called Third Class Senior Teachers Certificate), after a three-year course of training, the admission standard being a pass in Standard VII. Beginning in 1922, the course is a two-year one after Standard VIII. (There is also the Third Class Junior Teachers' Certificate for non-Europeans, a pass in Standard VI gaining admission to a similar three-year course.)
- (b) Primary Teachers' Higher Certificate (formerly called Second Class Teachers' Certificate), after a two-year course of training, the admission standard being a pass in the Matriculation examination.
- (c) Infant School Teachers' Certificate, after a training course of one year each, the admission requirement to the lower examination being the possession of the Primary Teachers' Lower Certificate (Third Class Senior Certificate).
- (d) Teachers' Drawing Certificate, awarded to candidates who obtain first-grade certificates in Freehand, Model, Geometrical, and Blackboard Drawing.
- (e) Art Teachers' Certificate, awarded to candidates holding the last-mentioned certificate, who complete a further course of study within five years.
- (f) Teachers' Woodwork and Cardboard Modelling Certificate.
- (g) Teachers' Domestic Science Certificate, for candidates who have taken courses of training in cookery, needlework, millinery, dressmaking, laundry work, housewifery, and upholstery.

Teachers in ordinary coloured or native mission schools are eligible for a Good Service Allowance after five years' reasonably meritorious and continuous teaching service, and pensions based on this allowance are provided for. Teachers in School Board schools are graded and paid according to the nature of the work on which they are employed, qualifications and experience being taken into account; Good Service Allowance is not being continued in the case of these teachers and certain other teachers, for whom a new pension scheme has been laid down. The pension contribution amounts to 4 per cent. on the annual salary.

(ii) *Natal*.—Two classes of certificates are given on examination. The Government Training College at Pietermaritzburg supplies about forty certificated teachers each year, 80 per cent. of whom are women. These teachers may possess either the Second or the Third Class Certificate of Natal, or the First Class Certificate of the Union, the last-mentioned being taken in co-operation with the Natal University College. Admission to the Training College is gained either by means of an entrance examination or by means of the University Matriculation examination. The Third Class Certificate is gained by examination after a two years' course; the Second Class Certificate after a one year's course and the possession of academic qualifications not less than the Intermediate Arts Examination of a university of standing, or (for women) the L.L.A. diploma of St. Andrews University. A women's hostel has been established. Senior and junior certificates are given to Indian teachers, and there are two native teachers' certificates. Teachers in Government schools are in many cases public servants and entitled to pensions. Others contribute to a superannuation fund.

(iii) *Transvaal*.—Teachers in schools directly maintained by the Government are public servants. They enter into a definite contract with the Government. A teacher's salary depends on the qualifications held. All teaching posts are graded in accordance with these qualifications, and the complete list of the posts, together with the qualifications required for each, are laid down in the conditions of service. The main lines of classification depend upon certification, training, and experience.

Teachers' Certificates of the Third and Second Class are issued by the Transvaal Education Department, which prescribes the conditions under which they may be issued. Courses for both classes of certificate are provided at the normal colleges, and teachers may also prepare for them privately. The First Class Certificate is issued by the Union Department of Education, which prescribes the conditions under which it may be issued. The university colleges provide courses, usually directed by a professor of education, for this certificate.

A Provisional Certificate of the Third Class, which is really a licence to teach and is not a guarantee of training or study for the profession of teaching, is issued to teachers who have not qualified for an unprovisional certificate. This is done to fulfil a requirement of the law.

(iv) *Orange Free State*.—Teachers in public schools are mainly servants of the State. The minimum requirements for recognition as a teacher in public schools is the successful completion of a secondary school course. The examinations and grading of teachers in the service of the Department are conducted by a Council of Examiners, of which body the Director of Education is *ex officio* Chairman. Professional Teachers' Certificates are of four classes—Second, Third, Kindergarten, and Technical—and are granted on examination or on a fixed scheme of grading by virtue of the possession of certificates and qualifications other than those of the Orange Free State. For admission to the examination for the Second Class Certificate the minimum requirements are the possession of the Cape Intermediate B.A. Certificate (or its equivalent) and in addition either a year's training at the Normal College or two years' successful teaching experience. For admission to the Third Class examination the minimum requirements are either the possession of the Cape Matriculation Certificate (or its equivalent) and one year's training, or three years' successful teaching experience and attendance at three vacation courses for teachers. The requirements for admission to the Kindergarten examination are the possession of the Orange Free State Third Class Certificate and one year's training, while those for admission to the Professional Technical examination are the same as for the Third Class examination. The Union Department of Education has taken over all matters pertaining to the issue of First Class Certificates and no such certificates are at present issued by the Orange Free State Education Department. The whole question of training of teachers is under consideration.

10. **Salaries of Teachers.**—Particulars are given in the tables below as to the scales of salaries obtaining with regard to various classes and grades of teachers in each Province. The minimum and maximum salaries are given in the case of the Cape, Transvaal, and Orange Free State Provinces in respect of certain classifications containing various grades, but not in detail for each intermediate grade:—

### SCALES OF SALARIES FOR TEACHERS.

(a) CAPE OF GOOD HOPE. (Ord. 5 of 1921.)

CLASS OF SCHOOL AND GRADING OF POST.	NO. OF GRADES.	MALE.		FEMALE.	
		Minimum.	Maximum.	Minimum.	Maximum.
		£	£	£	£
<b>PRINCIPALS.</b>					
Training Schools and Colleges.....	2	675	900	450	600
High Schools.....	3	600	900	400	600
Secondary Schools.....	2	450	675	310	450
Primary Schools.....	6	*135	675	*120	450
Farm Schools.....	1	†80	110	†80	110
<b>ASSISTANT TEACHERS.</b>					
Chief Secondary School Assistant Teachers (in High Schools).....	4	300	600	235	400
Secondary School Assistant Teachers.....	6	150	540	135	360
Chief Primary School Assistant Teachers (in High Schools).....	1	270	450	210	300
Primary School Assistant Teachers.....	6	135	405	120	270

\* Assistant teacher's salary is paid to the principal of a Group E school.

† Plus free board and residence.

‡ Similar grades and scales are applicable to assistant teachers in training schools and colleges.

### (b) NATAL.

#### (i) European Teachers.

CLASS OF POST.	CLASS.	IN EUROPEAN SCHOOLS.				IN INDIAN AND COLOURED SCHOOLS.				
		Male.		Female.		Male.		Female.		
		Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	Mini- mum.	Maxi- mum.	
		£	£	£	£	£	£	£	£	
<b>PRINCIPALS—</b>										
Secondary Schools.....	S.1	650	900	500	600	—	—	—	—	—
	S.2	600	700	—	—	—	—	—	—	—
Primary Schools.....	P.1	*560	660	480	580	} 220*	350	250	300	—
" "	P.2	*440	540	360	460					
" "	P.3	*Assistant's salary	plus	£4 0.	plus					
" "	P.4	*Assistant's salary	plus	£2 0.	plus					
	Special Grade	600	700	500	600	—	—	—	—	—
<b>VICE-PRINCIPALS—Secondary Schools.....</b>										
	—	According to Grade, plus £5 0.				—	—	—	—	—
<b>ASSISTANTS.....</b>										
" "	I	450	650	300	510	—	—	—	—	—
" "	II	360	520	270	400	—	—	—	—	—
" "	III	270	450	228	360	—	—	—	—	—
" "	IV	240	360	180	300	—	—	—	—	—

\* House or marriage allowance, £50 £75.

#### (ii) Indian and Native Teachers.

GRADING OF POST.	INDIAN.		NATIVE.			
	Male.		Male.		Female.	
	Minimum.	Maximum.	Minimum.	Maximum.	Minimum.	Maximum.
Principals.....	£ 150	£ 240	£ 42	£ 90	£ 30	£ 84
Senior Assistants.....	120	150	} 18	18	18	48
Junior Assistants.....	72	120				

## SCALES OF SALARIES FOR TEACHERS—(continued).

## (c) TRANSVAAL.

CLASS OF SCHOOL AND GRADING OF POST.	NO. OF GRADES.	MALE.		FEMALE.	
		Minimum.	Maximum.	Minimum.	Maximum.
		£	£	£	£
Normal Colleges—					
Principal.....	1	880	1,080	—	—
Assistant.....	2	490	830	430	690
High Schools—					
Principal.....	2	680	980	600	880
Assistant.....	2	440	750	380	500
Trade Schools—					
Principal.....	1	680	880	—	—
Vice-Principal.....	1	580	680	—	—
Assistant.....	5	370	640	—	—
Commercial High Schools—					
Principal.....	2	680	980	—	—
Assistants (as in High Schools).....	—	—	—	—	—
Domestic Science Schools—					
Principal.....	1	—	—	580	740
Assistant (according to qualifications).....	—	—	—	—	—
Other Schools—					
*Principal Class I.....	1	640	740	500	600
Class II.....	1	520	620	440	540
* Class III (including Assistant Teachers).....	2	290	530	200	440

\* Teachers possessing degrees receive £40 per annum extra.

## (d) ORANGE FREE STATE.

CLASS OF POST.	CLASS.	MALE.		FEMALE.	
		Minimum.	Maximum.	Minimum.	Maximum.
		£	£	£	£
PRINCIPALS—					
Secondary Schools.....	I	625	825	475	625
" " " ".....	II	550	750	425	575
Intermediate.....	I	500	650	400	550
" " " ".....	II	400	550	300	450
Primary.....	I	500	650	400	550
" " " ".....	II	400	550	300	450
VICE-PRINCIPALS—					
Secondary Schools.....	—	Assistant's salary plus	£50 allowance.		
Intermediate and Primary Schools.....	—	" "	£40 "		
SECOND MASTERS.....	—	400	550	300	450
INFANTS' MISTRESSES.....	—	—	—	Assistant's salary, plus an allowance of £30 or £15 per annum.	
ASSISTANTS*.....	I (a)	400	600	350	500
	I (b)	350	550	325	450
	II	250	500	225	400
	III	230	400	215	350
	IV	200	400	195	350
	V		300		250
	VI		200		190
	VII.		180		180
	VIII		150		150
	IX		120		120

\* Classes V to IX are for teachers who do not possess a professional teacher's certificate of the Province, and the salaries are not incremental.

11. **Training Colleges.**—In the *Cape of Good Hope*, apart from the Universities, there are thirteen European training colleges and schools in which there are over 1,500 students under training as teachers. At Cape Town University, Rhodes University College, Grahamstown, and Stellenbosch University, there are, in addition, training departments attached for teachers. In *Natal* there is one Government Training College which is situated at Pietermaritzburg, and provides (a) a two years' course to the Third Class Certificate of the Province after admission through the Training College entrance or matriculation

examination, (b) a single year's professional course to the Second Class Certificate of the Province after reaching an intermediate stage, (c) an eighteen months' professional course to the First Class Certificate of the Union after graduation. The College contains in its own grounds classrooms, laboratories, an art school, music rooms, a domestic science building, and a women's hostel. The following table gives the list of training colleges and training schools for teachers in each Province of the Union:—

*Cape of Good Hope :*

<i>European.</i>	
Cape Town Training College.	Paarl Training School.
Cradock Training School.	Robertson Training School.
Graaff-Reinet Training School.	Stellenbosch Training School.
Grahamstown Training College.	Steynsburg Training School.
Kimberley Training School.	Uitenhage Training School.
King William's Town Training School.	Wellington Training College.
Oudtshoorn Training School.	

*Non-European.*

In the non-European training schools over 2,000 students are under training as teachers.

Bensonvale.*	Kimberley, Perseverance.‡
Blythwood.†	Lovedale.†
Buntingville.*	Mvenyane.§
Cape Town, Zonnebloem.‡	Salt River.*
Clarkebury.*	St. Matthew's.‡
Emfundisweni.*	Shawbury, Girls'.*
Emgwali.†	Tiger Kloof (London Missionary Society).
Engcobo, All Saints'.‡	Uitenhage.‡
Healdtown.*	Umtata.‡

*Natal :*

Pietermaritzburg Training College.

*Transvaal :*

Normal College, Pretoria.  
 Normal College, Johannesburg.  
 Normal College, Heidelberg.  
 Normal College and Preparatory Classes, Ermelo.  
 Normal College Preparatory Classes, Johannesburg.  
 Normal College and Preparatory Classes, Potchefstroom.  
 Normal College Preparatory Classes, Boksburg.

*Orange Free State :*

Normal College, Bloemfontein.

12. **Special Schools.**—In the *Cape of Good Hope*, in addition to the types of schools already mentioned, there are three art schools, three schools for deaf mutes, and one school for the blind; two domestic science schools, and one school of music. There are also evening schools (including technical classes at the large centres) and industrial schools for teaching trades to the children of parents who are in poor circumstances. The trades taught are wagon-making, carpentry, blacksmith's work, tailoring, shoemaking, printing, and bookbinding. In *Natal*, amongst special schools are art schools, the Technical Institute at Pietermaritzburg and the Durban Technical College. The Pietermaritzburg Technical Institute provides day, afternoon, and evening classes in engineering, commerce, mathematics, science, machine design and drawing, dress-making, and telegraphy. Evening continuation classes are also held. The Durban Technical College includes a Technical High School with a five years' course, a School of Art, and courses in mechanical and civil engineering, mathematics, physics, and electrical engineering, chemistry, and natural science, commerce, humanities, domestic science, and sociology; and provision is made for evening classes and day classes for apprentices and engineering students. The Art School at Pietermaritzburg is chiefly occupied in the work necessary for students undergoing training and those who are specially proficient in the schools. The School of Physical Culture at Pietermaritzburg comprises a general course in physical development for children and adults. The Trades School at Weston was opened in 1914, and there are in residence some eighty boys between the ages of thirteen and nineteen years. Provision is made for a three years' course in agriculture and wood and iron work. In the *Transvaal* there is a technical high school at Johannesburg, and there are three technical or trade schools, maintained by Government. There is also an Industrial School aided by Government. In the *Orange Free State* there are also several Trade and Industrial Schools, including schools of Agriculture and Housewifery, and continuation classes are also conducted in different centres of the Province.

\* Wesleyan. † United Free Church of Scotland. ‡ English Church. § Moravian. ¶ Independent.

13. **Vocational Education.**—Under the supervision of the Union Department of Education a series of national technical and commercial examinations is held at regular intervals, with the object of stimulating vocational education in combination with or in continuation of the ordinary school curriculum. The Department is assisted by an advisory committee representative of the Provincial Education Departments, the Universities, the Chambers of Commerce, and various technical institutions, and while it has no control over the actual instruction given in vocational subjects, it is able, through the advisory committee and by setting a proper standard for the departmental examinations, to ensure that the training obtained by students and the certificates issued on the examinations are of definite practical value. The examinations, which are held in over sixty centres and for which 2,928 candidates entered in 1920, are of five general types: (i) Teachers' Certificates and Diplomas (embracing courses in domestic science, commerce, and technology and art); (ii) National and Advanced Technical Certificates; (iii) National Housewife Certificates; (iv) National Technical Day-School Certificates (in which technical courses are associated with subjects of a more academic character), and (v) General Commercial Certificates.

The Union Department of Education is also responsible for the maintenance of six Government industrial schools in the Union, viz., at George and Paarl (Cape Province), Heidelberg and Standerton (Transvaal), and Dewetsdorp and Tempe (Orange Free State). In these schools, which are administered under the Children's Protection Act (see Chapter IX), provision is made for training in agriculture and various trades.

**§ 3. Statistics of State and State-Aided Education other than Higher Education.**

1. **General.**—The following tables give in respect of the Union, and of each Province separately, summarized figures indicating the development of primary and secondary education and education other than higher education from the earliest date available in each case to 1920. The figures given as to expenditure relate only to expenditure from Government funds and do not represent the total cost of education, part of which in the Cape, Natal, and Orange Free State Provinces, and during some period to a limited extent in the Transvaal Province, has been defrayed from local sources. The figures showing expenditure per scholar are based upon the total of all scholars, white and coloured. Seeing that the cost of white and coloured education differs very considerably, and the proportion of white to coloured children varies in the case of each Province, comparison between the Provinces cannot be made with any degree of accuracy.

**(i) UNION—STATISTICS OF STATE AND STATE-AIDED EDUCATION OTHER THAN HIGHER EDUCATION, 1895 TO 1920.**

YEAR.	NUMBER OF SCHOOLS.			NUMBER OF SCHOLARS.			NUMBER OF TEACHERS. †	NORMAL STATE EXPEN- DITURE.  £
	For White Scholars.	For Coloured Scholars.	Total.	White.	Coloured.	Total.		
1895	2,276	1,042	3,318	66,496	71,057	137,553	4,810	246,095
1896	2,288	1,093	3,381	71,588	74,935	146,523	4,466	367,066
1897	2,374	1,122	3,496	78,033	80,684	158,717	4,676	440,354
1898	2,503	1,276	3,779	87,908	93,081	180,989	5,536	568,360
1899	2,094	1,253	3,347	80,322	93,959	174,281	4,866	326,806
1900	1,705	1,358	3,063	68,982	99,881	168,863	4,504	329,471
1901	1,503	1,375	2,878	65,820	99,617	165,437	5,550	338,791
1902	1,673	1,459	3,132	81,746	104,157	185,903	5,077	—
1903	2,038	1,400	3,438	106,313	102,918	209,231	5,595	—
1904	2,306	1,670	3,976	114,195	116,058	230,253	8,100	—
1905	2,597	1,812	4,409	123,894	118,865	242,759	8,204	—
1906	2,930	1,894	4,824	133,920	122,533	256,453	8,806	1,043,212
1907	3,415	1,944	5,359	144,579	129,091	273,670	9,595	1,138,012
1908	3,486	1,931	5,417	150,474	122,700	273,180	9,387	1,286,262
1909	3,589	1,963	5,552	154,159	127,658	281,817	10,374	1,505,363
1910	3,873	1,999	5,872	163,257	136,000	299,257	10,912	1,597,062
1911	4,123	2,152	6,275	177,663	147,109	324,772	11,695	2,148,567
1912	4,322	2,274	6,596	189,425	159,215	348,640	13,317	2,907,343
1913	4,286	2,363	6,649	203,421	167,708	371,129	13,279	2,268,026
1914	4,474	2,442	6,916	201,725	179,124	380,849	14,152	2,458,832
1915	4,728	2,501	7,229	229,667	182,841	412,508	14,817	2,440,407
1916	4,878	2,595	7,473	247,204	192,055	439,259	15,363	2,600,614
1917	4,945	2,935	7,780	259,076	201,419	460,495	17,971	3,169,889
1918	4,846*	2,878	7,724	283,149	220,104	503,253	18,301	3,631,408
1919	4,752	3,016	7,795	292,628	221,783	514,411	18,689	4,530,634
1920	4,716	3,129	7,875	303,255	238,137	541,392	19,759	5,940,037

\* Private Farm Schools in Natal excluded. † Primary, Intermediate and Secondary Schools only.



## (ii) CAPE OF GOOD HOPE—STATISTICS OF STATE AND STATE-AIDED EDUCATION OTHER THAN HIGHER EDUCATION, 1880 TO 1920.

Year.	Number of Schools.			Number of Scholars.			Percentage of Attendance. (White Only.)	Number of Teachers.†			Normal State Expenditure.	Expenditure per capita. (All Scholars.)
	For White Scholars.	For Col'd. Scholars.	Total.	White.	Col'd.	Total.		Cer-tifi-cated.	Uncer-tifi-cated.	Total.		
1880	—	—	225	—	—	18,757	—	—	—	£	£ s. d.	
1885	—	—	360	—	—	30,335	—	—	—	14,000	0 14 11	
1870	—	—	438	—	—	40,412	—	—	—	20,000	0 11 5	
1875	—	—	641	—	—	54,167	—	—	—	23,045	0 14 10	
1880	—	—	943	—	—	72,281	—	—	—	40,264	0 14 10	
1885	—	—	1,111	—	—	76,003	—	—	—	79,648	1 2 0	
1890	—	—	1,609	—	—	104,293	—	—	—	95,914	1 5 3	
1895	1,356	881	2,240	45,006	62,348	107,354	81.5	1,381	2,753	4,134	129,351	1 4 10
1896	1,359	920	2,279	48,343	66,044	114,387	81.6	1,456	2,242	3,698	181,371	1 13 7
1897	1,382	933	2,315	50,872	69,147	120,019	82.1	1,569	2,158	3,727	197,009	1 14 7
1898	1,492	1,060	2,552	55,567	79,599	135,166	84.4	1,991	2,416	4,407	204,948	1 14 2
1899	1,367	1,020	2,396	53,380	70,793	133,053	83.0	1,951	2,203	4,154	235,023	1 14 9
1900	1,463	1,142	2,605	58,471	85,869	144,340	83.4	2,170	2,424	4,504	270,758	2 0 8
1901	1,226	1,146	2,372	53,311	85,043	138,354	85.1	2,211	2,255	4,466	272,007	2 1 0
1902	1,233	1,222	2,455	54,326	91,022	145,348	86.2	2,398	2,340	4,738	278,049	2 1 9
1903	1,310	1,269	2,588	60,429	90,486	150,915	86.8	2,698	2,490	5,098	287,855	2 1 9
1904	1,469	1,336	2,805	63,830	95,881	159,711	88.6	2,802	2,647	5,449	314,957	2 7 5
1905	1,666	1,429	3,095	67,798	95,321	163,119	89.1	3,104	2,869	5,973	447,796	2 14 11
1906	1,943	1,480	3,423	74,146	96,340	170,486	89.3	3,444	3,012	6,456	578,836	2 16 7
1907	2,314	1,514	3,828	78,013	90,750	178,363	90.3	3,743	3,108	6,851	621,672	3 0 4
1908	2,184	1,489	3,673	75,430	91,107	166,537	90.0	3,952	2,741	6,693	578,528	3 9 6
1909	2,214	1,512	3,726	76,969	97,680	174,649	90.5	4,126	2,680	6,806	621,672	3 19 9
1910	2,355	1,585	3,938	81,775	103,936	185,711	88.6	4,538	2,722	7,260	540,109	2 7 5
1911	2,570	1,651	4,221	88,424	111,614	200,038	90.1	5,037	2,831	7,868	658,194	2 15 10
1912	2,574	1,719	4,293	91,043	121,175	212,218	90.3	5,281	2,950	8,240	663,602	3 2 7
1913	2,537	1,799	4,306	95,438	124,684	220,122	90.1	5,410	3,140	8,550	784,714	3 11 4
1914	2,030	1,811	4,441	100,666	136,246	233,312	91.2	5,645	3,343	8,988	853,448	3 13 2
1915	2,793	1,859	4,652	104,974	130,079	241,053	91.6	6,019	3,383	9,402	919,485	3 16 3
1916	2,810	1,901	4,711	110,258	139,561	249,819	91.1	—	—	9,365†	919,000	3 13 7
1917	2,821	1,927	4,748	112,129	130,485	246,614	91.4	6,667	3,593	10,260	1,154,400	4 14 5
1918	2,786	2,008	4,794	121,910	149,985	271,895	92.1	6,717	2,910	9,627	1,408,239	5 3 7
1919	2,702	2,030	4,738	121,475	146,128	267,603	91.9	7,242	2,697	9,939	1,679,888	6 5 6
1920	2,621	2,019	4,640	128,061	154,422	282,483	90.8	7,648	2,355	10,004	2,011,607	7 2 5

‡ Approximate. † Percentage certified, 65-41. ‡ Primary, Intermediate and Secondary Schools only.

## (iii) NATAL—STATISTICS OF STATE AND STATE-AIDED EDUCATION OTHER THAN HIGHER EDUCATION, 1885 TO 1920.

Year.	Number of Schools.			Number of Scholars.			Percentage of Attendance. (White Only.)	Number of Teachers.†			Normal State Expenditure.	Expenditure per capita. (All Scholars.)
	For White Scholars.	For Col'd. Scholars.	Total.	White.	Col'd.	Total.		Cer-tifi-cated.	Uncer-tifi-cated.	Total.		
1885	51	80	140	3,922	5,264	9,185	—	—	—	—	£	£ s. d.
1890	90	88	178	5,793	5,448	11,241	—	—	—	—	18,723	2 0 9
											18,777	1 13 5
											(to June 30 only)	
1895	287	161	448	7,608	6,709	17,317	—	—	—	—	40,681	2 7 0
1896	297	173	470	8,180	8,891	17,071	—	—	—	—	45,968	2 13 11
1897	319	189	508	7,685	11,537	19,222	—	—	—	—	45,357	2 7 4
1898	303	216	519	8,075	13,462	22,137	—	—	—	—	52,369	2 7 4
1899	293	224	517	8,419	14,286	23,705	—	—	—	—	56,048	2 7 8
1900	242	216	458	10,511	14,012	24,523	—	—	—	—	57,264	2 6 8
1901	277	229	506	12,509	14,694	27,113	81.1	—	—	1,096	60,742	2 4 10
1902	262	237	499	10,494	13,135	23,629	81.5	—	—	3,394	69,426	2 18 9
*1902-03	249	191	440	10,487	12,462	22,949	80.5	—	—	3,481	82,881	3 12 4
*1903-04	257	195	452	11,338	12,353	23,691	83.1	—	—	3,714	98,748	4 3 4
*1904-05	279	205	484	11,989	13,618	25,607	82.4	—	—	3,931	107,360	4 3 10
*1905-06	299	215	514	12,199	15,110	27,309	83.7	261	52	366	100,297	3 13 5
*1906-07	301	222	523	12,504	16,343	28,847	84.6	268	60	384	102,033	3 10 9
*1907-08	304	220	524	12,437	18,161	30,598	83.6	259	48	393	105,524	3 9 0
*1908-09	271	232	503	12,444	16,670	29,114	85.2	299	27	379	107,965	3 14 2
*1909-10	342	236	578	13,999	17,073	31,972	84.0	305	24	382	103,748	3 4 11
†1910-11	303	259	562	15,968	20,253	36,221	85.0	426	28	456	150,471	4 3 1
1912	354	291	645	16,297	23,299	39,596	86.0	578	592	1,170	166,883	4 4 4
1913	328	327	655	17,093	26,148	43,241	86.0	—	—	5,444	180,456	4 3 6
1914	341	356	697	18,526	28,010	46,536	85.0	—	—	5,933	198,109	4 5 1
1915	351	360	711	19,892	28,324	48,216	86.0	—	—	6,083	205,514	4 5 8
1916	353	381	734	21,054	30,068	51,092	86.0	—	—	6,893	222,954	4 7 4
1917	326	393	719	20,711	28,812	49,523	90.1	1,174	636	1,810	265,165	5 7 1
1918	188	398	586	22,541	30,090	52,541	87.0	1,101	592	1,693	485,375	6 9 7
1919	170	457	627	23,175	30,144	53,319	88.0	1,016	567	1,613	520,084	9 5 0
1920	186	541	727	23,140	34,217	57,357	90.0	1,273	842	2,105	566,319	10 17 1

\* July to June. † July, 1910, to 31st December, 1911.

‡ In State schools only and including pupil and visiting teachers. § Excluding private farm school pupils. ¶ Primary, Intermediate and Secondary Schools only.

(iv) TRANSVAAL—STATISTICS OF STATE AND STATE-AIDED EDUCATION OTHER THAN HIGHER EDUCATION, 1876 TO 1920.

Year.	Number of Schools.			Number of Scholars.			Percentage of Attendance. (White Only.)	Number of Teachers.			Normal State Expenditure.	Expenditure per capita. (All Scholars.)
	For White Scholars.	For Col'd. Scholars.	Total.	White.	Col'd.	Total.		Certificated.	Uncertificated.	Total.		
1876	13	—	13	150	—	150	—	—	—	—	£ 1,275	£ s. d. 8 10 0
1882	43	—	43	872	—	872	—	—	—	—	2,753	3 3 2
1885	93	—	93	2,111	—	2,111	—	—	—	—	8,525	4 0 9
1890	296	—	296	6,990	—	6,990	—	—	—	—	35,547	5 1 8
1895	422	—	422	7,679	—	7,679	89.0	180	270	456	63,779	8 6 1
1896	395	—	395	8,232	—	8,232	87.0	227	299	526	76,206	9 5 4
1897	457	—	457	11,436	—	11,436	88.0	300	326	626	140,258	12 5 4
1898	509	—	509	15,512	—	15,512	90.0	506	330	836	226,418	14 11 11
1899	431	—	431	17,523	—	17,523	90.0	—	—	712	—	—
1900-01	No figures available during war period.											
1902	178	—	178	16,928	—	16,928	—	—	—	—	—	—
1903	393	—	393	26,386	—	26,386	85.4	—	—	919†	—	—
1904	388	139	527	26,520	7,824	34,344	84.0	524	400	1,007†	332,430*	9 13 7
1905	394	178	572	28,520	9,028	38,456	84.1	615	482	1,223†	156,394*	4 1 4
1906	426	193	619	31,237	11,074	42,311	84.7	729	505	1,544†	347,001*	8 4 0
1907	494	268	762	36,261	12,998	49,259	84.8	814	588	1,730†	381,000*	7 14 8
1908	621	222	843	43,105	13,438	56,543	87.1	1,118	615	2,083†	476,490*	8 8 6
1909	708	210	927	45,883	13,308	59,191	85.8	1,320	724	2,422†	713,199*	12 1 0
1910	727	178	905	48,352	14,091	62,443	86.0	1,358	710	2,450†	887,547*	14 4 3
1911	695	242	937	53,243	15,242	68,485	88.3	1,484	632	2,551†	1,227,789*	18 16 1
1912	705	264	969	56,694	14,741	71,435	89.1	1,608	658	2,728†	993,161	13 6 10
1913	724	267	991	62,112	16,876	78,988	89.6	1,725	730	2,906†	1,024,756	12 10 6
1914	749	275	1,024	64,574	17,838	82,412	89.4	1,838	736	3,073†	1,068,647	13 2 6
1915	786	282	1,068	73,955	18,438	92,393	89.6	1,995	699	3,242†	941,919	10 3 11
1916	898	313	1,211	80,376	22,486	102,862	89.4	2,170	852	3,646†	1,078,448	10 9 8
1917	930	350	1,280	89,328	24,569	113,897	90.5	2,509	889	4,100†	1,281,789	11 5 2
1918	997	346	1,443	99,164	26,256	125,420	90.0	2,868	1,397	4,365	1,325,363	10 11 2
1919	1,019	417	1,436	104,715	30,583	135,298	90.4	3,187	1,781	4,968	1,655,287	12 5 0
1920	1,071	437	1,508	108,735	33,065	141,800	90.1	3,628	1,862	5,490	2,561,348	18 1 3

† Including native teachers.

\* Exclusive of £5,035 grant to Transvaal Technical Institute.

† Exclusive of £2,067 grant to Transvaal Technical Institute.

\* Exclusive of £20,000 grant to Transvaal Technical Institute.

† Exclusive of £20,000 grant to Transvaal University College.

\* Exclusive of £25,000 grant to Transvaal University College.

† From July, 1910, to December, 1911. Expenditure per capita for year, £12. 10s. 8d.

\* Primary, Intermediate and Secondary Schools only.

(v) ORANGE FREE STATE—STATISTICS OF STATE AND STATE-AIDED EDUCATION OTHER THAN HIGHER EDUCATION, 1895 TO 1920.

Year.	Number of Schools.			Number of Scholars.			Percentage of Attendance. (White Only.)	Number of Teachers.			Normal State Expenditure.*	Expenditure per capita. (White Scholars Only.)
	For White Scholars.	For Col'd. Scholars.	Total.	White.	Col'd.	Total.		Certificated.	Uncertificated.	Total.		
1895	208	—	208	5,803	—	5,803	—	—	—	220	£ 45,719	£ s. d. 8 3 2
1896	237	—	237	6,833	—	6,833	—	—	—	242	47,163	6 18 1
1897	216	—	216	8,040	—	8,040	—	—	—	263	49,666	6 3 7
1898	199	—	199	8,154	—	8,154	—	—	—	293	54,531	6 13 9
1899 to 1902	No figures available during war period.											
1903	77	—	77	9,031	—	9,031	—	—	—	240	—	—
1904	192	—	192	12,507	—	12,507	—	—	—	280	—	—
1905	258	—	258	15,577	—	15,577	—	—	—	515	104,343	6 14 0
1906	262	—	262	16,338	—	16,338	—	—	—	530	113,242	6 18 7
1907	306	—	306	17,201	—	17,201	—	—	—	621	118,043	6 17 3
1908	377	—	377	19,502	—	19,502	—	—	—	718	125,720	6 8 11
1909	366	—	366	18,863	—	18,863	—	—	—	767	162,504	8 12 4
1910	451	—	451	19,131	—	19,131	—	—	—	820	165,568	8 13 1
1911	555	—	555	20,028	—	20,028	—	—	—	820	152,174	7 12 0
1912	680	—	680	25,391	—	25,391	—	—	—	1,170	223,637	8 16 2
1913	697	—	697	28,778	—	28,778	—	—	—	1,279	278,100	9 13 3
1914	734	—	734	29,559	—	29,559	—	—	—	1,498	338,648	11 9 2
1915	798	—	798	30,846	—	30,846	—	—	—	1,570	373,491	12 2 2
1916	817	—	817	35,666	—	35,666	89.4	—	—	1,663	360,182	10 13 7
1917	898	205	1,133	36,908	13,553	50,461	87.3	1,053	748	1,801	468,572	12 13 10
1918	875	126	1,001	39,334	12,803	53,307	88.3	1,220	782	2,002	518,521	13 2 2
1919	891	136	997	41,263	14,228	56,191	88.4	1,333	886	2,169	675,375	16 7 4
1920	898	132	1,090	44,319	16,433	59,752	87.0	1,323	887	2,160	800,703	18 9 8

\* Excluding expenditure on construction of new school buildings and on minor works and main tenance of such buildings.

† Primary, Intermediate and Secondary Schools only.

2. **Statistics as to Education of White Scholars.**—The following tables give A. in the form of a general summary, and B. in detail, statistics as to State and State-aided schools for white scholars in the Union, numbers of scholars, particulars as to enrolment and attendance, sex and age, and numbers in the various standards. Further tables give particulars as to teachers, training institutions for teachers, technical and special schools.

A. GENERAL SUMMARY.—STATE AND STATE-AIDED SCHOOLS FOR WHITE SCHOLARS.

(i) NUMBER OF SCHOOLS, AND EXPENDITURE ON EDUCATION OTHER THAN HIGHER EDUCATION OF WHITE SCHOLARS IN THE UNION, 1916 TO 1920.

YEAR.	NUMBER OF SCHOOLS.				TRAINING COLLEGES AND SCHOOLS.	SPECIAL SCHOOLS.	COST OF ADMINISTRATION AND INSPECTION.	SALARIES OF TEACHERS.	TOTAL STATE EXPENDITURE.
	Primary.	Intermediate.	Secondary.	Total.					
1916.....	4,853	—	154	4,807	17	54	£ 108,440	£ —	£ 2,724,871
1917.....	4,516	146	140	4,802	10	48	169,917	1,747,373	2,865,622
1918.....	4,573	117	156	4,846	19	54	177,444	1,994,491	3,313,713
1919.....	4,385	131	160	4,676	19	57	209,238	2,403,175	4,166,733
1920.....	4,399	15†	230	4,674	18	54	265,138	3,344,456	5,401,837

\* Exclusive capital expenditure.

† Intermediate schools in Cape of Good Hope re-grouped under Primary or Secondary.

(ii) NUMBER OF SCHOOLS AND EXPENDITURE ON EDUCATION OTHER THAN HIGHER EDUCATION OF WHITE SCHOLARS IN EACH PROVINCE, 1920.

PROVINCE.	NUMBER OF SCHOOLS.				TRAINING COLLEGES AND SCHOOLS.‡	SPECIAL SCHOOLS.	EXPENDITURE.
	Primary.	Intermediate.	Secondary..	Total.			
Cape of Good Hope	2,395*	—	168	2,563	13	45	£ 1,843,959†
Natal.....	1,053	7	10	182	1	3	493,444
Transvaal.....	1,039	—	29	1,068	3	—	2,188,018
Orange Free State	599	38	23	861	1	0	796,703
UNION.....	4,399	45	230	4,674	18	54	5,022,124

\* Including 470 Farm Schools.

† Exclusive of 157 Farm Schools.

‡ Including expenditure defrayed from fees, local rates, and contributions (£220,287).

§ Excluding Training Departments attached to Secondary Schools.

(iii) NUMBER OF WHITE SCHOLARS AND TEACHERS IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS, TECHNICAL AND SPECIAL SCHOOLS AND TRAINING INSTITUTIONS IN THE UNION, FOURTH QUARTER, 1916 TO 1920.

YEAR.	NUMBER OF SCHOLARS.			AVERAGE ATTENDANCE FOR YEAR.*	PERCENTAGE OF ATTENDANCE TO AVERAGE ENROLMENT.*	NUMBER OF TEACHERS.		
	Boys.	Girls.	Total.			Males.	Females.	Total.
1916...	—	—	251,360	—	—	—	—	—
1917...	133,571	125,505	259,076	233,878	90.4	4,011	7,515	11,556
1918...	146,643	136,506	283,149	246,343	89.7	3,085	6,868	9,953
1919...	151,637	140,991	292,628	252,432	90.2	4,072	9,124	14,096
1920...	156,187	146,798	303,255	266,911	90.0	—	—	14,316

\* Primary, Intermediate, and Secondary Schools only.

(v) NUMBER OF WHITE SCHOLARS AND TEACHERS IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS, TECHNICAL AND SPECIAL SCHOOLS, AND TRAINING INSTITUTIONS IN EACH PROVINCE, FOURTH QUARTER, 1920.

PROVINCE.	NUMBER OF SCHOLARS.			NUMBER OF TEACHERS.		
	Boys.	Girls.	Total.	Males.	Females.	Total.
Cape of Good Hope.....	65,437	62,624	128,061	1,574*	4,615*	6,189*
Natal.....	11,879	11,261	23,140	337	901	1,238
Transvaal.....	56,679	62,056	108,735	2,216	2,468	4,684
Orange Free State.....	22,492	20,827	43,319	—	—	2,205
<b>UNION.....</b>	<b>156,487</b>	<b>146,768</b>	<b>303,255</b>	<b>—</b>	<b>—</b>	<b>14,316</b>

\* At second quarter.

† Excludes Aided Schools and Continuation Classes.

B. DETAILED STATISTICS.—STATE AND STATE-AIDED SCHOOLS FOR WHITE SCHOLARS.

(i) NUMBER AND CLASSIFICATION OF PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS FOR WHITE SCHOLARS IN EACH PROVINCE, LAST QUARTER, 1920.

Province and Classification of School.	Maintained by State.	Aided by State.	Total.	Schools for Boys only.	Schools for Girls only.	Mixed Schools.
<b>Cape of Good Hope—</b>						
Primary.....	2,358	37	2,395	14	8	2,373
Intermediate.....	—	—	—	—	—	—
Secondary.....	166	2	168	28	21	119
<b>TOTAL.....</b>	<b>2,524</b>	<b>39</b>	<b>2,563</b>	<b>42</b>	<b>29</b>	<b>2,492</b>
<b>Natal—</b>						
Primary.....	145	20	165	14	11	140†
Intermediate.....	7	—	7	3	—	4
Secondary.....	4	6	10	3	7	—
<b>TOTAL.....</b>	<b>156</b>	<b>26</b>	<b>182</b>	<b>20</b>	<b>18</b>	<b>144</b>
<b>Transvaal—</b>						
Primary.....	991	48	1,039	—	—	1,039
Intermediate.....	—	—	—	—	—	—
Secondary.....	29	—	29	4	4	21
<b>TOTAL.....</b>	<b>1,020</b>	<b>48</b>	<b>1,068</b>	<b>4</b>	<b>4</b>	<b>1,060</b>
<b>Orange Free State—*</b>						
Primary.....	691	109	800	—	—	798
Intermediate.....	38	—	38	—	2	36
Secondary.....	23	—	23	2	2	21
<b>TOTAL.....</b>	<b>752</b>	<b>109</b>	<b>861</b>	<b>2</b>	<b>4</b>	<b>855</b>
<b>UNION</b>						
Primary.....	4,185	214	4,399	28	19	4,350
Intermediate.....	45	—	45	3	2	40
Secondary.....	222	8	230	37	34	161
<b>TOTAL.....</b>	<b>4,452</b>	<b>222</b>	<b>4,674</b>	<b>68</b>	<b>55</b>	<b>4,551</b>

\* Exclusive of 18 Farm Schools.

† Exclusive of 157 Farm Schools.

## (ii) ENROLMENT AND ATTENDANCE OF WHITE SCHOLARS IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS, LAST QUARTER, 1920.

Province and Classification of School.	Enrolment in Last Quarter.			Average Enrolment for Year.	Average Attendance for Year.	Percentage of Average Attendance to Average Enrolment.
	Boys.	Girls.	Total.			
<b>Cape of Good Hope—</b>						
Primary.....	38,485	36,504	74,989	69,911	62,454	88·0
Intermediate.....	—	—	—	—	—	—
Secondary.....	24,752	22,762	47,514	50,455	46,853	92·9
<b>TOTAL.....</b>	<b>63,237</b>	<b>59,266</b>	<b>122,503</b>	<b>120,366</b>	<b>109,307</b>	<b>90·8</b>
<b>Natal—</b>						
Primary.....	9,447	8,609	18,056	18,276	16,500	90·0
Intermediate.....	809	488	1,297	1,391	1,258	90·0
Secondary.....	1,262	1,591	2,853	3,002	2,729	90·0
<b>TOTAL.....</b>	<b>11,518</b>	<b>10,688</b>	<b>22,206</b>	<b>22,669</b>	<b>20,487</b>	<b>90·0</b>
<b>Transvaal—</b>						
Primary.....	52,675	48,779	101,454	104,824	94,328	90·0
Intermediate.....	—	—	—	—	—	—
Secondary.....	3,264	2,300	5,564	5,566	5,211	93·8
<b>TOTAL.....</b>	<b>55,939</b>	<b>51,079</b>	<b>107,018</b>	<b>110,390</b>	<b>99,539</b>	<b>90·1</b>
<b>Orange Free State—</b>						
Primary.....	20,401	19,070	39,471	43,188*	37,578*	87·0
Intermediate.....	—	—	—			
Secondary.....	1,834	1,574	3,408			
<b>TOTAL.....</b>	<b>22,235</b>	<b>20,644</b>	<b>42,879</b>	<b>43,188</b>	<b>37,578</b>	<b>87·0</b>
<b>UNION—</b>						
Primary.....	121,008	112,962	233,970	236,169	210,860	85·5
Intermediate.....	809	488	1,297	1,391	1,258	90·4
Secondary.....	31,112	28,227	59,339	59,023	54,793	92·8
<b>TOTAL.....</b>	<b>152,929</b>	<b>141,677</b>	<b>294,606</b>	<b>296,613</b>	<b>266,911</b>	<b>90·0</b>

\* Separate figures for Primary and Secondary Schools in O.F.S. are not available.

## (iii) AGE AND SEX OF WHITE SCHOLARS IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS IN EACH PROVINCE, LAST QUARTER, 1920.

AGE IN YEARS.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		Total.
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	
Under 7	3,384	3,104	1,217	1,178	2,414	2,367	1,374	1,336	8,389	7,985	16,374
7.....	5,373	5,184	1,072	956	4,980	4,816	1,691	1,610	13,116	12,566	25,682
8.....	6,146	6,055	1,075	1,023	6,032	5,876	1,972	1,978	15,225	14,932	30,157
9.....	6,141	6,250	1,143	1,053	6,102	5,722	2,098	2,062	15,784	15,087	30,871
10.....	6,534	6,145	1,246	1,029	5,995	5,719	2,284	2,113	16,059	14,997	31,056
11.....	6,345	6,142	1,198	1,074	5,984	5,468	2,307	2,158	15,734	14,842	30,576
12.....	6,190	6,327	1,180	1,127	5,841	5,596	2,269	2,114	15,780	15,074	30,854
13.....	6,503	6,357	1,180	1,087	5,871	5,443	2,347	2,225	15,901	15,112	31,013
14.....	5,774	5,484	1,071	928	5,028	4,463	2,129	1,886	14,002	12,761	26,763
15.....	4,577	4,078	619	636	3,844	3,205	1,782	1,543	10,822	9,462	20,284
16 and over.	5,670	4,140	517	606	3,948	2,494	1,982	1,619	12,117	8,859	20,976
<b>TOTAL</b>	<b>63,237</b>	<b>59,266</b>	<b>11,518</b>	<b>10,688</b>	<b>55,939</b>	<b>51,079</b>	<b>22,245</b>	<b>20,644</b>	<b>152,929</b>	<b>141,677</b>	<b>294,606</b>

(iv) PERCENTAGE OF WHITE SCHOLARS OF EACH SEX AT EACH YEAR OF AGE IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS IN EACH PROVINCE, LAST QUARTER, 1920.

AGE IN YEARS	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.	Total.
Under 7.	5.35	5.24	10.57	11.02	4.32	4.63	6.18	6.47	5.48	5.64	5.56
7.....	8.50	8.75	9.31	8.95	8.90	9.43	7.61	7.80	8.58	8.87	8.72
8.....	9.72	10.22	9.33	9.57	10.78	11.50	8.87	9.58	9.05	10.54	10.24
9.....	10.19	10.55	9.92	9.85	10.91	11.20	9.44	9.99	10.32	10.65	10.48
10.....	10.33	10.37	10.82	9.54	10.72	11.20	10.27	10.24	10.50	10.58	10.54
11.....	10.03	10.36	10.40	10.05	10.52	10.70	10.38	10.45	10.29	10.47	10.38
12.....	10.26	10.68	10.24	10.57	10.41	10.78	10.20	10.24	10.32	10.64	10.47
13.....	10.28	10.72	10.24	10.17	10.49	10.66	10.50	10.78	10.40	10.67	10.53
14.....	9.13	9.25	9.30	8.68	8.99	8.74	9.57	9.14	9.16	9.01	9.08
15.....	7.24	6.88	5.37	5.95	6.87	6.28	8.01	7.47	7.08	6.68	6.88
16 and over	8.97	6.98	4.50	5.67	7.06	4.84	8.91	7.84	7.92	6.25	7.12
TOTAL..	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(v) STANDARDS OF WHITE SCHOLARS ENROLLED IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS IN EACH PROVINCE, LAST QUARTER, 1920.

STANDARDS.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.	
	Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.	Number.	Per-centage.	Number.	(Per-centage.
Substandards	26,688	21.8	5,421	24.4	27,084	25.3	10,149	23.7	69,842	23.5
Standard I.	14,033	11.9	2,516	11.3	15,953	14.9	5,068	11.8	38,170	13.0
"  II.	14,020	12.2	2,440	11.0	14,568	13.6	5,101	11.9	37,019	12.6
"  III.	15,424	12.6	2,524	11.4	14,028	13.1	5,749	13.4	37,725	12.8
"  IV.	15,088	12.3	2,636	11.9	12,628	11.8	5,247	12.2	35,599	12.1
"  V.	13,575	11.1	2,535	11.4	9,851	9.2	4,570	10.7	30,537	10.4
"  VI.	10,467	8.5	1,955	8.8	7,352	6.9	3,581	8.4	23,355	7.9
"  VII.	5,735	4.7	870	4.0	2,750	2.6	3,408*	7.9*	12,772	4.3
AboveStand-ard VII....	5,857	4.8	1,300	5.8	2,814	2.6	—	—	9,971	3.4
Unclassified.	116	0.1	—	—	—	—	—	—	116	—
TOTAL.....	122,503	100.0	22,206	100.0	107,018	100.0	42,879	100.0	204,006	100.0

\* Above Standard VI.

† Including Farm Schools.

(vi) NUMBER OF SCHOOLS (WHITE SCHOLARS) WITH BOARDING ESTABLISHMENTS MAINTAINED OR RECOGNIZED, AND AVERAGE NUMBER OF BOARDERS, IN EACH PROVINCE, 1920.

Schools and Boarders.	Cape of Good Hope.*	Natal.	Transvaal.	Orange Free State.	Union.
Number of Schools.....	221	28	35†	34	318
Average Number of Boarders...	8,513	1,903	4,279	1,322	18,017

\* There are, in addition, 111 indigent Boarding-Houses with 5,000 boarders.

† Primary Schools only.

(vii) **NUMBER OF CERTIFICATED AND UNCERTIFICATED TEACHERS IN PRIMARY, INTERMEDIATE, AND SECONDARY SCHOOLS FOR WHITE SCHOLARS IN EACH PROVINCE, LAST QUARTER, 1920.**

PROVINCE AND CLASSIFICATION.	MALE.			FEMALE.			ALL TEACHERS.		
	Cer-tificated.	Uncer-tificated.	Total.	Cer-tificated.	Uncer-tificated.	Total.	Cer-tificated.	Uncer-tificated.	Total.
Cape of Good Hope*—									
Graduates.....	267	36	303	141	32	173	408	68	476
Non-Graduates....	897	208	1,105	3,701	520	4,221	4,598	728	5,326
Natal—									
Graduates.....	31	17	48	82	8	40	63	25	88
Non-Graduates....	135	71	206	478	341	819	613	412	1,025
Transvaal—									
Graduates.....	170	30	200	69	6	75	239	36	275
Non-Graduates....	1,348	565	1,913	1,553	798	2,351	2,901	1,363	4,264
Orange Free State—									
Graduates.....	—	—	—	—	—	—	109	29	138
Non-Graduates....	—	—	—	—	—	—	1,211	808	2,022
UNION—									
Graduates.....	468	83	551	242	46	288	819	158	977
Non-Graduates....	2,380	844	3,224	5,732	1,659	7,391	9,326	3,311	12,637
TOTAL.....	2,848†	927†	3,775†	5,974†	1,705†	7,679†	10,145	3,469	13,614

\* Including Farm Schools.

† Excluding O.F.S.

(viii) **TRAINING INSTITUTIONS FOR TEACHERS (WHITE), LAST QUARTER, 1920.**

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
A. Training Colleges..... (Full to T. II)	3	1	1	1	8
B. Training Schools..... (Full to T. III)	10	—	2	—	11
C. Training Departments attached to Secondary Schools—					
1. Full Course.....	2	—	—	—	2
2. Partial Course.....	79	—	4	—	83
TOTAL.....	94	1	7	1	104

(ix) **STUDENTS (WHITE) AND TEACHERS IN TRAINING INSTITUTIONS, LAST QUARTER, 1920.**

PROVINCE.	STUDENTS.			TEACHERS.		
	Male.	Female.	Total.	Male.	Female.	Total.
Cape of Good Hope†.....	130	1,448	1,578	25*	76*	101*
Natal.....	8	79	82	3	9	12
Transvaal.....	283	573	856	46	32	78
Orange Free State.†.....	54‡	101‡	155‡	9	5	14

\* At third quarter.

† Excluding teachers on the staffs of Universities and University Colleges.

‡ Excluding Part-time Students.

(x) TRAINING INSTITUTIONS FOR EUROPEAN TEACHERS IN EACH PROVINCE, LAST QUARTER, 1920.

NAME OF INSTITUTION.	NUMBER OF STUDENTS.			NUMBER OF TEACHERS.		
	Male.	Female.	Total.	Male.	Female.	Total.
(a) CAPE OF GOOD HOPE.						
A. Training Colleges—						
Cape Town Training College	10	181	191	7	7	14
Grahamstown Training College	—	192	192	2	16	18
Wellington Training College	20	193	222	4	10	14
B. Training Schools (Course to T. II)—						
Cradock	—	99	99	—	6	6
Garaff-Reinet	26	124	150	2	4	6
Kimberley	3	87	90	2	3	5
King William's Town	—	64	64	—	6	6
Oudtshoorn	16	93	109	2	3	5
Paarl	9	163	172	2	6	8
Robertson	28	61	89	2	3	5
Stellenbosch	—	112	112	—	6	6
Steynsburg	7	25	32	2	1	3
Uitenhage	2	54	56	—	5	5
C. Training Departments (attached to Secondary Schools)—						
1. Giving Full Course—						
Two Secondary Schools	—	—	66	—	—	—
2. Giving Partial Course—						
Seventy-nine Secondary Schools	—	—	668	—	—	—
D. Training Departments—						
Ten other schools	—	—	44	—	—	—

(b) NATAL.

Natal Training College, Pietermaritzburg— (Full course to T. II)	3	79	82	3	9	12
---	---	----	----	---	---	----

(c) TRANSVAAL.

A. Training Colleges (Full Course to T. II)—						
Normal College, Pretoria	22	44	66	9	8	17
B. Training Schools (Course to T. II)—						
Normal College, Heidelberg	56	8	64	5	1	6
Normal College, Johannesburg	9	55	64	11	5	16
C. Preliminary Training Centres—						
East Rand	4	28	32	2	1	3
Ermelo	62	70	132	7	2	9
Johannesburg	44	278	322	5	12	17
Potchefstroom	86	90	176	7	3	10

(d) ORANGE FREE STATE.

A. Training College— Normal and Polytechnic College, Bloemfontein	83†	202†	285†	9	5	14†
--	-----	------	------	---	---	-----

\* Figures as to sex of students and the number of teachers not available.

† There is, in addition, a visiting staff of three males and two females.

‡ Including Part-time Students.

NOTE.—In addition, 18 students were being trained as cookery teachers at the Cape Town Domestic Science Training Centre.



**(ii) TECHNICAL AND SPECIAL SCHOOLS,\* CAPE OF GOOD HOPE, NATAL, AND TRANSVAAL PROVINCES, 1920.****(a) CAPE OF GOOD HOPE.**

*Technical Schools.*—Instruction in courses of Technical work is given at four centres, viz.: Salt River Technical Evening School, attended by 400 students; East London Technical Evening School, 115 students; Kimberley School of Mines, 181 students; and Uitenhage Technical Evening School, 81 students.

*Art Schools.*—There were 376 students in attendance at the Cape Town, Grahamstown, and Port Elizabeth Art Schools.

The College of Music, Cape Town, had an enrolment of 635 students.

*Domestic Science.*—Training in the full range of domestic science work is given at the Cape Town Domestic Science Training Centre (41 Roeland Street), where, in addition to training Cookery teachers, instruction is given to 32 students in one or more subjects.

*Vocational Schools.*—There were 9 Industrial or Vocational Schools for European boys, viz., at Adelaide, Cape Town (Salesian Institute), Kakamas, Knysna, Montagu, Oudtshoorn, Ugie, Uitenhage, and Worcester, with staff of 24 teachers, giving instruction to 478 pupils in carpentry work, blacksmith work, bookbinding, gardening, printing, shoe-making, tailoring, and wagon-making.

There were 6 Industrial or Vocational Schools for European girls, viz., Adelaide, George, Graaff-Reinet, Riebeeck West, Tulbagh, and Wellington, with staff of 10 teachers giving instruction to 287 girls in cookery, housework laundrywork, etc.

*Schools for Defectives.*—There were four institutions for the deaf, dumb, and blind, viz., Cape Town Deaf and Dumb School, King William's Town Convent School for Deaf, Worcester Blind, and Worcester Deaf and Dumb School, employing 21 teachers, and attended by 115 European boys, 99 European girls, 7 non-European boys, and 1 non-European girl.

NAME OF INSTITUTION.	NUMBER OF STUDENTS.			NUMBER OF TEACHERS.		
	Male.	Female.	Total.	Male.	Female.	Total.
<b>(b) NATAL.</b>						
Durban Technical College.....	1,214	510	1,724	58	30	88
Pietermaritzburg Technical Institute.....	193	164	357	14	3	17
Pietermaritzburg Art School....	1	3	4	1	—	1
Pietermaritzburg Physical Culture School.....	126	335	461	1	—	1
Weston Trades School.....	93	—	93	0	—	0

**(c) TRANSVAAL.**

† East Rand Trades School....	107	—	107	10	—	10
† Johannesburg Trades School....	176	—	176	23	—	23
† Pretoria Trades School.....	142	—	142	17	—	17
Johannesburg School of Domestic Science.....	—	102	102	—	7	7
Potchefstroom School of Industries for Boys.....	158	—	158	7	—	7
Potchefstroom School of Industries for Girls.....	—	126	126	—	3	3

\* Particulars are to be found in § 2, paragraph 12, of this chapter.

† The theory as well as the practice of the various trades is taught.

**(d) ORANGE FREE STATE.**

*Industrial Schools.*—There are 10 such schools, viz. Goedemoed, Jacobsdal, Ficksburg, Bloemfontein, Moroka Native Industrial School, Tweespruit, Kopjes, Heilbron, Bethlehem Housecraft, and Ladybrand Agriculture, teaching carpentry, tailoring, housewifery, lacemaking, farming, etc. The teaching staff consists of 25 males and 14 females, and the scholars number (Whites) 203 males and 82 females, (Natives) 47 females.

**3. Expenditure on Education of White Scholars.**—Particulars are given in the following tables as to expenditure in the various Provinces on the education (other than the higher education) of white scholars, and as to the cost per scholar and per head of the white population.

## (i) PUBLIC EXPENDITURE ON EDUCATION (OTHER THAN HIGHER EDUCATION) OF WHITE SCHOLARS IN EACH PROVINCE, 1920.

Description of Expenditure.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.	
	£	£	£	£	£	
State expenditure—						
Central administration.....	18,734	} 27,251	21,459	21,475	} 163,016	
Inspection.....	30,134		39,439	4,524		
Medical inspection.....	2,974		3,000	8,253		8
School board administration.....	27,886		—	41,736		18,258
Salaries of teachers (or salary grants), including contributions to Teachers' Pension, Gratuity, or Provident Funds	776,253	291,265	1,706,186	570,752	3,344,456	
Training of teachers.....	83,623	12,435	42,857	18,674	157,589	
Bursaries.....	—	6,129	} 61,550	17,022	} 245,303	
Allowances to boarding establishments..	119,003	22,195		19,404		
Rents, interest, and insurance.....	89,873	22,663	119,195	20,548	252,279	
Local maintenance, cleaning, and lighting	46,608	15,742	127,346	11,940	201,636	
Furniture and equipment, books, and material.....	63,241	26,704	187,849	34,476	312,270	
Other.....	365,343	66,051	132,148	59,624	623,166	
<b>TOTAL STATE EXPENDITURE...£</b>	<b>1,623,672</b>	<b>493,444</b>	<b>2,488,018</b>	<b>796,703</b>	<b>5,401,837</b>	
Other expenditure defrayed out of fees, local rates, and contributions, etc.....	220,287	—	—	—	220,287	
<b>TOTAL PUBLIC COST OF EDUCATION. £</b>	<b>1,843,959</b>	<b>493,444</b>	<b>2,488,018</b>	<b>796,703</b>	<b>5,622,124</b>	

NOTE.—In the case of the figures relating to administration and inspection, the division of expenditure between white and coloured education has necessarily been made on an arbitrary basis.

## (ii) COST TO THE STATE, AND TOTAL COST, OF EDUCATION OF WHITE SCHOLARS IN EACH PROVINCE, 1920.

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Cost of central administration and inspection.....	£51,842	£30,260	£69,151	£26,005	£177,258
Cost per scholar.....	8s. 1d.	£1. 6s. 2d.	12s. 9d.	12s. 0d.	11s. 8d.
Salaries of teachers.....	£776,253	£291,265	£1,706,186	£570,752	£3,344,456
Cost per scholar.....	£6. 1s. 3d.	£12. 11s. 9d.	£15. 13s. 10d.	£13. 3s. 6d.	£11. 0s. 7d.
Total State expenditure.....	£1,623,672	£493,444	£2,488,018	£796,703	£5,401,837
Cost per scholar.....	£12. 13s. 7d.	£21. 6s. 6d.	£22. 17s. 8d.	£18. 7s. 10d.	£17. 16s. 3d.
Cost per head of white population.....	£2. 10s. 3d.	£3. 13s. 6d.	£4. 13s. 0d.	£4. 5s. 0d.	£3. 11s. 11d.
Total cost of education.....	£1,843,959	£493,444	£2,488,018	£796,703	£5,622,124
Cost per scholar.....	£14. 8s. 0d.	£21. 6s. 6d.	£22. 17s. 8d.	£18. 7s. 10d.	£18. 10s. 9d.
Cost per head of white population.....	£2. 17s. 1d.	£3. 13s. 6d.	£4. 13s. 0d.	£4. 5s. 0d.	£3. 14s. 10d.

## (iii) STATE EXPENDITURE ON SCHOOL BUILDINGS AND GROUND, AND NUMBER OF SCHOOL PLACES PROVIDED FOR WHITE SCHOLARS IN EACH PROVINCE, 1920.

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Number of schools completed...	*	9†	28	*	—
Number of school places.....	*	796	8,248	*	—
Total capital expenditure.....£	236,053	124,228	378,996	219,682	958,959

\* Not available. † In addition 9 new classrooms were added.

4. Statistics of Education of White Scholars in certain Urban Areas.—The following tables give in summary particulars as to schools for white scholars in certain of the more important towns and urban areas in the Union:—

## (i) EDUCATION OTHER THAN HIGHER EDUCATION OF WHITE SCHOLARS—NUMBER OF STATE AND STATE-AIDED SCHOOLS IN CERTAIN URBAN AREAS, 1920.

Town or Area.	Primary.	Inter-mediate.	Secondary.	Total.	Training Colleges and Schools.	Special* Schools.	All Schools and Institutions.
Cape Peninsula.....	75	—	13	88	1	13	102
East London.....	7	—	2	10	—	2	12
Grahamstown.....	7	—	2	9	1	2	12
Kimberley.....	12	—	3	15	1	2	18
Paarl.....	4	—	4	8	1	—	9
Port Elizabeth.....	17	—	2	19	—	4	23
Stellenbosch.....	1	—	5	6	1	—	7
Wellington.....	2	—	2	4	1	1	6
Durban.....	22	—	4	26	—	—	26
Pietermaritzburg.....	11	1	3	15	2	1	17
Johannesburg.....	68	—	8	76	2	2	80
East Rand.....	36	—	3	39	1	1	41
West Rand.....	22	—	1	23	—	—	23
Pretoria.....	28	—	5	33	1	1	35
Bloemfontein.....	2	—	3	7	1	—	8

\* Including Evening Schools in the Cape of Good Hope.

## (ii) ENROLMENT OF WHITE SCHOLARS AND STUDENTS AND NUMBER OF TEACHERS IN CERTAIN URBAN AREAS, LAST QUARTER, 1920.

Town or Area.	Enrolment in Primary, Intermediate, and Secondary Schools.			Students in Training Colleges and Schools.		Students in Special Schools.*		All Scholars and Students.	Teachers.
	Boys.	Girls.	Total.	Male.	Female.	Male.	Female.		
Cape Peninsula..	10,569	9,864	20,433	10	181	950	914	22,488	858
East London....	1,654	1,416	3,070	—	—	164	11	8,235	125
Grahamstown...	609	698	1,307	—	—	191	13	1,590	72
Kimberley.....	1,806	1,802	3,608	3	88	204	—	3,903	152
Paarl.....	982	757	1,739	9	163	—	—	1,911	80
Port Elizabeth..	2,187	2,305	4,492	—	—	92	104	4,688	180
Stellenbosch....	983	933	1,916	—	112	—	—	2,028	93
Wellington.....	350	455	805	29	191	—	30	1,055	54
Durban.....	4,341	3,565	7,906	—	—	—	—	7,906	192
Pietermaritzburg	1,678	1,679	3,357	3	79	1	2	3,442	180
Johannesburg...	12,092	11,462	23,554	53	332	153	181	24,273	948
East Rand.....	5,234	4,859	10,093	4	28	104	—	10,229	422
West Rand.....	2,587	2,353	4,940	—	—	—	—	4,940	181
Pretoria.....	4,011	3,907	7,918	24	45	131	—	8,118	398
Bloemfontein...	2,011	2,039	4,050†	83	202	—	—	4,335	232

\* Including Evening Schools in the Cape of Good Hope.

† Exclusive of 114 boys and 101 girls at Trade School and Normal College.

5. **Statistics as to Education of Coloured Scholars.**—The following tables give such statistics as are available in respect of State and State-aided education of coloured scholars. Particulars as to expenditure are only approximate, as an arbitrary line of allocation has been taken in respect of certain items of expenditure incurred by the Provincial Education Departments.

In the Orange Free State an amount is provided annually as a grant in aid of secular education of natives. This is paid as an out-and-out grant to religious denominations conducting mission schools, and is allocated in proportion to the numbers attending the schools. An exception is made in the case of Waaihoek Evening Classes (Waaihoek Location, Bloemfontein), to which a fixed amount of £36 is paid annually. This grant came into force in 1902-03. For that financial year it amounted to £2,000. For 1903-04 and 1904-05 it was reduced to £1,500. In 1905-06 it was £1,700. From 1906-07 to 1909-10 it was £2,000. In 1910-11 it was fixed at £4,000, at which figure it still stands.

#### STATE AND STATE-AIDED SCHOOLS FOR COLOURED SCHOLARS.

##### (i) NUMBER OF STATE AND STATE-AIDED SCHOOLS AND STATE EXPENDITURE ON EDUCATION OF COLOURED SCHOLARS, IN THE UNION, 1917 TO 1920.

Year.	Number of Schools.				Training Schools.	Special Schools.	Expenditure.	Expenditure per Head.
	Native.	Asiatic.	Other Coloured.	Total.				
1917.....	920	45	1,970	2,935	27	7	£ 308,536	£1. 10s. 8d.
1918.....	—	—	—	2,877	27	10	327,741	£1. 9s. 9d.
1919.....	2,593	45	450	3,008	29	9	368,901	£1. 12s. 7d.
1920.....	2,593	49	449	3,091	29	9	538,200	£2. 6s. 2d.

##### (ii) NUMBER OF STATE AND STATE-AIDED SCHOOLS AND STATE EXPENDITURE ON EDUCATION OF COLOURED SCHOLARS, IN EACH PROVINCE, 1920.

Province.	Number of Schools.				Training Schools.	Special Schools.	Expenditure.
	Native.	Asiatic.	Other Coloured.	Total.			
Cape of Good Hope..	1,585	—	409	1,994	18	7	£ 387,995
Natal.....	468	47	19	534	7*	—	72,875
Transvaal.....	409	2	21	432	4	1	73,330
Orange Free State....	131	—	—	131	—	1	4,000
UNION.....	2,593	49	449	3,091	29	9	538,200

\* Two classes for Asiatics and five for Natives.

##### (iii) NUMBER OF COLOURED SCHOLARS AND TEACHERS IN STATE AND STATE-AIDED SCHOOLS IN THE UNION, 1917 TO 1920.

Year.	Native.			Asiatic and Other Coloured.			All Scholars.	Percentage of Attendance to Average Enrolment.	Number of Teachers.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.			
1917..	18,910*	24,382*	56,845	71,509	73,065	144,574†	201,419	82.6	5,476
1918..	20,234*	24,463*	58,560	81,950	79,594	161,544†	220,104	83.6	5,692
1919..	—	—	168,770	—	—	54,514	223,284	83.3	5,693
1920..	—	—	182,647	—	—	55,490	238,137	83.9	6,145

\* Natal and Transvaal only.

† Including native scholars in Cape of Good Hope.

**(iv) NUMBER OF COLOURED SCHOLARS IN STATE AND STATE-AIDED SCHOOLS IN EACH PROVINCE, LAST QUARTER, 1920.**

Province.	Native.			Asiatic.			Other Coloured.			All Scholars.
	Boys.	Girls.	Total.	Boys.	Girls.	Total.	Boys.	Girls.	Total.	
Cape of Good Hope.	—	—	110,946	—	—	—	—	—	—	154,422
Natal.....	10,242	15,461	25,703	5,204	925	6,129	1,172	1,213	2,385	34,217
Transvaal.....	—	—	29,505	331	18	349	1,637	1,514	3,151	33,065
Orange Free State.	—	—	16,433	—	—	—	—	—	—	16,433
UNION.....	—	—	182,647	—	—	—	—	—	49,012	238,137

**(v) NUMBER OF COLOURED TEACHERS IN STATE AND STATE-AIDED SCHOOLS IN EACH PROVINCE, LAST QUARTER, 1920.**

Teachers.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Certificated.....	2,643	597	488	—	3,728
Uncertificated.....	1,550	395	463	—	2,417
TOTAL.....	4,202	992	951	—	6,145

**(vi) ENROLMENT OF COLOURED SCHOLARS IN STATE AND STATE-AIDED SCHOOLS IN LAST QUARTER, AVERAGE ENROLMENT, AND AVERAGE ATTENDANCE, IN EACH PROVINCE, 1920.**

Province.	Enrolment in Last Quarter.			Average Enrolment for Year.	Average Attendance for Year.	Percentage of Attendance to Average Enrolment.
	Boys.	Girls.	Total.			
Cape of Good Hope.....	72,478	81,944	154,422	148,120	122,787	82.9
Natal.....	16,618	17,599	34,217	34,199	29,204	85.5
Transvaal.....	—	—	33,065	32,601	28,212	86.6
*Orange Free State.....	—	—	16,433	—	—	—
UNION.....	—	—	238,137	214,920	180,293	83.9

\* See table (viii) in this section.

**vii) TRAINING INSTITUTIONS FOR COLOURED TEACHERS IN EACH PROVINCE, LAST QUARTER, 1920.**

Provinces.	Number of Institutions.	Number of Students.			Number of Teachers.		
		Male.	Female.	Total.	White.	Coloured.	Total.
Cape of Good Hope....	18	1,089	1,002	2,091	85	2	87
Natal.....	7	167	213	380	25	6	31
Transvaal.....	3	206	75	281	15	—	15
Orange Free State.....	—	—	—	—	—	—	—
UNION.....	28	1,462	1,290	2,752	125	8	133

## (viii) NATIVE SCHOOLS IN ORANGE FREE STATE, 1920.

Description.	Wes- leyan.	Dutch Re- formed.	Church of England.	Berlin Mission.	Con- grega- tional.	Primi- tive M'th'dist	Presby- terian.	Other.	Total.
Number of Schools*.....	17	46	25	13	1	10	14	10	136
Number of Children (Last Quarter).....	7,289	4,124	2,111	588	380	415	555	1,021	16,433
Amount of Grant.....£	1,782	1,003	511	141	84	100	146	233	4,000

\* 1919.

There is, in addition, a native school at Thaba 'Nchu for training native girls for domestic service. There were forty-seven pupils on 31st December, 1920, and four European lady teachers.

## (ix) STATE EXPENDITURE ON EDUCATION OF COLOURED SCHOLARS IN EACH PROVINCE, 1920.

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Expenditure.....	£387,905	£72,875	£73,330	£4,000	£538,200
Expenditure per scholar.....	£2. 10s. 3d.	£2. 2s. 7d.	£2. 4s. 4d.	4s. 10d.	£2. 5s. 2d.

## § 4. Statistics of Private Schools.

The figures given in the following tables are derived from returns furnished under regulations framed under section 10 of the Statistics Act, No. 38 of 1914, with relation to every school or other educational or training institution in the Union which was not maintained by the Government, was not in receipt of any Government grant, and in which not less than five pupils received instruction other than religious instruction during the calendar year.

## (i) NUMBER OF PRIVATE SCHOOLS (ACCORDING TO RACE OF PUPILS) IN EACH PROVINCE, 1917 TO 1921.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		Total.
	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	
1917.....	107	6	19	19	85	3	29	—	240*	28	268
1918.....	96	8	24	45	81	3	13	—	214†	56	270
1919.....	121	12	50	85	96	22	25	14	202‡	133	425
1920.....	101	17	40	45	91	42	15	12	247‡	116	363
1921.....	102	11	35	58	83	87	19	21	239‡	177	416

NOTE.—Owing to influenza epidemic in 1918, returns in respect of some schools were unobtainable.

\* One school with white pupils also includes coloured pupils.

† Four schools with white pupils also include coloured pupils.

‡ Three schools with white pupils also include coloured pupils.

## (ii) DATE OF FOUNDATION OF AND RACE OF PUPILS IN PRIVATE SCHOOLS IN EACH PROVINCE, DECEMBER, 1921.

DATE OF FOUNDATION.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		
	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	Total.
1880.....	13	—	4	2	1	—	1	—	19	2	21
1881-85.....	7	—	1	2	—	1	—	—	8	3	11
1886-90.....	5*	—	—	—	4	—	1	2	10	2	12
1891-95.....	6	—	3	1	1	4	1	—	11	5	16
1896-1900.....	10*	—	4	4	4	—	—	—	18	4	22
1901-05.....	9	1	6	5	11	2	2	2	28	10	38
1906-10.....	14	1	1	5	10	10	1	4	26	20	46
1911-15.....	15*	3	9	16	16	13	2	2	42	34	76
1916-20.....	17	4	6	12	32	30	6	4	61	50	111
1921.....	6	2	1	7	2	20	4	2	13	31	44
Unstated.....	—	—	—	4	2	7	1	5	3	16	19
<b>TOTAL.....</b>	<b>102</b>	<b>11</b>	<b>35</b>	<b>58</b>	<b>83</b>	<b>87</b>	<b>19</b>	<b>21</b>	<b>239</b>	<b>177</b>	<b>416</b>

\* Three schools with white pupils also include coloured pupils.

## (iii) NUMBER OF PRIVATE SCHOOLS IN EACH PROVINCE, DECEMBER, 1921 (CLASSES OF INSTRUCTION GIVEN AND RACE OF SCHOLARS).

CLASSIFICATION OF SCHOOLS.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		
	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	Total.
Kindergarten.....	5	—	—	3	5	6	—	2	10	11	21
Elementary and Preparatory*.....	25*	5	11	30	21	36	6	11	63	82	145
General Primary.....	22*	6	5	24	18	45	7	8	52	83	135
Secondary and High Schools.....	39	—	16	1	29	—	4	—	88	1	89
Commercial and Business.....	11*	—	3	—	10	—	2	—	26	—	26
Other.....	—	—	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>102</b>	<b>11</b>	<b>35</b>	<b>58</b>	<b>83</b>	<b>87</b>	<b>19</b>	<b>21</b>	<b>239</b>	<b>177</b>	<b>416</b>

\* Three schools with white pupils also include coloured pupils.

## (iv) SUMMARY OF PRIVATE SCHOOLS IN THE UNION, DECEMBER, 1917 TO 1921—NUMBER OF PUPILS AND RELIGIOUS DENOMINATIONS.

YEAR.	Church of England.	Dutch Reformed.	Roman Catholic.	Wesleyan.	Lutheran.	Other Denominations.	Undenominational.	Total.
1917—								
No. of Schools...	44	25	42	6	4	26	121	268
No. of Pupils...	3,052	288	7,608	539	186	945	4,461	17,129
1918—								
No. of Schools...	42	18	70	7	7	43	83	270
No. of Pupils...	2,903	292	9,696	839	300	2,054	3,523	19,407
1919—								
No. of Schools...	54	38	79	14	16	92	132	425
No. of Pupils...	3,765	797	11,431	1,054	643	3,157	6,577	27,424
1920—								
No. of Schools...	39	28	70	15	19	73	119	368
No. of Pupils...	3,663	604	12,182	1,521	1,240	3,305	6,888	29,403
1921—								
No. of Schools...	51	20	85	20	51	68	121	416
No. of Pupils...	3,786	370	12,771	1,782	1,813	3,268	5,838	20,628

(v) PRIVATE SCHOOLS IN THE UNION, DECEMBER, 1921—NUMBER OF PUPILS AND RELIGIOUS DENOMINATIONS.

Race and Number of Pupils.	Church of England.	Dutch Reformed.	Roman Catholic.	Wesleyan.	Lutheran.	Other Denominations.	Undenominational.	Total.
White—								
Under 100.....	25	12	20	1	4	2	97	161
100-199.....	7	—	23	3	—	1	8	42
200-299.....	1	—	12	1	—	—	4	18
300 and over...	3	—	12	—	—	—	—	15
White & Coloured—								
Under 100.....	—	—	—	—	—	—	2	2
100-199.....	—	—	1	—	—	—	—	1
Coloured—								
Under 100.....	15	8	16	11	46	55	8	159
100-199.....	—	—	—	4	1	10	1	16
200-299.....	—	—	1	—	—	—	1	2
<b>TOTAL.....</b>	<b>51</b>	<b>20</b>	<b>85</b>	<b>20</b>	<b>51</b>	<b>68</b>	<b>121</b>	<b>416</b>
<b>TOTAL NUMBER OF PUPILS.....</b>	<b>8,786</b>	<b>970</b>	<b>12,771</b>	<b>1,782</b>	<b>1,813</b>	<b>3,268</b>	<b>5,838</b>	<b>29,628</b>

(vi) ENROLMENT IN PRIVATE SCHOOLS, LAST QUARTER, 1917 TO 1921, AND AVERAGE ENROLMENT, AVERAGE ATTENDANCE, AND RACE OF PUPILS.

YEAR.	ENROLMENT.		AVERAGE ENROLMENT.		AVERAGE ATTENDANCE.	
	White.	Coloured.	White.	Coloured.	White.	Coloured.
1917.....	15,956	1,173	15,508	1,184	13,885	992
1918.....	17,275	2,132	17,792	1,987	15,770	1,578
1919.....	22,423	5,001	21,909	4,639	19,491	3,069
1920.....	23,428	6,035	23,188	5,376	20,536	4,345
1921.....	21,589	8,039	21,346	7,199	19,480	5,634

(vii) ENROLMENT IN PRIVATE SCHOOLS, LAST QUARTER, 1921 (PROVINCES)—AGES AND RACE OF PUPILS.

AGE OF PUPILS IN YEARS.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		
	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	White.	Col'd.	Total.
Below 7.....	698	67	177	313	839	346	106	53	1,820	770	2,599
7.....	620	74	144	293	687	286	67	91	1,518	744	2,262
8.....	619	54	173	328	707	309	109	122	1,608	813	2,421
9.....	658	32	203	301	696	305	85	105	1,642	743	2,385
10.....	675	47	214	305	612	294	60	119	1,561	765	2,326
11.....	721	47	255	240	575	330	71	102	1,622	719	2,341
12.....	744	37	291	255	626	424	66	108	1,727	824	2,551
13.....	816	60	286	181	610	358	79	98	1,791	697	2,488
14.....	852	42	295	190	578	346	73	89	1,798	667	2,465
15.....	934	35	382	103	448	373	60	75	1,824	580	2,410
16 and over.	2,455	25	759	185	1,280	361	184	131	4,678	702	5,380
<b>TOTAL.....</b>	<b>9,792</b>	<b>520</b>	<b>3,179</b>	<b>2,694</b>	<b>7,658</b>	<b>3,732</b>	<b>960</b>	<b>1,093</b>	<b>21,589</b>	<b>8,039</b>	<b>29,628</b>



## (viii) ENROLMENT, LAST QUARTER, 1921, AND AVERAGE ENROLMENT AND ATTENDANCE, YEAR 1921—CLASSIFICATION OF SCHOOLS AND SEX OF PUPILS.

Classification of Schools.	Enrolment Last Quarter.			Average Enrolment.	Average Attendance.	Percentage of Average Attendance to Average Enrolment.
	Male.	Female.	Total.			
White—						
Kindergarten.....	69	40	109	90	74	82.2
Elementary and Preparatory	1,431	1,062	2,493	2,435	2,229	91.5
General Primary.....	842	1,145	1,987	1,901	1,691	89.0
Secondary and High Schools	6,417	8,373	14,790	14,735	13,739	93.2
Commercial and Business....	817	1,393	2,210	2,185	1,747	80.0
Other Schools.....	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>9,576</b>	<b>12,013</b>	<b>21,589</b>	<b>21,346</b>	<b>19,480</b>	<b>91.3</b>
Coloured.....	4,193	3,846	8,039	7,199	5,634	78.3
<b>ALL SCHOLARS.....</b>	<b>13,769</b>	<b>15,859</b>	<b>29,628</b>	<b>28,545</b>	<b>25,114</b>	<b>88.0</b>

## (ix) BOARDERS IN PRIVATE SCHOOLS IN EACH PROVINCE, DECEMBER, 1917 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1917.....	1,670	712	1,103	386	3,871
1918.....	2,091	1,330	1,267	128	4,816
1919.....	2,518	1,810	1,816	356	6,500
1920.....	2,895	1,767	1,490	252	6,404
1921.....	2,091	1,552	1,430	413	6,086

## (x) BOARDERS IN PRIVATE SCHOOLS IN EACH PROVINCE, DECEMBER, 1921.

Classification.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
White—					
Boys.....	1,429	679	430	101	2,639
Girls.....	1,199	873	1,000	312	3,384
<b>TOTAL.....</b>	<b>2,628</b>	<b>1,552</b>	<b>1,430</b>	<b>413</b>	<b>6,023</b>
Coloured—					
Boys.....	30	—	—	—	30
Girls.....	33	—	—	—	33
<b>TOTAL.....</b>	<b>63</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>63</b>
<b>GRAND TOTAL.....</b>	<b>2,691</b>	<b>1,552</b>	<b>1,430</b>	<b>413</b>	<b>6,086</b>

(xi) **TEACHERS IN PRIVATE SCHOOLS IN THE UNION, LAST QUARTER, 1917 TO 1921.**

YEAR.	WHITE.			COLOURED.			TOTAL.
	Male.	Female.	Total.	Male.	Female.	Total.	
1917—							
Graduates.....	58	73	131	—	—	—	131
Non-Graduates...	141	658	799	22	17	39	838
1918—							
Graduates.....	101	112	213	1	2	3	216
Non-Graduates...	173	723	896	25	40	65	961
1919—							
Graduates.....	125	135	260	8	4	12	272
Non-Graduates...	188	933	1,121	64	101	165	1,286
1920—							
Graduates.....	130	131	261	16	7	23	284
Non-Graduates...	209	877	1,086	69	76	145	1,231
1921—							
Graduates.....	127	133	260	25	10	35	295
Non-Graduates...	203	856	1,059	103	90	193	1,252

(xii) **TEACHERS (CERTIFICATED AND UNCERTIFICATED) IN PRIVATE SCHOOLS IN THE UNION, LAST QUARTER, 1921.**

QUALIFICATIONS.	WHITE.			COLOURED.			TOTAL.
	Male.	Female.	Total.	Male.	Female.	Total.	
Graduates of Universities—							
Certificated.....	52	85	137	16	4	20	157
Uncertificated.....	75	48	123	9	6	15	138
Non-Graduates—							
Certificated.....	106	402	508	27	6	33	541
Uncertificated.....	97	454	551	76	84	160	711
TOTAL.....	330	989	1,319	128	100	228	1,547

## § 5. Scientific Research in the Union.

1. **General.**—The present period is one of transition and incipient movements in the direction of scientific research in the Union; and for that reason apart from the absence as yet of complete data, it is not possible to deal with the subject comprehensively. All that can be done is to review with an approximate degree of completeness, existing organizations and facilities in process of being created, with such historical particulars as may be available.

The outstanding feature of recent years in this respect has been the effort to stimulate research activities by the co-ordination of the various bodies engaged or interested in them. The organizations described in paragraph 7 of the following section endeavour, each in their own respective spheres, to promote that object. The same tendency was displayed in a movement, initiated in June, 1916, at a Conference of the Councils of various scientific and technical bodies in the Transvaal, for the furtherance of scientific research, with special reference to its application to trade and industry in the Union. The action of the Government in instituting the Research Grant Board, as a development of the Advisory Board of Industry and Science (see Chapter XVIII), had a similar motive.

2. **Research in University Institutions.**—(i) *General.*—In the third and fourth issues of this Year Book details were given of facilities for scientific research provided in various university institutions in the Union. A summarized version of the facts previously published is contained in the following paragraphs, and reference is made therein to recent developments which may have occurred. In the case of the University of Stellenbosch the particulars which follow are published for the first time in this Year Book.

(ii) *University of Cape Town.*—Provision is made for research work in the faculty of science, in civil, electrical, chemical and mechanical engineering, and in the faculty of medicine (anatomy, physiology, bacteriology, pathology, and pharmacology). A good deal of general research has been done by members of the University staff, and particular reference is made to the work of the late Dr. H. Pearson (South African flora), Dr. J. D. F. Gilchrist (marine biology), Sir J. C. Beattie (magnetic survey of South Africa, in association with Professor J. T. Morrison), and Professor H. Bohle (engineering).

(iii) *University of Stellenbosch.*—In the department of mathematical physics the research work done has included investigations into the questions of earth magnetism, periodicity of rainfall, the temperature and humidity of soils, the measurement of barometric pressures, and methods of recording separate components of wind velocities. In the department of physics equipment exists for the conduct of research in that science. The department of chemistry is being provided with new accommodation which will enable more extensive research work to be carried on. In addition to spacious general laboratories for the respective branches of chemistry, the new building includes several smaller rooms for advanced work (assaying, mineral analysis, combustion analysis) as well as a reading-room and museum. The department of geology has equipment for the determination of all the crystallographic, physical, and chemical characters of mineral substances, and possesses a large collection of South African and other minerals and rocks for study and comparison. The museum of the department contains representative material for stratigraphical study. In the departments of botany and zoology adequate facilities exist for research, but there is a lack of the scientific literature necessary for the prosecution for this class of work.

(iv) *University of the Witwatersrand, Johannesburg.*—The department of metallurgy in this institution possesses a very complete equipment for the exhaustive study of metals from a practical standpoint. A considerable amount of original work has been carried out in this department. In geology the composition and origin of the auriferous conglomerates of the Witwatersrand have been investigated by Professor R. B. Young, and miscellaneous research has been done in mineralogy and petrology. Ample facilities exist for research in mechanical engineering, zoology, botany, physics, and medicine (notably physiology), and a considerable amount of work has been done in each of these departments. In the department of chemistry an analytical and research chemist has been appointed, and a special laboratory has been equipped for research purposes.

(v) *Rhodes University College, Grahamstown.*—Facilities exist for enabling students to acquire a practical knowledge of various sciences. As a continuation of Professor J. E. Duerden's investigations on the ostrich, which have provided valuable data for the study of certain problems in mutation and evolution, attention has been directed to the question of the origin of feathers. The subject forms the theme of a paper which has been published. Investigations, in some cases with the assistance of advanced students in zoology, have also been conducted upon the tape-worm of the ostrich; the method of degeneration of the limbs and limb-girdles in the serpentiform lizards of South Africa; and the degree of variation in certain skeletal parts of the penguin. In the department of botany research work undertaken by Dr. S. Schonland has been confined largely to taxonomic and anatomical study of South African plants. Work in connection with the Botanical Survey of South Africa has been continued, particularly in the south-eastern area of the Cape Province. An account of the botanical literature of South Africa has been drawn up for publication in the "Botanical Survey Guide." Research work has been conducted by Professor E. H. L. Schwarz (irrigation of the Kalahari Desert, and geological structure of the moon, illustrating terrestrial phenomena), and by Mr. S. W. Watson (detection of wireless signals under various conditions).

(vi) *Transvaal University College, Pretoria.*—Important research work has been done in various directions during recent years at this institution, which provides the necessary facilities to students and members of the staff. The following have been among the subjects investigated:—The Saldanha Bay phosphates; the alkali deposits at Hamman's Kraal; the Brak River soils; locust poisons; "lamziekte" (in conjunction with the Government Laboratory, Onderstepoort); the reclamation of alkali soils along the Piennars River; decolorization and utilization of cane-wax; production of essential oils from South African plants; digestion trials on teff grass (*Eragrostis abyssinica*); and the agro-geographical distribution of cotton in the Union.

(vii) *Grey University College, Bloemfontein.*—The College has facilities for research in the departments of botany, chemistry, physics, and zoology. In the case of the latter science special attention is devoted to the problems of zoogeography and histology. The herbarium of the botany department is the regional herbarium for the Orange Free State and Basutoland and for the Union Botanical Survey.

**3. Research Grant Board.**—Towards the end of 1918 the Government appointed a body with the title of the *Research Grant Board* under the chairmanship of Professor R. B. Young, with a view to obtaining advice regarding the practical measures necessary for the encouragement of scientific research in the Union. Acting on the advice of the Board, the Government has established a system of research scholarships and of grants towards the expense of scientific research, open to all persons resident within the Union. The *scholarships* vary in value from £80 to £250 per annum for one or two years, and may be renewed for a further period. Applications must be made through and with the approval of the governing body of one of the higher educational institutions of the Union, or of a museum or a research institute. The *research grants* are made only for the actual expenses of investigation, and are not intended to support the grantee while carrying out his research. In certain cases grants may be made in aid of the publication of the results of research.

**4. The South African Institute for Medical Research.**—(i) *Establishment.*—The South African Institute for Medical Research in Johannesburg was established in 1912 by agreement between the Union Government and the *Witwatersrand Native Labour Association* (acting on behalf of the mining industry of Transvaal), for the purpose of carrying out researches and investigations with a view to the prevention and treatment of human diseases.

The site for the buildings, which were completed in August, 1914, was donated by the Government; whilst the cost of the buildings and their equipment, amounting to about £45,000, was borne by the mining industry.

The Institute is controlled by a Board of six members, three of whom are nominated by the Government and three by the *Witwatersrand Native Labour Association*, the technical direction and control being in the hands of the Director. The Board of Management consists of Mr. P. Ross Frames, C.M.G. (Chairman), Mr. Samuel Evans, Mr. J. G. Lawn, C.B.E., Sir Robert Kotzé, Kt. (Government Mining Engineer), Dr. J. Alexander Mitchell (Secretary for Public Health), and Dr. Charles Porter; with the Director (W. Watkins-Pitchford, M.D., F.R.C.S., D.P.H.).

The cost of maintenance of the Institute is borne by the Government and the Association in equal proportions up to a limit of £10,000 per annum, and in addition a substantial revenue is earned from the performance of bacteriological and pathological services—other than research work—for the Government, the mining industry, public bodies, and the general public through the medium of the medical profession. For the financial year 1920-21 the cost of maintenance was over £28,000.

(ii) *Organization and Functions.*—The work of the Institute is carried on in two main divisions: Research and Routine.

(a) *Research Division.*—In addition to the Director (Dr. Watkins-Pitchford), the staff at present consists of a Research Bacteriologist (Sir Spencer Lister), and a Parasitologist (Dr. Annie Porter), and a Research Fellow (Dr. A. Mavrogordato), each with trained assistants. Professor H. B. Fantham is attached to this division as Honorary Protozoölogist. The most prominent line of research which up to now has been pursued is that in respect of the prevention of pneumonia, a disease which, until recently, accounted for most of the sickness and mortality amongst the native labourers on the mines in South Africa. A considerable amount of work has also been or is in progress of being carried out in connection with such diseases as Silicosis, Tuberculosis, Bilharziasis, and Cerebro-Spinal Meningitis, as well as in the domain of pure Bacteriology.

(b) *Routine Division.*—The staff consists of a Superintendent (Dr. J. H. Harvey-Pirie), a Pathologist, and a body of experienced technical assistants. Owing to the difficulty of obtaining sufficient skilled laboratory assistance, the Institute has initiated a system of apprenticeships, embracing a three years' course of training for well-educated youths desirous of becoming technical assistants. This division carries out a large amount of diagnostic investigations for hospitals and the medical profession, in addition to the usual bacteriological services required for the Government, the mining industry, and municipalities. These services include the performance of serological tests and bacteriological examinations in connection with the diagnosis of Syphilis, Enteric Fever, Tuberculosis, Diphtheria, Malaria, Plague, etc.; the bacteriological examination of water, milk, and foods; the bacteriological testing of the efficiency of disinfectants; the histological examination of pathological specimens; the performance of medico-legal investigations in charges of murder, etc.; public health investigations, e.g. the examination of rats for infection by the plague bacillus, the detection of *carriers* of infection, etc.; and the preparation of

bacterial vaccines and sera, of which nearly a million doses are prepared and issued in the course of each year.

(iii) *Miners' Phthisis Medical Bureau.*—Since the establishment of the Miners' Phthisis Medical Bureau in August, 1916, its work has been carried out in the Institute buildings, a portion of which has been allocated for the purpose. Under the Miners' Phthisis Acts, every applicant for employment underground on the mines of the Witwatersrand is required to submit himself for medical examination at the Bureau, the object being to exclude from work underground any person who is infected with tuberculosis. In addition, all miners employed underground must be similarly examined at intervals of six months to ascertain whether or not they are suffering from either tuberculosis or silicosis, or both. The examination conducted at the Bureau is a very thorough one, and embraces both clinical and X-ray investigations. Exclusive of the Chairman (Dr. Watkins-Pitchford), the Medical Staff consists of a Radiographer and nine whole-time medical examiners. The remainder of the staff comprises the Secretary, an electrician, photographers, and clerical assistants.

A complete medical and radiographic record of 43,520 miners and others has been obtained.

Since the inauguration of the Bureau, 153,025 examinations have been carried out and the X-ray installation is believed to be the most powerful and complete in the world. Further particulars as to miners' phthisis are given in Chapter VII of this Year Book.

## § 6. Miscellaneous.

1. *Public Libraries.*—(i) *General.*—There are numerous public libraries in the Union, all larger towns and many even of the smaller towns having established libraries under public control, many under the supervision of the municipal authorities and many recognized and assisted by the Government. In terms of the Second Schedule to the *Financial Relations Act*, No. 10 of 1913, it is expressly provided that, although the administration of public libraries may be transferred to Provincial Administrations, the South African Public Library, Cape Town, and the Government (State) Library, Pretoria, shall not be so transferred, thus establishing the national character of these two institutions. Under section 150 of Act No. 9 of 1916, dealing with copyright, the following four libraries are mentioned as entitled to the receipt of all publications copyrighted in the Union: the South African Public Library, Cape Town, the State Library, Pretoria, the Library of the Natal Society, Pietermaritzburg, and the Bloemfontein Public Library, representing the capitals of the four colonies now constituting the Union. There are other important and interesting libraries, such as those at Kimberley, Port Elizabeth, and Johannesburg; but exigencies of space compel the limitation of special notes to the four libraries recognized by the *Copyright Act*.

(ii) *South African Public Library.*—The South African Public Library at Cape Town is the oldest, by far the largest, and in many ways the most important and interesting in the Union. It was founded by Lord Charles Somerset in 1818. At first supported by a tax on every cask of wine which came into Cape Town for sale, from 1829 it has had to depend largely on public subscriptions. It contains the *Dessinian Collection* bequeathed by J. N. van Dessin in 1761, the *Grey Collection* given by Sir George Grey in 1860, and the *Hofmeyr* and *Wessels Collections*. The Library now contains some 135,000 volumes, chosen largely to meet local academic needs, and to serve as a national reference library for South Africa. It is especially rich in literature relating to South Africa, and in sets of scientific serial publications. The *Grey Collection* contains nearly one hundred books printed in the fifteenth century, many fine illuminated manuscripts ranging from the tenth to the fifteenth century, the First and Second Folios of Shakespeare, two Caxtons, a valuable fourteenth century MS. of Dante, first editions of Spenser, Milton, etc., two manuscripts of Livingstone, and a large collection of manuscripts and rare printed works on the Bantu, Hottentot, and Bushman languages. By Act No. 7 of 1921, the ownership of the collection was vested in the Library, and it was provided that certain books and manuscripts relating to New Zealand and Polynesia might be transferred to the Government of New Zealand in exchange for books or manuscripts in the Auckland Public Library which belonged to Sir George Grey and which relate to South Africa. The General Library has benefited by many valuable contributions, such as the Diary of Adam Tas, a collection of botanical and zoological water-colours done on Van der Stel's Koperberg Expedition of 1685, reports of Commandant-General Pretorius, the earliest specimens of Cape printing and lithography, and has many other similar possessions which have made the Library's collection unique in respect of matters affecting South Africa.

(iii) *State Library, Pretoria.*—The State Library, Pretoria—the old Staatsbibliotheek of Republican times—was established in the year 1887, and has advanced from small beginnings to being one of the most extensive and valuable book collections in South Africa, containing some 67,000 volumes, in addition to many thousands of statistical works

and pamphlets. The reference department includes a very comprehensive South African collection, consisting of some thousands of volumes, of special interest to students of South African history and literature. The collection is particularly rich in early Transvaal literature and records. The number of subscribers on the registers of the circulating section of the Library in the year 1921 amounted to 3,170. The Library, which had for some years been hampered in its development by the need of more commodious premises, is now housed in a larger building, which is in every respect more appropriate to its status as a national institution.

(iv) *Natal Society's Library.*—The Library of the Natal Society dates back to 1846, originating in a small subscription library started at Pietermaritzburg for the benefit of the immigrants who settled in the district. In May, 1851, at a public meeting of the inhabitants, was formed the *Natal and East African Society*, designed to secure and publish accurate and authoritative information "for the development of the physical, commercial, and other resources of Eastern Africa." The Society, in addition to its own library consisting mostly of presentation volumes, took over the earlier library. The Society was incorporated in a charter of 1874, and acquired a site in the city which it has retained since. The Library now possesses over 39,000 selected works, and recent remodelling of the buildings has provided accommodation for large additions to the number. The Society has gradually narrowed its functions, and these are now limited to the maintenance of the present Library, and its reading-rooms, and the promotion and study of literature, art, and science by lectures and in other ways.

(v) *Bloemfontein Public Library.*—The Bloemfontein Public Library was established in 1875 by a local committee as a newsroom rather than a library, the municipal council granting a site, and the Orange Free State Government providing a structure of wood. In 1878 the library, which did not prosper in its poor surroundings, was taken over and carried on by the Bloemfontein Literary and Scientific Society, the books being transferred in trust to the Municipality of Bloemfontein; but in 1896, the Society having become defunct, it was resolved to place the Library under a committee elected by subscribers. The Volksraad gave a grant for upkeep, and the municipality promised a site for a library building, in the meantime granting the members the use of the old Council Chamber. The present building was erected in 1905, and the Library has ever since progressed steadily. The early committees of the Library contain the names of many persons well known in the history of the Orange Free State; and Dr. Brill, for many years chairman of the committee, began a collection of Orange Free State records, which forms the nucleus of a valuable and growing section devoted to such records, and other Africana. The addition of a children's room to the building is a recent gift of the municipality, and a yearly increase in membership marks the appreciation of the public.

(vi) *Statistics as to Public Libraries.*—The following tables give statistics as to Public Libraries in receipt of Government Grants and other libraries in the Union for the years 1913–1921, with (a) particulars as to the number of books, number of subscribers, and monthly circulation of books; and (b) the amount of revenue and expenditure:—

(a) STATISTICS OF PUBLIC LIBRARIES.

(i) SUMMARY, 1913 TO 1921.

YEAR.	NUMBER OF LIBRARIES.	NUMBER OF VOLUMES.		NUMBER OF SUBSCRIBERS.	AVERAGE MONTHLY CIRCULATION.			
		Added during Year.	Total, 31st December.		Total.	Fiction.	Technical and Education.	Other.
					No.	Per cent.	Per cent.	
1913..	206	62,358	976,522	19,528	96,692	79.0	21.0	
1914..	156	49,260	1,031,890	19,954	—	80.0	20.0	
1915..	154	40,857	1,044,577	19,895	106,677	80.0	20.0	
1916..	218	45,862	1,093,872	20,908	115,812	79.6	20.4	
1917..	215	51,331	1,112,879	23,858	153,559	80.6	19.4	
1918..	280	54,389	1,153,136	28,633	158,106	80.5	11.3	8.2
1919..	228	67,895	1,234,751	33,763	197,809	80.0	13.0	7.0
1920..	225	69,413	1,270,213	37,943	217,278	80.8	13.4	5.8
1921..	221	63,408	1,303,089	37,833	234,849	80.0	13.9	6.1

## (ii) PARTICULARS, 1921.

LIBRARIES.	NUMBER OF VOLUMES.		NUMBER OF SUBSCRIBERS.	AVERAGE MONTHLY CIRCULATION.				
	Added during Year.	Total 31st Dec.		Total.	Fiction.	Technical and Education.		Other.
						No.	Per cent.	
South African Public Library, Cape Town.....	2,628	185,087	1,511	9,417	51.8	43.5	4.9	
State Library, Pretoria.....	4,453	66,990	3,170	12,004	71.0	29.0	—	
Natal Society's Library, Pietermaritzburg.....	2,088	89,112	1,222	9,374	76.9	7.1	16.0	
Durban.....	3,788	37,107	3,143	23,859	73.1	17.9	9.0	
Bloemfontein.....	1,274	23,612	718	8,924	42.3	22.3	35.4	
Port Elizabeth.....	1,519	50,442	—	12,649	68.2	11.8	—	
Johannesburg.....	5,782	55,920	4,118	21,558	74.3	25.7	—	
Kimberley.....	2,024	47,065	1,292	7,710	82.0	3.7	14.3	
Albany, Grahamstown.....	619	7,639	449	3,048	89.7	10.0	3	
East London.....	1,475	16,181	643	4,765	87.7	7.0	5.3	
Other Libraries (210).....	37,818	323,934	21,607	121,246	87.0	8.4	4.6	
<b>TOTAL, 1921 (220).....</b>	<b>63,468</b>	<b>1,303,089</b>	<b>37,833</b>	<b>234,849</b>	<b>80.0</b>	<b>13.9</b>	<b>6.1</b>	

## (b) PUBLIC LIBRARIES—RECEIPTS AND EXPENDITURE.

## (i) SUMMARY, 1913 TO 1921.

YEAR.	NUMBER OF LIBRARIES.	RECEIPTS.			EXPENDITURE.		
		Government Grant.	Other.	Total.	Books and Periodicals.	Other.	Total.
1913.....	206	£ 15,162	£ 20,941	£ 45,103	£ 17,383	£ 27,689	£ 45,072
1914.....	156	14,667	31,990	46,657	14,303	32,083	46,386
1915.....	154	14,018	31,591	45,609	13,232	30,977	44,209
1916.....	218	14,442	29,459	43,901	14,092	31,476	45,568
1917.....	215	13,384	33,793	47,177	16,428	29,741	46,169
1918.....	230	13,759	38,868	52,627	16,959	35,854	52,313
1919.....	228	15,363	44,620	59,983	21,124	37,342	58,466
1920.....	225	16,679	52,538	69,217	25,532	44,582	70,114
1921.....	220	18,819	60,766	79,585	26,727	59,104	85,831

## (ii) PARTICULARS, 1921.

LIBRARIES.	RECEIPTS.			EXPENDITURE.		
	Government Grant.	Other.	Total.	Books and Periodicals.	Other.	Total.
South African Public Library, Cape Town.....	£ 2,125	£ 3,389	£ 5,514	£ 1,460	£ 3,130	£ 4,590
State Library, Pretoria.....	1,500	2,570	4,070	1,365	2,952	4,317
Natal Society's Library, Pietermaritzburg.....	225	1,966	2,191	758	1,379	2,137
Durban.....	475	7,840	8,315	2,158	5,957	8,115
Bloemfontein.....	300	1,151	1,451	516	959	1,475
Port Elizabeth.....	500	3,483	3,983	1,223	2,743	3,966
Johannesburg.....	1,300	8,063	9,363	1,972	7,270	9,242
Kimberley.....	400	1,690	2,090	824	1,660	2,484
Albany, Grahamstown.....	300	972	1,272	449	7,091	7,540
East London.....	300	1,195	1,495	559	912	1,471
Other Libraries (210).....	11,394	28,647	40,041	15,443	25,051	40,494
<b>TOTAL, 1921 (220)....£</b>	<b>18,819</b>	<b>60,766</b>	<b>79,585</b>	<b>26,727</b>	<b>59,104</b>	<b>85,831</b>

2. **Art Galleries.**—Particulars are given hereunder in respect of the South African Art Gallery and the Michaelis Gallery in Cape Town, the Municipal Art Gallery in Durban, the Municipal Art Gallery in Pietermaritzburg, and the Municipal Art Gallery in Johannesburg :—

**ART GALLERIES, 1921.**

Particulars.	South African Art Gallery, Cape Town.	Michaelis Gallery, Cape Town.	Municipal Art Gallery, Durban.	Municipal Art Gallery, Pietermaritzburg.	Municipal Art Gallery, Johannesburg.
Date of establishment.....	1872	1916	1899	1903	1910
Number of visitors during year.....	75,189	35,000	56,910	4,100	87,918
Value of buildings and contents :—	£	£	£	£	£
Value of buildings.....	—	—	19,000	—	48,775
Value of furniture and fittings.....	1,000	250	628	—	430
Insured value of other contents (pictures, etc.).....	21,000	80,000	32,361	6,075	48,868
TOTAL.....	£ 22,000	£ 80,250	£ 51,987	£ 6,075	£ 98,073
Receipts :—	£	£	£	£	£
Government grant.....	500	1,000	101	101	—
Municipal and other grants.....	50	—	2,182	101	—
Other receipts.....	—	34	—	43	26
TOTAL.....	£ 550	£ 1,034	£ 2,283	£ 245	£ 26
Expenditure :—	£	£	£	£	£
Salaries and wages.....	257	466	265	—	1,278
Purchase of articles for Gallery.....	225	12	250	71	—
New buildings.....	—	—	—	—	—
Other expenditure.....	167	920	1,748	9	1,695
TOTAL.....	£ 649	£ 798	£ 2,263	£ 80	£ 2,973

3. **Museums.**—(i) The *South African Museum*, Cape Town, was established in 1855, and is under the control of a Director, who is responsible to the Trustees. The present Trustees are the Right Hon. John X. Merriman, P.C., M.L.A., Sir Thomas Muir, Kt., C.M.G., M.A., LL.D., D.Sc., F.R.S., and the Hon. J. W. Jagger, F.S.S., M.L.A. The Trustees are by law (Act No. 17 of 1857) required to submit an annual report to Parliament on the proceedings and progress of the institution. There is a scientific staff of five assistants under the Director and Keeper (L. A. Peringuey, D.Sc.). The Museum, housed at one time in the building now fully used by the South African Public Library, now possesses its own buildings. Amongst its most important contents is a collection of inscribed stones which have from time to time been excavated in the city of Cape Town during building and other operations. Many of these stones are of great antiquarian interest, since they record the visits of various vessels to Table Bay during the early days. They also served as marks to indicate where letters had been left by the crews of such vessels. Different sections of the Museum are devoted to the following :—

- (a) Geological and Mineralogical Collections.
- (b) Palaeontological Collections, both vertebrate and invertebrate.
- (c) Zoological Collections—Vertebrates (including Mammals, Birds, and Reptiles, Fish from Cape and Natal Waters, as well as South African Fresh-water Fish) and Invertebrates.
- (d) Anthropological-Ethnological Collections.
- (e) Life-sized models of the Bushman-Hottentot race (model casts from the living subject).
- (f) Colonial Antiquities.
- (g) Zimbabwe Relics—Greek, Assyrian, and Egyptian Antiquities.
- (h) The Herbarium, containing a large Botanical Collection.

In the grounds skeletons of large mammals are set up. The skeletons of six of the whales frequenting the Cape seas form notable exhibits. During the year 1921 the number of visitors to the Museum totalled 152,340.



The total number of specimens dealt with by the staff during the year was 8,314, of which 713 were forms new to the collection, and many new to science. The results of the scientific investigation of this material are published in the "Annals of the South African Museum," seventeen volumes of which are completed or in course of completion.

An annex to the Museum, known as the Koopmans De Wet House Museum, is devoted to the exhibition of early Cape-made furniture and domestic appurtenances in use from the Settlement to the year 1830.

(ii) *Transvaal Museum.*—The Transvaal Museum was established in 1893, and officially opened on 15th May, 1894, by President S. J. P. Kruger and the members of the First and Second Volksraad, under the name of the "Staatsmuseum."

During the first beginnings, the collections were stored on the ceiling of the Old Government Buildings, but in 1893 they were transferred to the small Market Buildings, and later, in 1903, they were removed to the buildings in Boom Street, where the bulk of the show collection is still exhibited.

In the meantime the centre part of the new buildings erected in Market Street for the Museum has been completed; there all the scientific work is done and the study collections are housed; but as the big halls, where eventually the collection will be exhibited, are at present occupied by Government departments, some years must elapse before these halls can be opened to the public.

The Museum is under the control of a Director, who is responsible to a Committee, of which Dr. I. B. Pole Evans is Chairman.

Every month a meeting of the Committee is held, when monthly reports of the director and assistants are read. An annual report is submitted every year to the Committee, and further handed to the Secretary for the Interior.

The Scientific staff consists of the Acting Director, Mr. C. J. Swierstra, and seven assistants.

The collections are classified into the following divisions:—

- Higher Vertebrates.
- Lower Vertebrates and Invertebrates, except Insects.
- Insects.
- Herbarium.
- Mineralogical and Geological Collections.
- Paleontological Collection.
- Ethnological Collection.
- Art Gallery.

The results of the scientific researches on the Museum collections are published in the "Annals of the Transvaal Museum," of which seven volumes are now completed.

The number of visitors for the year 1921 was about 73,450.

The grant-in-aid given by the Government of the Union amounted to £5,560.

(iii) *Particulars of Museums.*—Particulars are given hereunder for the year 1921 in regard to all museums in the Union:—

**MUSEUMS—NUMBER OF VISITORS, VALUE OF BUILDINGS, ETC., REVENUE AND EXPENDITURE, 1921.**

MUSEUM	Date of Establishment.	Number of Visitors.	Value of Buildings and Furniture.	Insured Value of Contents.	RECEIPTS.		Total Expenditure.
					Government Grants.	Other.	
			£	£	£	£	£
Albany Museum, Grahams-town.....	1855	*	16,000	14,642	2,182	96	2,277
McGregor Museum, Kimberley.....	1906	*	11,500	3,500	750	617	1,101
King William's Town Museum.....	1894	38,000	4,783	2,476	750	140	1,161
Port Elizabeth.....	1883	113,805	26,700	22,000	2,000	1,146	3,456
South African Museum, Cape Town.....	1855	152,340	43,000	6,000	6,000	337	7,270
Durban Museum.....	1887	68,322	25,406	13,144	650	4,064	4,714
Natal Museum, Pietermaritzburg.....	1903	30,000	48,150	15,000	1,660	41	1,792
Voortrekkers' Museum, Pietermaritzburg.....							
Transvaal Museum, Pretoria.....	1893	73,450	86,000	50,000	5,560	183	5,956
Rioemfontein Museum.....	1877	20,000	24,000	14,325	1,000	—	1,833

\* No Record.

**4. Zoological Gardens.**—The National Zoological Gardens of South Africa, Pretoria, were established in 1899 under the Government of the late South African Republic, and are under the control of a Director (A. K. Haagner, F.Z.S.), who is responsible to a Committee of Management (Chairman, H. C. Jorissen, Esq.). There are also a Finance Sub-Committee, a Gardens and Grounds Committee, and a Buying and Selling Committee. Income is derived from government, municipal, and other grants, the sale of tickets of admission, and sales of animals, together with subscriptions and other support from the public. The collection of animals is the best of its kind in South Africa.

Zoological Gardens have also been opened at Johannesburg and Durban.

The following table contains a statement of the number of visitors, receipts, and expenditure of Zoological Gardens during the year 1921 :—

**ZOOLOGICAL GARDENS—NUMBER OF VISITORS, RECEIPTS, EXPENDITURE, ETC., 1921.**

HEADING.	National Zoological Gardens, Pretoria.	Zoological Gardens, Johannesburg.	Zoological Gardens, Durban.
Date of establishment.....	1899	1905	1908
Number of visitors, 1921.....	132,330	—	76,374
	£	£	£
<b>Receipts :—</b>			
Government grant.....	6,000	—	—
Municipal and other grants.....	875	14,708	3,969
Entrance fees.....	4,229	—	1,535
Other receipts.....	1,114	536	63
<b>TOTAL.....£</b>	<b>12,218</b>	<b>15,244</b>	<b>5,567</b>
	£	£	£
<b>Expenditure :—</b>			
Salaries and wages.....	4,228	7,238	1,426
Purchase of animals.....	794	614	254
New buildings.....	135	3,798	—
Animal food.....	2,983	2,174	2,020
Other expenditure.....	4,161	2,293	1,866
<b>TOTAL.....£</b>	<b>12,301</b>	<b>16,117</b>	<b>5,566</b>

**5. Botanic Gardens.**—The National Botanic Gardens were established on the Kirstenbosch Estate (about 200 morgen, part of the Groote Schuur Estate) on 1st July, 1913, and are controlled by a Board of Trustees acting through a Director, who is one of the two Professors of Botany in the University of Cape Town. The first Director was the late Professor H. W. H. Pearson, M.A., D.Sc., F.R.S., whose interest and work were largely responsible for the establishment of the Gardens. The present Director is Professor R. H. Compton, M.A.; Curator, Mr. J. W. Mathews, F.R.H.S.; Secretary, Miss H. J. Davison, B.A.

The Gardens occupy a site of remarkable natural beauty, which is eminently suitable for the purposes in view, namely, the collection, cultivation, and study of the native South African flora, from the scientific, horticultural, and economic points of view; the preservation of the areas of native Silver Tree forest, sclerophyllous forest, and scrub included in the estate as a Nature Reserve; and the introduction and study of exotic plants of reputed economic value.

In the Fern Dell are a large number of shade and moisture plants. Above this is the Cycad Amphitheatre and the Protea Garden. Other features are the Cape Chestnut Avenue, the Ruins and Dutch Bath, the Bolus Orchid Garden, the Lily Garden or Aloe Kopje, where over fifty species of Aloes are in cultivation, the Bulb Garden, the collection of Mesembrianthema, the Great Lawn, and Water Lily Pool. In the Economic Grounds are trial cultivations of various kinds of Buchu, Bush Tea, Carob, Atropa, Peucedanum, Sutherlandia, etc. An Arboretum of native trees has been begun.

A statement containing particulars of the Botanical Gardens in the Union is given hereunder:—

**BOTANICAL GARDENS—NUMBER OF VISITORS, RECEIPTS AND EXPENDITURE 1921.**

HEADING.	Municipal Botanic Gardens, Cape Town.	National Botanic Gardens, Kirstenbosch.	Botanic Gardens, King William's Town.	Botanic Gardens, Grahams-town.	Municipal Botanic Gardens, Durban.	Botanic Gardens, Pietermaritzburg.
Date of establishment.....	1892	1913	1895	1853	1848	1874
Number of visitors.....	—	23,628	9,600	89,000	40,000	25,000
	£	£	£	£	£	£
Receipts:—						
Government grant.....	625	1,500	185	220	350	350
Municipal and other grants.	—	1,223	—	22	784	176
Other receipts.....	21	843	103	1,188	2,064	948
TOTAL.....£	646	3,566	288	1,430	3,198	1,473
	£	£	£	£	£	£
Expenditure:—						
Salaries and wages.....	2,867	3,123	543	982	1,945	994
Purchases.....	72	—	8	298	1,253	333
New buildings.....	—	—	—	—	—	—
Other expenditure.....	675	747	153	250	—	37
TOTAL.....£	3,614	3,870	699	1,530	3,198	1,364

6. Registered Newspapers Published in the Union.—The following table shows the number of newspapers registered in the Union at the 31st December in the years 1911 to 1921:—

**NUMBER OF NEWSPAPERS REGISTERED AT 31st DECEMBER, 1911 TO 1921.**

HEADING.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
<b>ALL NEWSPAPERS—</b>					
Number registered at 31st December, 1911	111	21	70	18	220
Number registered at 31st December, 1912	128	23	84	20	240
Number registered at 31st December, 1913	144	27	89	24	254
Number registered at 31st December, 1914	147	27	87	19	250
Number registered at 31st December, 1915	131	25	84	15	255
Number registered at 31st December, 1916	120	25	85	17	256
Number registered at 31st December, 1917	137	30	93	17	277
Number registered at 31st December, 1918	136	31	93	18	278
Number registered at 31st December, 1919	140	35	102	20	297
Number registered at 31st December, 1920	150	40	105	27	322
Established during period 1921.....			27		
Ceased publication during period 1921.....			25		
Number registered at 31st December, 1921			324		
<b>NATIVE NEWSPAPERS (INCLUDED ABOVE).</b>					
Number registered at 31st December, 1911	4	3	1	—	8
Number registered at 31st December, 1912	4	4	2	—	10
Number registered at 31st December, 1913	4	4	4	—	12
Number registered at 31st December, 1914	4	5	4	—	13
Number registered at 31st December, 1915	5	3	5	—	13
Number registered at 31st December, 1916	6	6	2	—	14
Number registered at 31st December, 1917	7	7	4	—	18
Number registered at 31st December, 1918	6	7	5	—	18
Number registered at 31st December, 1919	6	7	5	—	18
Number registered at 31st December, 1920	4	7	4	3	18
Number registered at 31st December, 1921	5	7	3	3	18

7. Scientific and Cultural Societies.—(i) *The Royal Society of South Africa.*—This Society was founded in 1877 as *The South African Philosophical Society*, with the comprehensive object of "promoting original research and recording its results, especially as connected with the natural history, physical conditions, history, geography, statistics

industrial resources, languages, and traditions of South Africa." Under Royal Charter of Incorporation, dated 25th June, 1908, the Society was established in its present form with the designation of *The Royal Society of South Africa*. The results of the researches conducted by members of the Society and others are presented in the form of papers read at its meetings and are published for general information in its *Transactions* which numbered twenty-seven volumes at the end of 1921. The total membership of the Society is now 223. The President for the current year is Professor J. D. F. Gilchrist, M.A., D.Sc., Ph.D., F.L.S., and the Hon. General Secretary, Professor W. A. Jolly, M.B., Ch.B., D.Sc., University of Cape Town. The headquarters of the Society are at Cape Town.

(ii) *South African Association for the Advancement of Science*.—The South African Association for the Advancement of Science was founded in 1902, its objects being—

- (a) to give a stronger impulse and a more systematic direction to scientific inquiry ;
- (b) to promote the intercourse of societies and individuals interested in science in different parts of South Africa ;
- (c) to obtain a more general attention to the objects of pure and applied science, and the removal of any disadvantages of a public character which may impede its progress.

At the annual sessions of the Association, held in different centres, usually during July, papers are read and discussions invited in all branches of science, which are classified into appropriate groups, and dealt with by six sections.

The control of the Association, which has a membership of over 900, is vested in a Council, and its headquarters were situated in Cape Town up to 1919, when the Association was transferred to Johannesburg. The President for the 1922–23 session is Professor J. D. F. Gilchrist, M.A., D.Sc., Ph.D., F.L.S., and the General Secretaries, Dr. C. F. Juritz (Cape Town) and Mr. H. E. Wood (Johannesburg).

The publications of the Association consist of the *South African Journal of Science*, (monthly) and an annual volume of *Proceedings*. A medal, known as the *South Africa Medal*, and a grant of £50, are awarded annually by the Council of the Association for achievement and promise in scientific research in South Africa.

(iii) *The South African National Society*.—The headquarters of this Society are at Cape Town, and branches have been established in Natal and the Transvaal. Its objects have been defined as follows: "To endeavour to inculcate respect and affection for the natural beauties of the country; to preserve from destruction, as far as possible, all ancient monuments and specimens of old Colonial architecture and art still remaining in South Africa, and to keep systematic records of such in cases where they cannot be saved; to compile a record of old furniture and other objects of interest still in the country, and to adopt all possible methods to discourage their removal from the country; to promote love and care for trees, and save unnecessary destruction; to endeavour to regulate the gathering of wild flowers, so as to avoid the danger of the extinction of any species; to collect records, and endeavour to acquire archives of historic interest; to make known by means of lectures and printed matter, circulated throughout the country, the objects of the Society, and to endeavour to promote in every legitimate manner a conservative spirit towards the remains and traditions of old Colonial life." It is chiefly to the efforts of the National Society that the National Botanic Gardens at Kirstenbosch [see paragraph 5], and the Koopmans de Wet Museum, Cape Town, owe their existence. The Society is governed by a Council representative of various phases of artistic, literary, and social life in South Africa. It has done pioneer work in the direction of preserving examples of Colonial Dutch architecture and allied objects of art; and the *Protection of Bushmen Relics Act* of 1911, and several measures for the protection of indigenous flora and fauna owe their existence to this Society. The President is the Hon. F. S. Malan, and Hon. Secretary, Mr. F. M. Glennie, 39 Adderley Street, Cape Town.

(iv) *The Chemical, Metallurgical and Mining Society of South Africa*.—This Society was founded in its present form in March, 1894, as the Chemical and Metallurgical Society of South Africa, Mining being added in February, 1903, and was incorporated in the Transvaal in May, 1907. The membership body is classified as consisting of honorary members, ordinary members, associates, and students; and the Society has a number of corresponding members in different parts of the world. It has taken an active share in the scientific organizations which have been formed in recent years for the purpose of serving the industrial advancement of the Union. The Society holds meetings at monthly intervals, and publishes a monthly *Journal of Proceedings*, with extracts from current technical literature of general interest. Its headquarters are in Johannesburg, and it is governed by a Council of seventeen members, elected annually. The President for the session 1921–22 is Mr. F. Wartenweiler, A.I.M.M., and the Secretary is Mr. H. A. G. Jeffreys, O.B.E., Scientific and Technical Club, 100 Fox Street, Johannesburg.

The scope of the Society is indicated by the following statement of its objects :—

- (a) to advance technical and metallurgical chemistry and the science and practice of mining ;
- (b) to cultivate all branches of pure chemistry ;
- (c) to extend the knowledge and practical application of improvements and discoveries in matters bearing on the chemical, metallurgical and mining professions, and to afford members opportunities for interchange of ideas on chemistry, metallurgy, and mining ;
- (d) to do all things which may be desirable for the attainment of the above objects.

(v) *South African Institute of Electrical Engineers.*—The South African Institute of Electrical Engineers was formed in 1909 to promote the general advancement of electrical science and its applications, to facilitate the exchange of knowledge and experience of these subjects, and to place on record the information elicited in discussions thereon. The membership of the Institute consists of Honorary Members, Members, Associate Members, Associates, Technical Associates, Telegraph Associates, and Students.

The chief office of the Institute is at Johannesburg, and the President for 1922 is E. Vivian Perrow, A.M.I.E.E., Johannesburg. On the 31st December, 1921, the membership was 589, this figure including 102 students. Monthly meetings of members are held, at which papers are read and scientific questions of engineering interest are discussed. A monthly *Journal* is devoted to the interests of the Institute. The objects of the Institute as embodied in its constitution are—

- (a) to promote the general advance of electrical science and its applications ; to facilitate the exchange of information and ideas on these subjects among all members of the Institute ; to place on record the results of experience elicited in the discussions thereon, and to do all such things as are incidental or conducive to those attainments.
- (b) to hold meetings for reading and discussing communications, works or treatises bearing on electrical science and its applications, or on subjects connected therewith.
- (c) the formation of a technical library and modern laboratory for the purpose of promoting research in electrical science, to be open to all members of the Institute.

(vi) *The South African Institution of Engineers (Incorporated).*—The South African Institution of Engineers (Incorporated in the Transvaal) owed its inception to the amalgamation, in October, 1910, of two Associations, with kindred objects, which had been in existence for over a decade. The Institution has as its general aim the advancement of the science and practice of Engineering in all its branches, and its organization provides means for the acquisition and preservation of the continually increasing knowledge accumulated by engineers in the course of their experiences in South Africa. The vehicle for the dissemination of this knowledge is the monthly *Journal* of the Institution, in which is published a record of the proceedings at the periodical meetings of the Institution, together with all papers read at these meetings. Besides acting as a medium for the publication of information on the subjects embraced in its sphere, the Institution seeks to stimulate the spirit of keener research by the offer of several annual prizes for papers and theses of conspicuous excellence. The membership of the Institution at the 30th June, 1921, was 581, consisting of several classes of members distinguished according to the possession of different degrees of engineering qualifications. Provision is made for the election of student members, who are admitted to the Institution on payment of a low fee. The President for the current year is Mr. J. W. Kirkland, and the offices of the Institution are situated in Johannesburg.

(vii) *South African Society of Civil Engineers.*—The South African Society of Civil Engineers was founded at Cape Town in 1903 as the *Cape Society of Civil Engineers*. Its objects are the advancement of the science and practice of civil engineering and the maintenance of the status of the profession. In 1910 it assumed its present title, and its membership roll of 260 now embraces all parts of South Africa. The governing body is a Council elected annually, presided over (in 1922) by G. Burt-Andrews, M.Inst.C.E. The qualifications for membership are defined to be either corporate membership of the Institution of Civil Engineers, London, or such qualifications as are in the opinion of the Council equivalent thereto. Periodical meetings are held at Cape Town. Papers of South African interest, and dealing mainly with matters pertaining to the public utility services, are read and sent out to all members in printed monthly *Proceedings*, and the discussions take place two months later. The address of the Society's headquarters is P.O. Box 1283, Cape Town.

(viii) *The Geological Society of South Africa.*—This Society was founded in 1895, and it has for its object the promotion of geological research. The publications of the Society, which consist to date of twenty-four volumes of *Proceedings* and *Transactions*, form a complete record of the progress which has been made in organized geological study in the Union

during the past twenty-three years. Special interest centres in the valuable mineral collection made through the effort of the Society and now housed in the Geological Museum, Plein Street, Johannesburg. The Society has a membership of 130, comprising members, student members, and honorary members.

The President for the current year is C. J. Gray, and the offices of the Society are in Johannesburg.

(ix) *Cape Chemical Society*.—This Society was founded in 1905 with the object of promoting the study of pure and applied chemistry. Membership is restricted to persons in the Cape Province "qualified to engage in the profession of chemistry [the term 'profession of chemistry' to include only (a) the teaching of chemistry, (b) the analytical profession and chemical research, and (c) the application of chemistry to technological work], and to such others as the Council of the Society may specially recommend." Membership is honorary, ordinary, or associate, the last-mentioned being confined to college students of chemistry not holding a University degree. Papers on chemical subjects are read from time to time at the Society's meetings. The present President is Dr. C. F. Juritz, Department of Agriculture, Cape Town.

(x) *South African Chemical Institute*.—The South African Chemical Institute, founded as the South African Association of Analytical Chemists in 1912, exists for the purpose of raising the professional status of those practising chemistry (including the University and technical or industrial branches of chemistry), and with the object of encouraging the study of that science. It is understood that the Instituté has in ultimate view the recognition of its members in a manner similar to that accorded to the medical profession. To that end the Institute insists on the possession of high qualifications as a primary condition of membership and associateship. The total number of members and associates in June, 1921, was 130, representing about four-fifths of the number of those in practice in the Union.

The Institute publishes a *Journal*, containing scientific contributions, which appears twice a year. The President is Mr. James Gray, F.I.C., Johannesburg, and the Hon. Secretary, Mr. J. B. Robertson, M.A. B.Sc., A.I.C.

(xi) *Botanical Society of South Africa*.—The Botanical Society of South Africa came into existence on the 10th June, 1913, and was the outcome of a movement to stimulate interest in the preservation, cultivation, and study of the vegetation of South Africa. The first President of the Society was the late Baron de Villiers, who played a great part in its formation and in the establishment of the National Botanic Gardens at Kirstenbosch. The President is the Chief Justice of South Africa, the Right Hon. Sir James Rose-Innes, K.C.M.G. The objects of the Society are—

- (a) to encourage the inhabitants of South Africa to take an active part in the progress and development of the National Botanic Gardens at Kirstenbosch, a part of the Groote Schuur Estate, in the Cape Province, and to induce them to appreciate their responsibilities therein;
- (b) to augment the Government grant towards developing, improving, and maintaining fully equipped botanical gardens, laboratories, experimental gardens, etc., at Kirstenbosch;
- (c) to organize shows at which may be displayed the results of botanical and horticultural experiments or cultural skill in improving the different varieties of South African flora;
- (d) to enlighten and instruct the members on botanical subjects by means of meetings, lectures, and conferences, and by the distribution of literature.

An annual *Journal*, providing the means of uniting a scattered membership in a common purpose, is published, and the Society has exercised an important influence upon the development of the Gardens.

Separate reference to the National Botanic Gardens will be found on page 283.

(xii) *The South African Biological Society*.—This Society originated at the close of 1916 as the result of a movement to unify existing organizations interested specifically in the study of zoological matters. The objects of the Society are—

- (a) to advance the study of biological science, and to give all possible assistance to those in South Africa who are interested in the study of natural history;
- (b) to publish a journal of biology and natural history, together with the transactions of the Society;
- (c) to advocate the preservation of the monuments of nature;
- (d) to hold scientific congresses from time to time in various centres.

The total number of members on the roll of the Society in December, 1921, was over 250, consisting of foundation members and honorary members. The official organ of the Society is "The South African Journal of Natural History." The President elected for 1922 is Professor R. H. Compton. There is a branch of the Society at Cape Town and Pretoria. The official address is Box 820, Pretoria.

(xiii) *The South African Geographical Society*.—The Society was founded at Johannesburg in June, 1917, with a foundation membership of ninety-five. Its objects are—

To raise the standard and to safeguard the interests of geographical education, to encourage geographical research in all its branches, and to arouse in the general public some enthusiasm for a subject which has such a direct bearing on everyday life.

The Society endeavours to fulfil these objects, which are eminently of a popular nature, by organizing lecture-courses, bioscope exhibitions, and excursions, while it seeks to reach the wider public through the medium of its *Journal*. The compilation of an authoritative treatise on the geography of the sub-continent is in contemplation.

The President for 1922 is A. M. Robb, Esq., M.A., Inspector of Schools, Johannesburg. Editor: J. Wellington, Esq., B.A., F.R.G.S., Witwatersrand University; Hon. Secretary: G. P. Prescott, Esq., B.A., F.R.G.S., Box 5013, Johannesburg.

(xiv) *The Van Riebeeck Society*.—This Society was formed for the publication of South African historical documents, and to print or reprint, for distribution among its members and for sale to the public, rare and valuable books, pamphlets, and documents relating to the history of South Africa. The President is the Rt. Hon. J. X. Merriman, P.C., M.L.A. The Society publishes an annual volume. Recent volumes issued by the Society have contained editions of the following historical records:—

Volume 1.—Reports of De Chavonnes and Van Imhoff on the Cape. 1918.

Volume 2.—Mentzel (O. F.). Life at the Cape in mid-Eighteenth Century. 1919.

Volume 3.—De Mist (*Commissary J. A.*). Memorandum on the Cape, 1802. 1920.

Volume 4.—Mentzel (O. F.). Description of the Cape: Part I. 1921.

(xv) *Associated Scientific and Technical Societies of South Africa*.—An organization known as the "Associated Scientific and Technical Societies of South Africa" was formed in Johannesburg in 1920, as the result of a movement to co-ordinate the activities of the numerous technical bodies on the Witwatersrand. The Scientific and Technical Club was founded at 100 Fox Street, Johannesburg, as the headquarters of the combined organization, and Dr. A. J. Orenstein, C.M.G., was elected President. The Secretary is Mr. H. A. G. Jeffreys, O.B.E. The number of constituent societies is twelve.

## CHAPTER VII.

### LABOUR AND INDUSTRIAL CONDITIONS.

#### § 1. Conditions and Supply of Labour.

1. **Survey of Labour Conditions in the Union.**—All questions concerning the conditions and payment of labour in the Union are affected, and in almost every instance complicated, by the existence of the predominant native and coloured elements of the population. In the consideration therefore of any aspect of labour and industrial matters the presence of native, Asiatic, and other coloured workers largely outnumbering the white workers of the country must be accepted as a qualifying and in some cases a governing factor. The existence of this class of comparatively cheap labour has influenced the development of the country in various ways. The imported Indian labourers of Natal made possible the remarkable progress of the sugar industry, supplied the tea-planters with suitable workers, and provided much of the necessary labour for railway construction and coal mining. The gold mines of the Witwatersrand have been and are still entirely dependent upon the adequacy of the supplies of native labour; while in the industrial districts of the Cape Province, the coloured worker of mixed race has not only supplied very largely the demand for unskilled labour, but has in many cases qualified as a semi-skilled artisan, and not infrequently has shown himself of equal skill with the white artisan. Moreover, practically all the farms in the Union employ native or coloured labour, and are indeed almost entirely dependent upon it for all general labouring work in agricultural and pastoral operations.

As the result of the presence of this large section of workers the position of the white worker has been limited to a considerable degree to the more highly remunerated lines of the skilled trades or to the work of supervising, overlooking, and controlling the unskilled labourers who are employed in practically every industrial or agricultural operation in the Union. The unskilled white worker has of necessity found himself almost inevitably in competition with the native or coloured labourer; forced to maintain a higher standard of living, but unable to command a sufficiently high rate of pay. The conditions thus brought into being have affected in the most marked degree every question concerning labour in the Union and have introduced social and economic difficulties of a serious kind, and of a type not to be found in any of the other self-governing Dominions. There is for example in the Union a portion of the population generally known under the somewhat unsatisfactory name of *poor whites*, whose number though never accurately determined is known to be very considerable. The existence of this class not only in the country districts but also in the towns into which it tends to drift constitutes one of the most serious social and economic problems of the Union, rendered all the more difficult because of the existence of the large native population supplying at a wage quite inadequate for Europeans, the whole or nearly the whole of the rough and unskilled labour in the Union.

2. **Organization of Labour Supply.**—Apart from the mining industry of the Transvaal which is served by a special labour agency operating on a very extensive scale so as to secure a sufficient supply of native labour for the various mines, and apart from the periodical introduction into Natal until recent years (see § 4 of Chapter III) of large numbers of Indian labourers through the Indian Trust Board, there has been no systematized effort to regulate the supply of labour. Generally speaking there has been a steady demand for agricultural coloured labourers, but in other industries, apart from mining, the demand and supply have fluctuated greatly; and no organization has existed able to control or direct the flow of labour. Nor has the country advanced sufficiently until comparatively recent years to absorb skilled labour to any large extent in manufacturing and kindred industries.

#### § 2. Employment and Unemployment.

1. **Government Labour Department.**—(i) *Labour Bureaus.*—The first organized effort on the part of any Government in South Africa to assist in the distribution of labour by means of an employment office was at Cape Town at the conclusion of the South African War. Under the supervision of the Cape Colony Department of Agriculture a Labour Bureau was formed in July, 1902, in an endeavour to cope with the condition of acute unemployment which followed upon the cessation of hostilities. Transferred to the Colonia



Office in 1904, the Bureau was finally absorbed by the White Labour section of the Department of Mines (now Mines and Industries), on the establishment of the Union. During its nine years of existence the Cape Labour Bureau served a very useful purpose, and certain particulars of its activities in that period will be found in earlier issues of this Year Book.

At the establishment of the Union the White Labour Department of the Transvaal, which had an employment bureau at Johannesburg, where applications were registered, was converted into a Department for the Union under the Minister of Mines (now Mines and Industries), and Labour Bureaus (now called Exchanges) were established at Cape Town, Johannesburg, Pretoria, and Durban, and subsequently at Bloemfontein, Port Elizabeth, East London, Kimberley and Pietermaritzburg. At one time magistrates' offices throughout the Union were recognized as Labour Agencies, but magistrates now refer all labour matters to the inspectors of labour at the centres named. After the conclusion of the European War employment bureaus were formed in the larger towns to deal specially with returned soldiers who were out of employment, work which was performed in co-operation with the Labour Exchanges of the Department. These bureaus have now been abolished and the work taken over by the exchanges, no discrimination at present being shown between the returned soldier and any other applicant for work. A separate Employment Office has been established by the Miners' Phthisis Board at Johannesburg, with the object of endeavouring to find employment for men suffering from phthisis.

The Department issues a monthly bulletin giving information as to the number of applications for employment, the demands from employers for labour, and the number placed in employment at each labour exchange, under the various trade groups. A precis of the inspectors' reports for the month is circulated to the press and the High Commissioner's Office in London and the Trades Commissioners in South Africa are supplied with information in regard to labour and industrial conditions generally in the Union.

Facilities in the nature of free rail warrants are in certain circumstances given to enable farm labourers and domestic servants to proceed to employment. Special interest is taken in the question of settling white men and their families on the land, both by placing suitable men with farmers needing labourers and by recruiting the right stamp of person for afforestation settlements.

The tables given below contain particulars of the employment phase of the work of the several Government labour exchanges for a series of years:—

### GOVERNMENT EMPLOYMENT EXCHANGES, 1919 TO 1921.

#### (a) APPLICATIONS FOR EMPLOYMENT.

TRADE GROUPS.	1919.	1920.	1921.							Total.	
			Johan- nes- burg.	Pre- toria.	Cape Town.	Dur- ban.	Bloem- font- ein.	Port Eliza- beth.	East Lon- don.		Kim- ber- ley.
Mining Occupations	912	1,389	1,211	97	52	116	2	3	4	229	1,714
Engineering Trades.	1,245	1,554	1,041	399	871	839	67	127	52	624	3,820
Building Trades.....	630	594	448	266	369	243	101	84	86	242	1,839
Printing and Pub- lishing Trades....	65	91	43	10	44	24	4	16	4	20	165
Clerical and Semi- Professional Occu- pations.....	1,180	1,073	617	281	596	536	130	145	92	268	2,665
Food Industries....	91	123	76	31	48	59	13	23	10	26	286
Clothing Industries..	18	32	10	13	36	15	6	11	4	0	101
Woodworking Indus- tries.....	86	76	70	33	89	33	5	25	11	12	278
Other Industries....	149	182	76	29	119	38	11	71	8	20	381
Farm and Garden Occupations.....	1,378	1,437	412	324	288	50	120	220	32	104	1,550
Domestic Occupa- tions.....	423	373	226	115	187	148	25	43	70	47	861
Overseers, Warders, etc.....	628	651	136	277	411	55	71	21	43	239	1,253
Handy-men and Un- skilled Labourers.	3,541	6,082	4,433	2,073	2,056	746	785	294	456	764	11,607
Juveniles.....	2,990	4,225	1,248	576	1,344	399	63	203	111	98	4,042
Females.....	2,241	2,826	1,066	306	1,250	126	112	105	137	125	3,167
<b>TOTAL.....</b>	<b>15,577</b>	<b>20,708</b>	<b>11,053</b>	<b>4,830</b>	<b>7,560</b>	<b>3,427</b>	<b>1,515</b>	<b>1,391</b>	<b>1,120</b>	<b>2,833</b>	<b>33,729</b>

## GOVERNMENT EMPLOYMENT EXCHANGES, 1919 TO 1921—(continued).

## (b) DEMANDS FROM EMPLOYERS.

TRADE GROUPS.	1919.	1920.	1921.								Total.
			Johannesburg.	Pretoria.	Cape Town.	Durban.	Bloemfontein.	Port Elizabeth.	East London.	Kimberley.	
Mining Occupations	366	287	97	3	3	2	1	1	1	75	183
Engineering Trades.	520	692	63	10	118	154	27	32	13	109	532
Building Trades....	481	589	57	37	151	84	44	50	56	77	556
Printing and Publishing Trades....	56	26	1	1	9	1	1	3	—	9	25
Clerical and Semi-Professional Occupations.....	297	329	46	21	102	98	20	79	22	54	442
Food Industries....	45	42	4	4	10	7	9	10	5	7	56
Clothing Industries.	40	30	—	3	3	1	1	11	1	1	20
Woodworking Industries.....	166	79	3	3	17	11	1	5	2	2	44
Other Industries....	286	86	6	1	24	5	—	16	—	1	53
Farm and Garden Occupations.....	423	516	36	124	75	5	56	31	12	29	368
Domestic Occupations.....	119	140	7	1	62	43	7	39	55	4	218
Overseers, Warders, etc.....	654	544	4	17	77	31	16	11	31	38	225
Handy-men and Unskilled Labourers	1,105	2,177	2,673	1,864	1,417	640	552	229	313	539	8,227
Juveniles.....	1,458	1,300	373	86	245	118	55	28	46	27	978
Females.....	2,310	2,331	596	153	944	53	71	104	76	46	2,043
<b>TOTAL.....</b>	<b>8,416</b>	<b>9,108</b>	<b>3,966</b>	<b>2,334</b>	<b>3,256</b>	<b>1,253</b>	<b>861</b>	<b>649</b>	<b>633</b>	<b>1,018</b>	<b>13,970</b>

## (c) PERSONS PROVIDED WITH EMPLOYMENT.

TRADE GROUPS.	1919.	1920.	1921.								Total.
			Johannesburg.	Pretoria.	Cape Town.	Durban.	Bloemfontein.	Port Elizabeth.	East London.	Kimberley.	
Mining Occupations	352	280	91	3	3	2	1	—	1	74	175
Engineering Trades.	383	428	60	16	115	125	15	25	10	107	473
Building Trades....	224	199	57	34	144	69	23	23	28	61	430
Printing and Publishing Trades....	9	18	1	1	7	1	1	2	—	9	22
Clerical and Semi-Professional Occupations.....	230	233	42	21	101	94	15	46	19	52	390
Food Industries....	22	24	4	2	9	5	5	5	4	7	41
Clothing Industries.	10	8	—	3	—	1	—	2	1	1	8
Woodworking Industries.....	29	22	3	3	17	6	1	3	2	3	38
Other Industries....	39	49	6	1	24	5	—	11	—	1	48
Farm and Garden Occupations.....	290	364	33	121	75	4	27	29	10	26	325
Domestic Occupations.....	83	90	7	1	62	42	7	21	33	3	176
Overseers, Warders, etc.....	231	218	3	17	77	21	11	11	28	38	206
Handy-men and Unskilled Labourers	991	1,930	2,672	1,864	1,417	637	525	224	313	539	8,191
Juveniles.....	1,106	1,068	411	80	238	118	21	28	43	27	966
Females.....	1,470	1,659	340	65	584	43	26	57	46	46	1,213
<b>TOTAL.....</b>	<b>5,469</b>	<b>6,590</b>	<b>3,736</b>	<b>2,232</b>	<b>2,873</b>	<b>1,173</b>	<b>678</b>	<b>487</b>	<b>538</b>	<b>994</b>	<b>12,711</b>

(ii) *Wages Boards*.—The Labour Department administers the *Regulation of Wages, Apprentices and Improvers Act, 1918* (see § 6 below). Inspectors of labour are, for their districts, inspectors under that Act. The Minister may appoint wages boards for trades and occupations scheduled in the Act. Boards are composed of equal numbers of employers and of employees' representatives, chosen in consultation with their organizations and presided over by an independent chairman, generally the local magistrate. They are empowered to fix minimum rates of wages for women and young persons in the trades and occupations concerned, as well as to determine the rates of wages of apprentices and the proportion of apprentices to journeymen. Inspectors report on applications for such boards and make recommendations. If a board is established it is the duty of the inspector to see that its findings are given effect to, and to investigate complaints. For these purposes certain powers are provided in the Act.

(iii) *Relief Works*.—Pending the recommendations of the Unemployment Commission appointed by the Government it was found necessary, towards the end of the year 1920, to institute temporary relief works on Government undertakings with a view to finding employment for those whom the labour exchanges in the Transvaal could not relieve. A committee of heads of Government departments, presided over at the outset by the Minister of Lands and later by the Administrator of the Transvaal, was appointed, and this committee was made responsible for finding avenues of employment and for the conduct of relief schemes adopted. At the close of the year 1920 there were 2,460 men so employed on irrigation and afforestation works, and on road and railway construction. In the Union as a whole employment was found for 4,066 men, representing a total, inclusive of dependants, of 13,600 persons. The functions assigned to the committee were to decide what relief works should be instituted, their complement, and the centres from which those in need of assistance were to be drawn; to arrange transport accommodation and supervision; to provide for the schooling of children in camps; to decide questions incidental to rates of pay authorized by the Government; to arrange for medical examination of recruits, and for medical attendance at camps, camp hospitals, and nursing staffs; to decide questions of vacation and sick leave; and to determine when employees might be given a second opportunity for employment and the circumstances in which men might be sent from relief works at Government expense.

(iv) *Industrial Disputes*.—The Department administers the *Industrial Disputes Prevention Act, 1909* (Transvaal). It is the duty of inspectors in all Provinces to keep in touch with questions of industrial unrest and to endeavour to effect settlement on just and equitable lines.

(v) *Afforestation Settlements*.—The Department recruits labour for the afforestation settlements at La Motte, Jonkersberg, and Hankey, exercises control over the labourers, and is responsible for their welfare. The work performed by them is under direction of forest officers. The overseers of these settlements are officials of the Labour Department.

(vi) *International Labour Office*.—The Department arranges for the participation of the Union, as a member of the League of Nations, in the international conferences for the regulation of labour. At such conferences the Government and both employers and employees are represented. The Department collects information in reply to questionnaires submitted from time to time by the International Labour Office in connection with the various conferences; and it acts as the medium through which the recommendations of the conferences and draft conventions are laid before Parliament for consideration and ratification or otherwise.

**2. Training and Employment of Juveniles.**—The realization by many responsible elements in the community of the necessity for the establishment of a definite system of training and placing juveniles in employment brought into existence a number of voluntary juvenile advisory boards. The first board was established in the year 1915. Certain of these bodies were moreover established in 1917, and the boards have performed much useful work from their inception. Prior to the establishment of the boards, little had been done to develop or co-ordinate the work of preparing and placing in suitable employment the youth of the nation. The public conscience was, however, touched, and activities were commenced which have been successful in putting the matter on a progressively more satisfactory basis.

During the year 1918 the boards devoted considerable attention to the apprenticeship problem, it having been realized that some more general system of indenture could with advantage be adopted in many avenues of employment other than the skilled trades, in order that the juvenile section of the population might be given courses of training along definite lines. The educational character of apprenticeship contracts was emphasized. Two conferences under the auspices of the Witwatersrand Juvenile Advisory Board were held in April and September, 1918, at which this problem was discussed, and a number of useful decisions reached.

As the efforts of the boards extended and became more widely known the public in the large centres of the Union recognized more and more fully the significance of their work in its bearing on the future of South Africa. The movement has enlisted the enthusiastic support of, among others, social workers, educationists, and employers of labour.

A conference in which representatives of the boards, the Union Education Department, the Department of Mines and Industries, and the four Provincial Education Departments participated was held at Cape Town in July, 1920. The subjects discussed included the following:—Policy; statutory recognition of the organization; responsible department; co-operation of Education Departments; juvenile delinquency; apprenticeship; composition of boards; formation of rural and district boards; organization of juvenile employment; staffing; welfare work, and the need for an after-care system; the Government messenger service; hostel accommodation for working boys and girls; continuation schools; railway concessions to young workers; and the need for expansion of industry.

Juvenile advisory boards are now established at Pretoria, Johannesburg, Durban, Bloemfontein, Port Elizabeth, Cape Town (two—one coloured), and Germiston for the purpose of advising parents and children in all matters concerning the employment of juveniles, their careers, welfare, and further education. Employment bureaus are conducted to assist juveniles in finding suitable work. Boards also undertake to bring to the notice of the Government, other bodies, and the public generally the existence of evils, and to suggest remedies in all matters concerning the training and welfare of juveniles. The *Juveniles Act*, 1921 (see § 6 below) has largely resulted from the efforts of the existing voluntary boards.

**3. Unemployment in the Union.**—During the year 1920 a large amount of unemployment existed in the Union, due in varying degree to the closing down of a number of the low-grade mines, the restriction of diamond mining, the inability of returned soldiers and others to find work, and the financial depression which manifested itself towards the end of the year. A Commission to investigate the unemployment question on national lines, and to suggest remedies, was appointed by the Government. The Commission was constituted as follows:—Mr. H. L. Lindsay (chairman), Mr. C. J. Clark, Mr. J. H. Conradie, Mr. A. Crawford, Comdt. J. L. Hamman, D.S.O., Mr. M. Kentridge, Professor R. A. Lehfeldt, D.Sc., and Mr. W. J. Parrack.

The Commission issued its first Interim Report in March, 1921, and made certain recommendations designed chiefly to foster local industries and to promote the development of small holdings on the Witwatersrand.

At a later date (May, 1921) the Commission presented its recommendations with reference to the problem of *poor whites*, a section of the population which was estimated to number approximately 120,000 persons. It was the view of the Commission that an inquiry into the question and the extent and causes of unemployment and the best means of preventing the influx of persons without skilled training from the country districts to the larger centres of population could not lead to any satisfactory result without an investigation of, and search for a remedy for, the *poor white* problem, from which it seemed inseparable. The Commission made a number of suggestions for dealing with the problem, these involving the appointment of a Permanent Settlement Board, the amendment of the *Land Settlement Act* of 1912, with a view to facilitating the settlement of poor whites on the land, the provision of aids of various kinds to poor white settlers, the establishment of forced labour colonies and the provision of homes supported by the State.

In its main report, issued in May, 1922, the Commission examined the unemployment problem in the Union in its broadest aspects. The Commission recognized that the prevailing unemployment was largely due to the financial and economic chaos which had followed upon the European War, but dwelt on the social dangers which unemployment inevitably caused in a country such as South Africa, with a largely predominating native population. Proceeding from the principle that remedies rather than relief for unemployment should be provided, the Commission made the following recommendations:—

1. That the Government should take steps to maintain up-to-date information as to—
  - (a) the number of unemployed and indigent persons in the Union;
  - (b) the number of feeble-minded, degenerate and permanently invalided persons, especially children;
 and further to secure—
  - (c) an agricultural survey of the Union;
  - (d) a survey of industries with a view to estimating the number of youths and apprentices capable of being absorbed in various occupations.
2. That provision should be made for vocational training of the young on a much more extensive scale than hitherto, and the extension of a system of apprenticeship in all industrial undertakings.
3. That every assistance should be given the gold and coal mining industries to enable them to operate to their fullest possible extent, that taxation levied in respect of them should be upon results rather than upon enterprise and effort, and that hampering and retarding restrictions not vital to the public safety should be removed.
4. That industrial expansion should be encouraged by a readjustment of tariffs and in other ways.
5. That cheap transport and marketing facilities should be provided for the country's products, whereby farmers might be better able to make a living on the land and the unnatural drift from the land to the mines might be avoided.

6. That marriage of the feeble-minded and of males under the age of twenty-one should be prohibited, and that the marriage of males under the age of twenty-five should be as far as possible discouraged.
7. That the system of Government departments, police, railways, and, if possible, municipal bodies purchasing and supplying material and obtaining tenders in the Union for making the necessary uniforms for their employees should be continued as a means of providing continuous employment for large numbers of workers.

On the question of the distribution of native labour referred to by the Low Grade Mines Commission, the Commission considered that the fixing of a certain ratio of white to native labour on the Witwatersrand gold mines, to be modified from time to time as economic conditions might require, was practicable. The Commission was unable to recommend that whites and natives should be employed in any particular industry on the basis of a definite ratio of the one to the other. The nature of the industry, the facilities available, and economic conditions generally must be the determining factors. The Commission expressed the opinion that underground mining work, particularly deep-level mining, should be confined to native labour as far as practicable owing to their physique and to their reduced liability to phthisis by reason of the intermittent nature of their service.

The economic depression, which had become accentuated in 1921, and the industrial disturbances on the Witwatersrand early in 1922, served to intensify the existing unemployment, and some machinery for coping with the consequent distress had to be improvised. Voluntary organizations, supported and encouraged by the Government, the Provincial Administrators, and Local Authorities, were active in this direction; and relief works, connected with railway electrification and construction, erection of grain elevators, and irrigation projects, were taken in hand.

### § 3. Wages and Hours of Labour (European Workers).

**1. Introductory.**—No systematic and complete record of rates of wages or hours of labour in the Union or in the former colonies and states comprised in it has been maintained. A certain amount of information as to rates of wages paid in a number of skilled trades was collected and published at intervals in the Cape of Good Hope and Natal; but it was not comprehensive in character, and, moreover, the collection of such information was to some extent discontinued at the constitution of the Union. Particulars of wages ruling in certain classes of occupation in the larger towns were returned by the Economic Commission in 1913, but they were necessarily meagre, and the Commission itself referred to the lack of such statistics in the Union and the desirability of providing permanent and satisfactory means for their regular collection. No action was possible until the end of the year 1919. From this date the Statistics Office proceeded to inquire into rates of wages and cognate matters in the principal classes of occupation in the chief centres of European population from the year 1895. Information as to wage rates as they existed at the end of the years 1919 and 1920 were obtained under the authority of the *Statistics Act* from trade unions, from employers of labour, and from other sources. Employers were approached in the case of clerical and similar occupations where no standard or ruling rate generally obtains. Average wage rates for a series of years prior to 1919 were obtained from employers of labour in the various classes of industry and by other means. The task of securing data making possible an accurate measurement of the course of wages in a large number of occupations in certain centres of the Union over a period of twenty-five years proved formidable. The work was absolutely necessary, however, in order to effect comparisons and to trace movements in wage rates for association with statistics of price movements. These figures became available in 1921, and they were published, for the first time, in the third report of the "Social Statistics" series (S.P. 23, 1921), which contained full particulars as to the methods of collection and the general principles underlying the whole inquiry. The subject is further dealt with in "Social Statistics" No. 4 (S.P. 35), issued in 1922, and presenting later statistics, which are summarized in the tables hereunder.

**2. Scope of Inquiry.**—The following groups of occupation have been utilized in the computation of average wages and index numbers:—

- I.—Mining.
- II.—Engineering and Metal Working.
- III.—Building.
- IV.—Printing, Bookbinding, etc.
- V.—General Manufacturing.
- VI.—Transport and Communication (Railways, Harbours, Tramways, and Posts).
- VII.—Trading.
- VIII.—Clerical (Government, Municipal, and Other).
- IX.—Domestic (Hotels, etc.).
- X.—Miscellaneous (including Police).

Specific occupations under these ten groups of industries have been selected, and wage rates payable to Europeans (male and female) for full-time work have been obtained in respect of each of the nine principal industrial centres of the Union. Statistics of wages paid to European wage-earners in agricultural occupations have not been sought, owing to the small proportion of such workers in agriculture as compared with coloured workers and the absence of anything even approximating to a standard wage. The wages of coloured persons and natives were not called for at the initial investigations, but particulars of average wages earned by such workers in certain classes of occupation in December, 1921, have been collected, and are set out elsewhere in this chapter.

**3. Methods of Collection and Computation.**—The occupations in the industries relating to mining, manufacturing, and harbours do not, of course, cover uniformly the nine principal areas selected for the purposes of this investigation. The average wages for the gold and coal mining industries from 1919 onwards are those which ruled on the Witwatersrand, and in the diamond industry those which obtained at Kimberley, as at the 30th June in each year. Average wages ruling as at the 31st December in each year have not been available for mining occupations as a whole. In the engineering, building, and printing groups, respectively, average inclusive wage rates from 1919 were derived from the standard or minimum rates ruling in the various occupations included in the several groups, as reported by employers, trade unions, and trade journals. Average wages in the manufacturing, trading, clerical, domestic, and miscellaneous groups were for the most part based on information derived from employers and published records.

In the computation of the principal statistics reflecting average wages in the above groups of occupations, rates of wages paid to adult male Europeans only have been taken into account.

It was not found practicable to apply a detailed system of weights in calculating average wages for separate groups. An arithmetical average was, therefore, taken for each group. In computing the final results, however, a careful system of weighting has been adopted. For example, in taking out the weighted average wage for all groups of occupation combined in each town and in the Union in each year, and for each separate group in the Union in each year, the arithmetical average in each industry was multiplied by a number (weight) representing the number of persons following that industry in the town concerned, as ascertained at the European Population Census of 1918. The total obtained in this manner, divided by the sum of the weights, represents the relative weighted average wage in each town or in the Union in each year. As soon as possible occupational statistics called for at the Census of 1921 will be utilized for weighting purposes.

The question of wages paid to female workers is dealt with in the Report on Wages, 1922 (Social Statistics No. 4, S.P. 35.).

**4. Variations in Nominal and Effective Wages.**—The term *nominal wage* means the actual amount of money which would be received in return for labour for the full number of hours per week, whether full time is actually worked or not. By *effective wage* is meant a wage equivalent in purchasing power, i.e. purchasing power according to the definite regimen utilized for the calculation of price indexes under the *Statistics Act*. It should be noted that in calculating effective wages the factor of unemployment has not been taken into account for the reason that even approximately complete statistics of unemployment have not up to the present been obtainable in the Union. Nominal wages are specified in the tables below from 1895, effective wages from 1910.

*Nominal* wage rates showed a consistent increase from 1895 to 1920 in the Cape Peninsula and at East London, Pietermaritzburg, and Bloemfontein. In the other industrial areas the upward movement, though equally marked over the whole period, was not altogether uninterrupted, and in the Union as a whole a check in the progressive increase occurred between the years 1905 and 1910. In 1921 the average nominal weekly wages in every industrial area were lower than in the preceding year, and as compared with the year 1910, they showed, for the Union as a whole, an increase of 60 per cent. The equivalent percentage in 1920 was 70. The *effective* average weekly wage for full-time working showed in the year 1921 an appreciable increase over 1920 in each of the several industrial areas, and for the Union as a whole. In the movements of effective wages from 1910 the lowest point on the Witwatersrand and at East London, Durban, and Bloemfontein was reached in the year 1915. At Port Elizabeth and Pietermaritzburg and in the Cape Peninsula that point was reached in 1917, at Pretoria in 1915 and 1917, and at Kimberley not until 1919.

The following tables (i) to (vii) give particulars and index numbers of nominal and effective wages in ten groups of occupation in nine industrial areas, for a series of years up to and including the year 1921. The figures from 1919 relate to the 31st December of that and the subsequent years:—

(i) **AVERAGE NOMINAL WEEKLY WAGE PAID TO EUROPEAN ADULT MALE WORKERS IN NINE TOWNS IN THE UNION FOR ALL CLASSES OF OCCUPATION, 1895 TO 1921.**

NOTE.—“Nominal Wages” represent the actual amount of money received in return for labour, working recognized hours at full time.

(a) **AVERAGE WEEKLY WAGE, 1895 TO 1921.**

Year.	Cape Peninsula.		Port Elizabeth.		East London.		Kimberley.		Pietermaritzburg.		Durban. Pretoria.		Witwatersrand.		Bloemfontein.		Union.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.		
1895....	64	9	61	3	65	1	102	4	68	5	74	0	103	11	107	10	80	7	91	9
1900....	66	6	64	5	66	8	104	6	70	0	77	3	100	11	108	5	82	3	92	8
1905....	72	0	69	2	68	4	109	7	73	3	81	8	104	1	113	9	85	6	97	6
1910....	75	4	77	2	71	1	107	5	74	7	79	11	106	7	111	10	88	5	96	6
1914....	81	7	78	11	75	2	107	5	78	10	85	8	112	6	113	0	95	6	99	11
1915....	83	2	79	9	78	0	109	3	82	3	86	7	114	2	114	0	96	4	101	4
1916....	88	8	83	11	83	1	113	1	85	11	92	11	119	4	119	2	101	8	106	6
1917....	92	3	89	10	89	7	120	6	92	3	101	6	123	4	128	11	104	2	113	11
1918....	102	5	97	8	97	1	125	11	99	5	109	10	131	10	141	2	113	1	124	3
1919....	115	0	112	8	114	5	137	6	111	1	124	11	148	6	150	7	128	0	136	2
1920....	146	1	143	6	139	3	163	7	143	5	158	4	174	10	175	8	154	10	163	11
1921....	131	8	126	4	126	6	154	11	130	7	142	8	159	2	172	7	140	0	154	8

(b) **INDEX FIGURES.**

(Basis—Union Average, 1910=1000.)

1895....	671	635	675	1006	709	767	1077	1117	885	961
1900....	680	667	691	1083	725	801	1046	1124	852	961
1905....	746	717	709	1136	759	847	1079	1179	886	1011
1910....	781	748	737	1113	773	829	1105	1159	917	1000
1914....	846	797	779	1114	817	898	1166	1174	990	1036
1915....	862	827	808	1133	852	897	1184	1182	998	1050
1916....	919	870	861	1172	890	963	1237	1235	1054	1104
1917....	958	931	928	1249	956	1052	1278	1337	1080	1181
1918....	1062	1013	1006	1305	1031	1139	1367	1463	1172	1288
1919....	1192	1168	1186	1426	1151	1295	1538	1561	1326	1411
1920....	1514	1488	1444	1695	1447	1641	1812	1821	1605	1699
1921....	1305	1310	1311	1606	1353	1478	1650	1780	1451	1603

(ii) **AVERAGE EFFECTIVE WEEKLY WAGE PAID TO EUROPEAN ADULT MALE WORKERS IN NINE TOWNS IN THE UNION FOR ALL CLASSES OF OCCUPATION, 1910 TO 1921.**

NOTE.—“Effective Wages” represent the effective purchasing power of “nominal wages” calculated in association with the variations of price indexes.

(a) **AVERAGE EFFECTIVE WEEKLY WAGE, 1910 TO 1921.**

(Standard basis—Food, Fuel, Light, and Rent.)

Year.	Cape Peninsula.		Port Elizabeth.		East London.		Kimberley.		Pietermaritzburg.		Durban. Pretoria.		Witwatersrand.		Bloemfontein.		Union.			
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.		
1910....	91	1	79	4	81	11	122	6	88	6	85	7	92	11	102	8	82	10	96	6
1914....	86	1	80	6	79	3	99	9	87	4	85	3	91	5	97	0	82	10	91	11
1915....	82	3	78	10	78	7	106	11	85	7	83	0	88	11	95	10	80	5	89	9
1916....	82	3	78	5	81	0	108	11	82	5	84	10	94	1	98	6	84	10	92	1
1917....	78	11	75	0	85	11	113	11	82	1	83	6	88	11	99	2	81	0	91	1
1918....	86	8	81	0	80	3	107	3	83	3	83	8	90	10	103	4	83	10	94	11
1919....	81	3	75	3	79	2	99	8	84	5	83	7	89	6	97	0	82	3	90	1
1920....	91	8	88	8	85	10	101	5	90	10	91	1	97	10	102	11	91	9	97	5
1921....	106	11	103	3	104	7	134	5	103	9	101	4	105	5	124	1	105	8	114	9

(b) **INDEX FIGURES.**

(Basis—Union Average, 1910=1000.)

1910....	945	822	850	1270	917	887	903	1064	858	1000
1914....	892	833	822	1033	905	883	914	1098	859	953
1915....	834	797	794	1109	887	861	922	994	833	930
1916....	852	813	840	1129	854	879	976	1021	880	955
1917....	818	776	834	1181	851	866	922	1028	845	945
1918....	899	841	831	1112	863	808	941	1071	869	983
1919....	842	780	821	1043	875	867	928	1005	852	933
1920....	950	919	899	1051	941	944	1013	1066	951	1010
1921....	1108	1070	1093	1393	1075	1050	1093	1286	1095	1189

(ii) AVERAGE EFFECTIVE WEEKLY WAGE PAID TO EUROPEAN ADULT MALE WORKERS IN NINE TOWNS IN THE UNION FOR ALL CLASSES OF OCCUPATION, 1910 TO 1921—continued.

NOTE.—“Effective Wages” represent the effective purchasing power of “nominal wages” calculated in association with the variations of price indexes.

(c) AVERAGE EFFECTIVE WEEKLY WAGE, 1920-21.

(Complete cost of living basis—Food, Fuel, Light and Rent, Clothing, Hardware, etc.)

Year.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.	Union.
1920....	s. d. 76 0	s. d. 74 0	s. d. 71 9	s. d. 84 6	s. d. 75 0	s. d. 78 5	s. d. 85 3	s. d. 87 11	s. d. 78 0	s. d. 82 9
1921....	91 4	87 11	88 7	111 6	89 6	91 6	97 10	111 7	93 1	101 10

(d) INDEX FIGURES.

(Basis—Union Average, 1910 = 1000.)

1920....	788	767	744	876	777	813	883	911	809	858
1921....	947	912	919	1156	927	948	1015	1156	965	1055

CLASSES OF OCCUPATION.

- I.—Mining.
- II.—Engineering and Metal Working.
- III.—Building.
- IV.—Printing, Bookbinding, etc.
- V.—General Manufacturing.
- VI.—Transport and Communication (Railways, Harbours, Tramways, and Posts).
- VII.—Trading.
- VIII.—Clerical (Government, Municipal, and other).
- IX.—Domestic (Hotels, etc.).
- X.—Miscellaneous (including Police).

(iii) AVERAGE NOMINAL WEEKLY WAGE PAID TO EUROPEAN ADULT MALE WORKERS IN EACH OF TEN CLASSES OF OCCUPATION IN THE UNION, 1895 TO 1921.

(a) AVERAGE WEEKLY WAGE, 1895 TO 1921.

Year.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.*	X.	All Groups
1895....	s. d. 112 6	s. d. 101 9	s. d. 92 10	s. d. 88 10	s. d. 76 7	—	s. d. 73 6	s. d. 94 9	s. d. 51 8	s. d. 73 1	s. d. 91 9
1900....	113 6	100 8	94 6	90 0	78 8	—	75 6	94 5	55 4	74 5	92 8
1905....	119 10	102 2	97 4	96 8	81 0	—	76 8	103 5	57 3	81 1	97 6
1910....	118 4	103 9	97 0	96 8	81 11	80 11	83 0	107 6	61 7	80 10	98 6
1914....	115 11	105 7	100 7	99 9	84 11	89 6	86 0	113 4	63 5	84 4	99 11
1915....	116 4	105 10	100 7	99 9	89 1	90 8	90 4	114 9	62 7	85 9	101 4
1916....	120 5	114 6	101 8	102 0	83 5	96 8	95 9	122 3	65 3	90 3	106 6
1917....	135 11	119 4	112 2	108 9	97 11	102 2	105 7	125 7	68 7	92 6	113 11
1918....	145 6	133 0	130 3	118 6	104 10	110 11	111 0	136 9	72 6	100 5	124 3
1919....	155 9	142 4	138 4	133 4	116 9	128 11	117 6	149 5	82 5	118 6	136 2
1920....	170 1	168 6	164 9	177 5	141 8	160 1	144 5	179 4	118 6	147 1	163 11
1921....	189 11	168 9	156 4	160 11	129 2	126 8	141 11	166 10	110 4	131 0	154 8

(b) INDEX FIGURES.

(Basis—Union Average, 1910=1000 in each case.)

1895....	051	081	058	069	035	—	085	081	030	093	051
1900....	059	070	075	031	060	—	010	078	030	020	061
1905....	1013	085	1004	1000	089	—	024	062	030	1092	1011
1910....	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1914....	080	1018	1037	1032	1036	1106	1036	1054	1030	1043	1036
1915....	084	1020	1037	1032	1038	1120	1080	1007	1017	1060	1050
1916....	1018	1104	1048	1055	1140	1194	1153	1137	1060	1116	1104
1917....	1149	1150	1257	1128	1195	1263	1272	1168	1114	1143	1181
1918....	1230	1282	1343	1225	1280	1370	1357	1272	1178	1242	1288
1919....	1317	1372	1426	1379	1425	1593	1415	1390	1339	1465	1411
1920....	1513	1624	1698	1635	1720	1978	1740	1608	1625	1819	1699
1921....	1605	1627	1612	1664	1577	1563	1710	1552	1792	1620	1603

\* Estimated value of board and lodging, and in some cases board only, included from year 1920.



(iv) **AVERAGE EFFECTIVE WEEKLY WAGE PAID TO EUROPEAN ADULT MALE WORKERS IN EACH OF TEN CLASSES OF OCCUPATION IN THE UNION, 1910 TO 1921.**

(a) **AVERAGE EFFECTIVE WEEKLY WAGE, 1910 TO 1921.**  
(Standard Basis—Food, Fuel, Light, and Rent.)

Year.	I.	II.	III.	IV.	V.	VI.	VII.	VIII.	IX.*	X.	All Groups.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1910.....	118 4	103 9	97 0	96 8	81 11	80 11	83 0	107 6	81 7	80 10	86 6
1914.....	106 7	99 1	92 5	91 9	78 1	82 4	99 1	104 3	58 4	77 6	81 11
1915.....	103 0	93 9	89 1	88 4	78 11	80 3	80 0	101 8	55 5	75 11	89 9
1916.....	104 2	99 1	87 11	88 3	80 10	83 7	82 9	105 9	56 5	78 1	92 1
1917.....	108 9	95 5	89 9	87 0	78 4	81 9	84 6	100 5	54 10	73 11	91 1
1918.....	111 0	101 6	99 5	90 5	80 0	84 8	84 9	104 4	55 3	76 8	94 11
1919.....	103 1	94 2	91 6	88 2	77 3	85 4	77 9	98 10	54 7	78 5	90 1
1920.....	106 5	100 2	97 11	105 6	84 2	95 2	85 10	106 7	70 5	87 5	97 5
1921.....	140 11	125 2	116 0	119 5	95 11	94 0	105 4	123 10	81 11	97 3	114 9

(b) **INDEX FIGURES.**

(Basis—Union Average, 1910=1000 in each case.)

1910.....	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000	1000
1914.....	902	937	954	949	953	1017	953	970	948	960	953
1915.....	872	903	919	914	964	992	995	945	901	939	930
1916.....	881	955	907	913	996	1033	997	984	917	965	955
1917.....	910	920	1006	902	956	1010	1018	934	891	914	945
1918.....	939	979	1025	935	977	1046	1021	971	899	948	933
1919.....	871	907	943	912	942	1054	936	919	886	969	933
1920.....	899	965	1009	1090	1027	1175	1034	991	1144	1081	1010
1921.....	1191	1207	1196	1234	1170	1161	1269	1151	1329	1202	1189

(c) **AVERAGE EFFECTIVE WEEKLY WAGE, 1920-1921.**

(Complete cost of living basis—Food, Fuel, Light, Rent, Clothing, Hardware, etc.)

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1920....	90 5	85 1	83 2	89 7	71 6	80 10	72 11	90 6	59 10	74 3	82 9
1921....	125 0	111 1	102 11	105 11	85 1	83 5	93 5	109 10	72 7	86 3	101 10

(d) **INDEX FIGURES.**

(Basis—Union Average, 1910=1000.)

1920....	764	820	857	926	873	998	878	842	972	918	858
1921....	1057	1071	1061	1095	1038	1080	1126	1022	1180	1066	1055

\* Estimated value of board and lodging, and in some cases board only, included from year 1920.

(v) **EFFECTIVE WEEKLY WAGES IN VALUES OF 21 PAID TO EUROPEAN ADULT MALE WORKERS IN NINE TOWNS FOR ALL CLASSES OF OCCUPATION, 1910 TO 1921.**

(AVERAGE FOR UNION, 1910=20s.)

Year.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.	Union.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1910..	18 11	16 5	17 0	25 5	18 4	17 9	19 8	21 3	17 2	20 0
1914..	17 10	16 8	16 5	20 8	18 1	17 8	19 0	20 2	17 2	19 1
1915..	16 8	15 11	15 11	22 2	17 9	17 3	18 5	19 11	16 8	18 7
1916..	17 1	16 3	16 10	22 7	17 1	17 7	19 0	20 5	17 7	19 1
1917..	16 5	15 6	16 8	23 7	17 0	17 4	18 5	20 7	16 11	18 11
1918..	18 0	16 10	16 7	22 3	17 3	17 5	18 10	21 5	17 5	19 8
1919..	16 10	15 7	16 5	20 8	17 6	17 4	18 7	20 1	17 0	18 8
1920..	19 0	18 5	17 9	21 0	18 10	18 11	20 3	21 4	19 0	20 2
1921..	22 2	21 5	21 8	27 10	21 6	21 0	21 10	25 9	21 11	23 9

(vi) **EFFECTIVE WEEKLY WAGES IN VALUES OF £1 PAID TO EUROPEAN ADULT MALE WORKERS IN EACH OF TEN CLASSES OF OCCUPATION IN THE UNION, 1910 TO 1921.**

(1910=20s. in each case)

Year.	I.		II.		III.		IV.		V.		VI.		VII.		VIII.		IX.*		X.		All Groups.	
	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.	s.	d.
1910.....	20	0	20	0	20	0	20	0	20	0	20	0	20	0	20	0	20	0	20	0	20	0
1914.....	18	1	18	9	19	1	19	0	19	1	20	4	19	1	19	5	19	0	19	2	19	1
1915.....	17	5	18	1	18	5	18	3	19	3	19	10	19	4	18	11	18	0	18	9	18	7
1916.....	17	7	19	1	18	2	18	3	19	9	20	8	19	11	19	8	18	4	19	4	19	1
1917.....	18	5	18	5	20	1	18	1	19	1	20	3	20	5	18	8	17	10	18	3	18	11
1918.....	18	9	19	7	20	6	18	8	19	6	20	11	20	5	19	5	18	0	18	11	19	8
1919.....	17	5	18	2	18	10	18	3	18	10	21	1	18	9	18	5	17	9	19	5	18	8
1920.....	18	0	19	4	20	2	21	10	20	6	23	6	20	8	19	10	22	11	21	7	20	2
1921.....	23	10	24	2	23	11	24	8	23	5	23	3	25	5	23	0	26	7	24	0	23	19

(vii) **INDEX NUMBERS GIVING COMPARISONS IN NOMINAL WAGES PAID TO EUROPEAN ADULT MALE WORKERS IN TEN CLASSES OF OCCUPATION IN THE UNION, 1895 TO 1921.**

(UNION AVERAGE=1000.)

Year.	I.		II.		III.		IV.		V.		VI.		VII.		VIII.		IX.*		X.		All Groups.	
	1895.....	1227	1009	1013	914	835	—	801	1033	564	796	1000	—	815	1019	597	803	1000	—	815	1019	597
1900.....	1225	1086	1020	971	840	—	831	—	786	1060	587	831	1000	—	815	1019	597	803	1000	—	815	1019
1905.....	1229	1047	998	991	831	—	839	860	811	1135	635	844	1000	—	815	1019	597	803	1000	—	815	1019
1910.....	1226	1076	1005	1002	849	—	839	860	811	1135	635	844	1000	—	815	1019	597	803	1000	—	815	1019
1914.....	1160	1057	1006	998	850	—	806	801	811	1135	635	844	1000	—	815	1019	597	803	1000	—	815	1019
1915.....	1149	1044	993	984	879	—	805	802	813	1133	618	846	1000	—	815	1019	597	803	1000	—	815	1019
1916.....	1131	1075	955	958	877	—	808	899	814	1148	613	847	1000	—	815	1019	597	803	1000	—	815	1019
1917.....	1193	1047	985	955	859	—	807	927	812	1102	602	812	1000	—	815	1019	597	803	1000	—	815	1019
1918.....	1171	1071	1048	953	844	—	892	893	811	1101	583	808	1000	—	815	1019	597	803	1000	—	815	1019
1919.....	1144	1045	1016	979	858	—	947	863	807	1097	605	870	1000	—	815	1019	597	803	1000	—	815	1019
1920.....	1092	1028	1005	1083	804	—	977	881	804	1094	723	898	1000	—	815	1019	597	803	1000	—	815	1019
1921.....	1228	1091	1011	1041	835	—	819	918	818	1079	713	847	1000	—	815	1019	597	803	1000	—	815	1019

\* Estimated value of board and lodging, and in some cases board only, included from year 1920.

5. **Standard or Average Wages, 1921.**—The following table gives particulars of standard or average wages paid to European adult male workers in certain classes of occupation in the Union as at the 31st December, 1921 :—

**STANDARD OR AVERAGE WAGES PAID TO EUROPEAN ADULT MALE WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31st DECEMBER, 1921.**

(In Group I.—Mining—the rates given are those which ruled at the 30th June, 1921.)

**GROUP I.—MINING.**

(Average pay per shift, including allowances.)

Occupation.	Gold Mining (Witwatersrand).			Coal Mining (Witwatersrand).			Diamond Mining (Kimberley).			Occupation.	Gold Mining (Witwatersrand).			Coal Mining (Witwatersrand).			Diamond Mining (Kimberley).		
	s.	d.		s.	d.		s.	d.			s.	d.		s.	d.		s.	d.	
Amalgamators*.....	27	9		19	2	25	0			Miners—Hand Developing—									
Banksmen*.....	24	8								Contract.....	44	11							
Engine-drivers, Winding (electric)*.....	31	5		30	0					Day's Pay.....	23	10							
Engine-drivers, Winding (other)*.....	—					31	0			Miners—Shaft Stopping—									
Engine-drivers, Winches (electric)	24	4								Contract.....	68	1							
Fitters*.....	20	0		30	1	30	1			Day's Pay.....	46	0							
Miners—Machine Stopping—										Miners, Coal.....	—		30	2					
Contract.....	49	10								Miners, Diamond...	—							32	2†
Day's Pay.....	33	5								Pipemen.....	28	8	23	5	25	0†			
Miners—Hand Stopping—										Platelayers.....	28	8	23	5	30	0†			
Contract.....	41	8								Pumpmen.....	29	0	23	4	23	4†			
Day's Pay.....	28	9								Skipmen and Onsetters.....	25	0	22	7					
Miners—Machine Developing—										Timbermen.....	32	2	30	8				32	10†
Contract.....	61	7								Trammers.....	25	10							
Day's Pay.....	31	5																	

\* Surface hands. Others underground. Working hours per week : † 46 : ‡ 50. Others 48.

STANDARD OR AVERAGE WAGES PAID TO EUROPEAN ADULT MALE WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31ST DECEMBER, 1921—*contd.*

## GROUP II.—ENGINEERING AND METAL WORKING.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.d.	p.d.	p.d.	p.d.	p.d.	p.d.	p.d.	p.d.	p.d.
Blacksmiths.....	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Bollermakers.....	25 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Brass Finishers..	28 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Coppersmiths....	28 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Fitters.....	25 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Moulders.....	25 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Patternmakers....	25 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Turners.....	25 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0
Electricians*....	28 0	25 4	25 4	30 0	30 0	30 0	29 4	28 0	28 0

Working hours per week: \* 44 and 48. † Municipal employ, 44. ‡ Others 48.

## GROUP III.—BUILDING.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.*	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.h.	p.h.	p.h.	p.h.	p.h.	p.h.	p.h.	p.h.	p.h.
Bricklayers.....	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Carpenters.....	3 6	3 2	3 2	2 11	3 2	3 6½	3 10	3 10	3 10
Masons.....	3 6	3 2	3 2	2 11	3 2	3 6½	3 10	3 10	3 10
Painters (Including Glaziers, Paperhangers, and Sign-writers).....	2 2	2 8½	2 8½	2 11	2 8½	3 1½	3 10	3 10	3 4
Brush Hands....	2 2	2 8½	2 8½	2 11	2 8½	3 1½	3 10	3 10	3 4
Plasterers.....	3 6	3 2	3 2	2 11	3 2	3 6½	3 10	3 10	3 10
Plumbers.....	3 6	3 2	3 1	2 11	3 2	3 6½	3 10	3 10	3 10

Working hours per week: \* 48. † Municipal employ, 48. ‡ Municipal employ, 44 and 48. †† Others, 44.

## GROUP IV.—PRINTING, BOOKBINDING, ETC.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
Bookbinders and Rulers... }	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Lithographers... }	138 6	138 6	138 6	149 3	138 6	149 3	170 6	170 6	180 0
Compositors... }									
Typesetting Machine Operators (day)....	152 3	152 3	152 3	164 3	152 3	164 3	187 6	187 6	176 0
Typesetting Machine Operators (night)....	167 6	167 6	167 6	180 9	167 6	180 9	206 6	206 6	193 6
Machinists... }	138 6	138 6	138 6	149 3	138 6	149 3	170 6	170 6	160 0
Stereotypers... }									

Working hours per week: Typesetting Machine Operators (night) 40 hours; (day) 48 hours; Other occupations (night) 40 hours; (day) 46 hours.

## GROUP V.—GENERAL MANUFACTURING.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
* Certain occupations in industries given below (combined average wage).....	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
	102 6	105 11	101 11	145 5	123 6	137 0	142 11	148 5	123 11

\* Baking, boot and shoe making, brewing, coach and wagon building, furniture manufacturing, leather working, tailoring, and woodworking.

Working hours per week: Generally 44 to 50.

STANDARD OR AVERAGE WAGES PAID TO EUROPEAN ADULT MALE WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31st DECEMBER, 1921—*contd.*

GROUP VI.—TRANSPORT AND COMMUNICATION.

(a) RAILWAYS AND HARBOURS.

Occupation.	Class.	1st Year.	2nd Year.	3rd Year.	4th Year.	5th Year.
		p.d.	p.d.	p.d.	p.d.	p.d.
		s. d.	s. d.	s. d.	s. d.	s. d.
<i>Railways (Running Staff)*—</i>						
Driver.....	Special.	19 9	—	—	—	—
" .....	I	19 1	—	—	—	—
" .....	II	16 10	17 11	—	—	—
" .....	III	15 1	16 1	—	—	—
Passed Fireman (If passed for position of driver).....	—	13 10	—	—	—	—
Fireman.....	I	11 4	13 0	—	—	—
" .....	II	9 9	10 3	10 9	—	—
Guard.....	Special	15 7	—	—	—	—
" .....	I	13 10	15 1	—	—	—
" .....	II	12 6	13 0	—	—	—
" .....	III	10 9	11 4	12 0	—	—
Ticket Examiner.....	Special	16 1	—	—	—	—
" .....	I	15 1	15 7	—	—	—
" .....	II	12 0	12 6	13 0	13 10	—
" .....	III	10 3	10 9	—	—	—
<i>Railways and Harbours (Other)†—</i>						
Checker.....	I	13 0	13 10	14 5	15 1	—
" .....	II	10 9	11 4	12 0	12 6	—
Driver (Crane).....	Special	15 7	16 1	—	—	—
" .....	I	13 0	13 10	14 5	15 1	—
" .....	II	10 9	11 4	12 0	12 6	—
Driver (Stationary Engine).....	I	15 1	15 7	16 1	16 10	17 8
" .....	II	12 0	12 6	13 0	13 9	—
" .....	III	9 9	10 3	10 9	—	—
Driver (Steam trolley and traction engine).....	I	14 5	15 1	15 7	16 1	16 10
Driver (Steam trolley and traction engine).....	II	12 0	12 6	13 0	13 10	14 5
Fireman (Stationary engine).....	I	9 9	10 3	10 9	11 7	—
Shunter (Leading, in charge of engine).....	—	12 6	13 0	13 10	14 5	—
Shunter.....	I	12 6	13 0	—	—	—
" .....	II	9 9	10 3	10 9	11 4	12 0
Signalman.....	Special	16 7 to	18 6	according to	to	classification of
" .....	I	14 5	15 1	—	—	—
" .....	II	13 0	13 10	—	—	—
" .....	III	10 9	11 4	12 0	12 6	—

\* Plus local allowance in areas where payable, bonus time allowance for punctual running, and allowance for "booking on and off."

† Plus local allowance in areas where payable.

(b) TRAMWAYS.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Johannesburg.	Bloemfontein.*
	p.h.	p.h.	p.h.	p.h.	p.h.	p.d.	p.h.	p.h.	p.h.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
<i>Conductors and Motormen—</i>									
1st Year....	1 6	1 7	1 9	}	2 0	16 0	2 8½	3 0	1 5
	to	to	to		to	to	to	to	to
2nd Year....	1 7	1 8	2 0	}	2 1½	18 6	2 10½	3 0	1 6
	1 9	1 10				18 6			3 0
3rd Year....	1 11	1 11½	} 2 3	} 2 6	} 2 3½	19 3	} 3 1½	} 3 3	1 8
4th Year....	2 1½	—							
5th Year....	—	2 2½	} 2 3	} 2 6	} 2 3½	} 20 0	} 3 1½	} 3 6	1 10
6th Year....	2 3	2 3							
Working hours per week....	48	48	56	56	48	48	48	44	48

\* Motormen only. Conductors: first nine months, 9d. p.h.; next three months, 10½d. p.h.; after one year's service, 1s. 2d. p.h.

STANDARD OR AVERAGE WAGES PAID TO EUROPEAN ADULT MALE WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31st DECEMBER, 1921—*contd.*

## GROUP VII.—TRADING.

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
Shop assistants or salesmen in classes of occupation given below*.....	s. d. 125 3	s. d. 116 0	s. d. 117 7	s. d. 131 6	s. d. 133 3	s. d. 140 3	s. d. 144 4	s. d. 162 11	s. d. 181 2

## GROUP VIII.—CLERICAL.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Clerks†.....	158 9	153 3	146 0	168 7	146 11	153 10	169 11	183 2	156 11

## GROUP IX.—DOMESTIC (HOTELS, ETC.).

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Cooks, Barmen, and Hotel Porters‡.....	97 1	95 1	83 9	96 9	108 0	97 1	131 5	127 10	107 6

## GROUP X.—MISCELLANEOUS.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Sanitary Inspectors.....	144 9	151 9	130 3	184 3	142 8	177 9	199 9	219 9	157 0
Farriers.....	80 0	60 0	69 10	80 0	96 0	111 7	141 2	123 11	103 4
Hairdressers....	110 8	98 9	84 3	108 6	122 8	163 3	122 11	160 9	116 0
Firemen (Fire Brigades)§,...	92 1	107 7	89 3	96 10	91 7	97 5	127 1	138 6	92 4

\* Boots and shoes, butchery, chemists, drapery, furniture, grocery, hardware, and men's outfitting (combined average, including commission on sales).

† Government, municipal, trading establishments, and miscellaneous (combined average, including allowances, if any).

‡ Working hours per week in Government (administrative and clerical), municipal, and certain other clerical occupations: 39.

§ Average wage includes estimated cost of board and lodging. ¶ And quarters.

**6. Average Wages in Manufacturing Industry (Additional).**—In many branches of manufacturing industry in the Union the proportion of Europeans to coloured and native persons employed is inconsiderable, and the wages of that proportion of workers are probably less standardized than the general run of wages in any other of the occupational groups. In order, however, that the wage investigations should cover as wide a field as possible, wage statistics of European workers in most of the manufacturing industries in the country in or near the largest centres were called for at the 1921 collection, and a series of averages prepared for each centre. These wage averages have not been included with those in the manufacturing group utilized for the purpose of weighted average wage computations. The figures are given in the following table:—

**GENERAL MANUFACTURING (ADDITIONAL OCCUPATIONS)\*—STANDARD OR AVERAGE WAGES PAID TO EUROPEAN\* ADULT MALE WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31st DECEMBER, 1921.**

Occupation.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
General Manufacturing*....	s. d. 109 0	s. d. 78 9	s. d. 82 8	s. d. 98 9	s. d. 101 9	s. d. 132 4	s. d. 122 11	s. d. 132 0	s. d. 94 11

\* Combined average wage for following industries: Aerated water, brickmaking, cardboard-box making, cement manufacturing, candle-making, explosives, clothing, fish-canning, grain-milling, jam-making, match manufacturing, soap-making, sweet-making and tobacco-manufacturing establishments, and laundries.

**7. Average Wages of Artisans in Municipal and Railway Employ.**—The following tables give particulars of (i) average wages paid to European artisans in the employ of the larger municipalities, and (ii) standard rates paid to artisans in the service of the Railway Administration as at the 31st December, 1921:—

(i) AVERAGE WAGES PAID TO EUROPEAN ARTISANS IN THE EMPLOY OF THE LARGER MUNICIPALITIES, 31ST DECEMBER, 1921.

Occupation.	Cape Town.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Johannesburg.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
Carpenters.....	s. d. 165 0	s. d. —	s. d. 139 4	s. d. 148 0	s. d. 161 0	s. d. 155 10	s. d. 170 0	s. d. 186 0	s. d. 168 8
Masons.....	162 7	144 0	139 4	140 0	—	155 10	—	166 0	168 8
Painters.....	104 0	107 8	119 2	99 0	138 0	137 6	165 4	186 0	—
Plumbers.....	152 5	165 4	152 0	126 0	—	155 10	168 8	186 0	164 3
Blacksmiths....	131 0	134 5	152 0	158 0	120 0	143 0	168 8	186 0	152 2
Fitters.....	149 7	146 0	136 0	168 0	175 2	143 0	168 8	186 0	168 8
Electricians....	146 4	146 6	132 0	100 0	180 0	143 0	177 10	186 0	168 8

(ii) STANDARD RATES OF WAGES PAID TO ARTISANS IN EMPLOY OF RAILWAY ADMINISTRATION, 31ST DECEMBER, 1921.

Occupation.	Railway District.				
	I.	II.	III.	IV.	V.
	p.d.	p.d.	p.d.	p.d.	p.d.
Artisans in Railway Employ*.....	s. d. 20 0	s. d. 21 2	s. d. 21 0	s. d. 22 4	s. d. 23 6

\* Blacksmiths, boiler-makers, brassfinishers, bricklayers, cabinetmakers, carpenters, coachbuilders, copper-smiths, electricians, farriers, fitters, French-polishers, harnessmakers, wood machinists, masons, iron and brass moulders, painters, patternmakers, plasterers, plumbers, printers, sawyers, sheet-iron workers, shipwrights, tin-smiths, trimmers, turners and machinists, and wheelwrights.

NOTE.—The Cape Peninsula, Port Elizabeth, East London, Pietermaritzburg, and Durban are in District I; Kimberley is in District III; Bloemfontein is in District IV; and Pretoria and the Witwatersrand are in District V.

**8. Overtime.**—Rates of payment for time worked in excess of ordinary working hours exist in respect of skilled crafts, tramway occupations and other employment in the Union. These rates are in most cases based upon standard rates of wages and usually comprise "time and a quarter," "time and a half," or "double time" applicable to weekday, Sunday, and public holiday overtime with greatly varying incidence. In some cases, for example, "time and a half" is payable for weekday overtime worked, in others for Sunday time, and in yet others for time worked on public holidays. The overtime rate in certain instances increases for work performed after midnight. If certain classes of occupation overtime rates apply after the normal hours have been worked on any one day; in others only after the normal weekly hours have been worked.

**9. Hours of Labour of European Employees.**—The hours of labour worked by Europeans in the various occupations and branches of industry in the Union have of recent years tended toward greater uniformity. In the gold and coal mining industries of the Witwatersrand the 48-hours week is the rule. The normal working hours of surface hands in the diamond mining industry at Kimberley are 48, and of underground employees 46. On the railways the principle of the 48-hours week as applicable to employment other than that of a clerical nature obtains with certain modifications. In the engineering trades the working week consists generally of 48 hours, but in a few instances a 44-hour week obtains. In building occupations the weekly hours are 44. In the printing industry the weekly hours for journeymen consists of 46 hours for day workers (except typesetting machine operators, who work 43 hours) and 40 hours for night workers. The hours of labour in manufacturing industry vary considerably. Except in the case of furniture workers and craftsmen in other wood-working trades, whose hours have approximated to those worked in the building industry, the general average length of the working week has been somewhat greater than that obtaining in the skilled trades. Under the Union *Factories Act, 1918*, the maximum number of hours which, with certain exceptions, may be performed weekly by persons over sixteen years of age is 50. The International Labour Conference at Washington recommended a 48-hours week; and except in relatively few instances the terms of that recommendation already apply to industrial conditions in South Africa. On the tramway systems of the Union a 48-hours week was, at the end of the year 1921, worked by conductors and motormen

in six of the principal towns. In two other towns the weekly hours were 56, and on the Witwatersrand 44. Artisans in the employ of the largest municipalities work either a 44 or a 48-hours week. In executive postal employ weekly hours range from 42 to 48. A working week of from 42 to 48 hours is now the rule for shop assistants. A large number of employees in retail stores work 44, 44½, or 45 hours per week. Shop hours ordinances in the several Provinces of the Union prescribe a general maximum working week. In clerical occupations a working week of 39 hours is observed in the Public Service, on the Railways and in the principal municipalities. In other branches of clerical employment the working hours vary widely, though a large number of clerical employees observe a 39-hours working week. Other weekly hours worked range from 40 to 52, a working week of 44 or 44½ hours reflecting the position in the case of a considerable number of employees. Clerical employees in trading and similar establishments generally work the same hours as others employed in such establishments. In many occupations of a miscellaneous nature the hours worked are so varied as to render it impracticable to determine even an approximate average working week.

10. **Awards by Wages Boards.**—Awards have been made by Wages Boards in various localities under Act No. 29, 1918. As a rule the Boards confine themselves to the fixing of the minimum rates of wages in respect of the trades and occupations which fall within their scope, but in some cases they deal with conditions of employment prevailing in these trades and occupations and make recommendations in that regard. A summary of such awards is given in the annual Report on Wages, etc., 1922 (Social Statistics No. 4, S.P. 35).

#### § 4. Wages and Hours of Labour (Non-European Workers).

1. **General.**—The ratio of coloured to white labour varies largely in different industries and fields of employment in the Union, but in occupations as a whole the non-European element preponderates to a considerable extent. In the gold mining industry of the Witwatersrand, for example, there were in December, 1921, approximately 176,000 native workers to 21,000 Europeans. In coal mining and in manufacturing industry the coloured and native elements in employment are very much greater than the white. The bulk of general labouring work in agricultural and pastoral operations is non-European; while in municipal employ at the principal industrial centres five coloured and native persons are employed to every two Europeans. These and similar circumstances in relation to employment and its distribution in the Union must be remembered when wage statistics are examined. The average rate of wages of coloured persons, other than native labourers, employed on the Witwatersrand gold mines in certain defined occupations underground is approximately one-fifth of the amount earned by white men. The average earnings per shift of all native labourers, surface and underground, during the six months ended the 31st December, 1921, were 2s. 2d. Except in the case of diamond mines in the Transvaal and mines in the Cape, where housing only is provided, it is general for mining companies to provide their coloured employees with free quarters and food. This in respect of the Witwatersrand gold mines is estimated to have cost in 1920 approximately 28s. per native per month, or 1s. 1d. per shift. The average earnings of surface and underground native labourers in the diamond mining industry at Kimberley, as at the 31st December, 1921, were 23s. 4d. per week.

In skilled crafts, as, for example, the engineering, building, and printing trades, many coloured workers in such centres as the Cape Peninsula, Port Elizabeth, and Durban, though relatively few in number to the total of white artisans, have attained a degree of skill which enables them to command wages very little below the standard rates ruling for European workers, although figures reflecting accurate averages cannot be given. In the Cape Peninsula a number of coloured craftsmen in the printing trade receive the same rates of wages as their white fellow-workers. In the manufacturing industries varying degrees of skill have been reached by coloured employees. Considerable skill in furniture-making has been attained by coloured workers at Cape Town and Durban. Tailoring occupations in the Cape Peninsula followed by Malays and other coloured workers are, comparatively speaking, reasonably well paid. In occupations connected with retail trading coloured employees in some centres perform semi-skilled occupations as packers and storemen. In the inland Provinces the occupations of non-European workers are almost exclusively of an unskilled kind.

2. **Average Rates of Wages of Coloured and Native Workers.**—It was the view of the Statistical Council that the wages survey of the Statistics Office would only be complete when statistics of average wage rates of non-European workers in the Union had been made available. The significance and value of such statistics would, it was considered, be particularly apparent when statistics of the relative numbers of white and of coloured wage-earners in the Union were associated. Immediate effect could not be given to the Council's views which coincided with the opinion expressed by the Economic Commission of 1913; but the first opportunity was taken and certain figures derived from the information which it was possible to collect are published in this chapter. It has not been found of advantage to distinguish between coloured and native workers according to race, but to secure wage

particulars identifiable with the various classes of occupation followed by non-European persons. A common weekly basis has been adopted in preparing the figures for publication, and the estimated value of food and lodging where given has been included. The statistics are based upon average wage rates obtained from a large number of employers, as coloured and native workers are almost entirely unorganized in the industrial sense. It was found impracticable to obtain wage statistics of coloured and native workers for previous years.

The wages of non-European females vary so widely that the computation of anything in the nature of reliable averages is impracticable. In the coastal Provinces coloured females follow certain occupations connected with printing and with manufacturing industry, and are also in domestic and hotel employ. In the inland Provinces female labour, largely confined to aboriginal native females, does not occur to any appreciable extent except in domestic service.

The subjoined table gives particulars of average weekly rates of wage paid to coloured and native male unskilled workers in certain industrial areas as at the 31st December, 1921. It will be observed from the figures that the highest averages are in respect of the Cape Peninsula, owing to the relatively higher level of skill and semi-skill reached by coloured workers in that area.

**AVERAGE WEEKLY RATES OF WAGE PAID TO COLOURED AND NATIVE MALE UNSKILLED WORKERS IN CERTAIN INDUSTRIAL AREAS IN THE UNION, 31st DECEMBER, 1921.**

Description.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.
	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.	p.w.
<i>Unskilled Occupations connected with—</i>	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Engineering...	34 0	33 0	21 7	26 7	16 11	20 8	19 9	21 6	22 6
Building.....	30 2	20 11	18 5	21 0	17 5	20 0	17 9	20 1	18 9
Printing.....	39 0	27 10	22 10	25 8	19 11	25 1	29 2	25 8	26 4
Manufacturing	30 3	27 4	22 1	25 8	19 11	20 2	19 2	26 0	20 5
Trading.....	32 5	25 6	24 0	26 0	14 2	18 7	20 10	25 8	22 1
Municipal Service....	37 5*	26 10	18 6	22 11	15 2	16 9	19 11	20 6†	20 4

\* Cape Town.

† Johannesburg.

**3. Hours of Labour of Non-European Employees.**—The hours of labour worked by coloured persons and natives in the Union approximate to those worked by Europeans in many fields of employment. On the Witwatersrand gold mines the actual working time of natives is considerably less than 48 hours per week, varying in accordance with the job, but natives usually proceed underground earlier than European workers. In diamond mining employment at Kimberley the working hours of natives are practically the same as those for whites. Non-European workers in the engineering and building trades, whether skilled artisans or semi-skilled workers in the coastal Provinces or labourers in the inland Provinces, work the same hours as Europeans. In printing occupations various hours are worked; in the Cape Peninsula, however, those hours accord with the standard hours fixed for white journeymen. A variety of hours, ranging from 44 to 60, is worked by coloured and native workers in manufacturing industry and trading. In municipal employ the hours are to a large extent the same as those of European employees, though certain variations exist.

## § 5. Industrial Organization.

**1. Development of Trade Unionism in South Africa.**—Until comparatively recent years trade unionism did not figure prominently in South African life and conditions, and in an earlier period the organization of labour on trade union lines was practically confined to carpenters and joiners, engine-drivers and firemen, the engineering and printing trades, and occupations on the Witwatersrand gold mines. The Amalgamated Society of Carpenters and Joiners (now known as the Amalgamated Society of Woodworkers) was established in South Africa in 1881, the Iron Moulders' Society in 1896, and the South African Typographical Union and the South African Engine Drivers' and Firemen's Association in 1898. For some years prior to the constitution of the Union, organized workers on the Rand were represented by the Witwatersrand Trades and Labour Council. In 1911 the Transvaal Federation of Trades was established, and this organization to a large extent assumed the functions of the Council, which eventually ceased to exist. Later still—subsequent to the serious industrial disturbances on the Witwatersrand in 1913 and 1914—the Federation of Trades became the South African Industrial Federation. The Federation eventually occupied an important place in the workers' organizations throughout the Union. In 1915, for the first time, practical recognition was conceded to the Federation by the Transvaal Chamber of



Mines. The first trade union congress in this country was held at Johannesburg in the year 1917, having been organized by the Federation. Under the guidance of the latter, many unorganized classes of workers in various parts of the country were induced to organize, and linked up with the Federation under the designation of the South African Industrial Federation Industrial Union. The tendency of later years was toward the creation of national organizations and the affiliation of various associations of workers with large labour combinations. Several federations of employees' associations existed at the end of 1921, these being (in addition to the South African Industrial Federation) the Kimberley and District Trade and Labour Council, the Cape Federation of Labour, the South African Council of Organized Workers, and the Grand Council of State Service Organizations.

The industrial disputes and disturbances which took place on the Witwatersrand early in the year 1922 entailed many important consequences for industrial organization in the Union. The Chamber of Mines withdrew its recognition of the South African Industrial Federation, and modified the conditions under which it would recognize individual trade unions in the mining industry. It was generally recognized that the trade union movement in South Africa had entered on a period of transition and reconstruction.

**2. Trade Unions and other Associations of Employees.**—Not until the provisions of the *Statistics Act* were applied was it possible to obtain anything approaching complete statistics of employees' associations in the Union. A certain amount of information had been collected at intervals by the Department of Mines and Industries, but the supply of such information was permissive on the part of the organizations concerned, and the record thus secured was of necessity only a partial one. Statistics of trade unions and other associations of employees, commencing with the year 1919, have been secured under the Act, while, as the result of informal investigation, data for earlier years, aiming at tracing the development of trade unionism in this country from its beginnings, are being collected.

The following table gives the distribution of associations of employees and their membership, according to industrial groups as at the 31st December, 1921. Particulars of the designation, membership and number of branches of each separate association are given in the Report on Wages, etc., 1922 (Social Statistics No. 4, S.P. 35).

**TRADE UNIONS AND OTHER ASSOCIATIONS OF EMPLOYEES IN VARIOUS CLASSES OF OCCUPATION IN THE UNION, NUMBER AND MEMBERSHIP, 31st DECEMBER, 1921.**

Class of Occupation.	Unions.	Members- hip.	Class of Occupation.	Unions.	Members- hip.
	No.	No.		No.	No.
Mining.....	7	18,471	Teaching Services.....	5	5,143
Engineering and Metal Working.....	8	11,074	Municipal and Tramway Services.....	30	6,010
Building.....	7	9,139	Trading and Clerical.....	8	8,116
Printing, Bookbinding, etc.....	1	2,832	Miscellaneous.....	6	13,507
General Manufacturing... State Services (excluding Teaching).....	10	2,806			
	9	29,817	TOTAL.....	91	107,515

NOTE.—In a number of cases craftsmen and others are members of more than one Union. The extent of duplication cannot be given.

Most skilled mechanics in the service of the Railway Administration are members of craft Unions and not of railway Unions. Such membership is therefore not included in "State Services" above.

In a few cases the 1920 membership has been taken, figures for 1921 not being available.

**3. Associations of Employers.**—Statistics of associations of employers in the Union were taken for the first time in 1919. The following table gives certain particulars of such associations as at the 31st December, 1921:—

**ASSOCIATIONS OF EMPLOYERS\* IN THE UNION, NUMBER AND MEMBERSHIP, 31st DECEMBER, 1921.**

Description.	Number of Associa- tions.	Members- hip.	Description.	Number of Associa- tions.	Members- hip.
Transvaal Chamber of Mines.....	1	74	Manufacturers' Associa- tions*.....	5	529
Chambers of Commerce†.	65	3,234	Municipal Associations...	4	177
			Other.....	91	3,699

\* Concerned with all classes of manufacture.

† Excluding four Chambers, particulars of which are not available.

Federated Associations.	Membership.
Associated Chambers of Commerce.....	65
South African Federated Chamber of Industries.....	7
National Federation of Building Trades' Employers in South Africa.....	21
Federation of Master Printers of South Africa.....	7

4. **Co-operation and Conciliation between Employers and Employees.**—The development in the Union of some forms of machinery designed to promote a spirit of co-operation and conciliation in industrial relationships is dealt with in some detail in the Report on Wages, etc., 1922 (Social Statistics No. 4, S.P. 35). Particulars are given in the fourth issue of this Year Book concerning important conferences held in this connection in 1919.

5. **Industrial Disputes.**—The constant rise in the cost of living during the later years of the War and subsequent to the establishment of peace caused an increasing amount of industrial unrest. In 1915 only two industrial disputes occurred. In 1916 the number had increased to ten; in 1917 and 1918 the totals were 22 and 23 respectively, although the latter series of disputes involved fewer men than the former; in 1919, the number of disputes rose to 47, and in 1920 to 66. A noteworthy feature of the unrest during 1919 was the number of disputes which involved native and coloured workers exclusively. Coloured workers had previously been concerned with occasional strikes, resulting from their connection with trade unions in the capacity of skilled workers, particularly in the Cape Province. As in the preceding year, the largest number of strikes occurred in the mining industry, followed by the building industry. The disputes were mainly for increased wages in consequence of the steady rise in the cost of living; and the number of disputes would have been considerably higher had not the general relations between employers and employees improved during the course of the year. Many of the disputes which took place during the year 1919 were of short duration, which may be regarded as the direct result of the machinery in existence for arriving at a speedy settlement, and the same factor doubtless prevented a number of disputes from developing to the point of extreme action. The culmination in strikes of numbers of grievances on the mines was avoided by the readiness of the Chamber of Mines to assist in the settlement of such grievances through the instrumentality of Boards of Reference. Further means of preventing disputes on the mines and in certain other undertakings existed in the development of the shop steward and works committee movement. The year 1920 saw the principle of voluntary arbitration applied in the case of several important disputes, notably those affecting bank officials throughout the Union, employees of the Johannesburg Municipality, and building operatives on the Witwatersrand, and in other forms such as an advisory wages board for the municipal employees in Durban.

In the year 1921 only 25 industrial disputes took place, a considerable decrease on the preceding year. Approximately 10,000 workers were affected. Of these more than 50 per cent. were European miners on the Witwatersrand. In the early part of 1922 a very serious industrial situation arose on the Witwatersrand, the whole mining industry and various other important undertakings being involved. The dispute culminated in the declaration of a general strike on the 7th March and the proclamation of martial law two days later. Armed conflict occurred between the strikers and the Government forces, and on the 18th March the strike ended, after a total duration of two and a half months.

The subjoined table shows in summarized form particulars of industrial disputes which have taken place in the Union during a succession of years. Details of industrial disputes which occurred in the year 1921 are included in the Report on Wages, etc., 1922 (Social Statistics No. 4, S.P. 35).

**SUMMARY OF INDUSTRIAL DISPUTES, 1906 TO 1921.**

Year.	Number of Strikes beginning Each Year.	Number of Work-people Involved.	Aggregate Duration	Estimated Loss
			in Working Days.	in Wages.
			No.	£
1906.....	1	49	2,648	1,852
1907.....	1	6,400	288,000	273,600
1908.....	—	—	—	—
1909.....	—	—	—	—
1910.....	6	421 <sup>1</sup>	10,200 <sup>2</sup>	10,200*
1911.....	4	860 <sup>3</sup>	16,785 <sup>4</sup>	9,281*
1912.....	1	884	—	—
1913.....	5	19,771	89,887	83,749 <sup>5</sup>
1914.....	12	21,927	160,129 <sup>6</sup>	130,020 <sup>7</sup>
1915.....	2	—	—	—
1916.....	10	1,275 <sup>8</sup>	1,420 <sup>9</sup>	1,095*
1917.....	22	3,457	18,417	9,531
1918.....	23	2,582 <sup>10</sup>	31,786 <sup>10</sup>	28,872 <sup>10</sup>
1919.....	47	23,799	637,138 <sup>11</sup>	260,409 <sup>11</sup>
1920.....	66	105,658	839,415	130,584
1921.....	25	9,892	112,357	113,454

<sup>1</sup> Figures for four strikes only.

<sup>2</sup> Figures representing one strike only.

<sup>3</sup> Figures for two strikes only.

<sup>4</sup> Figures not obtainable.

<sup>5</sup> Figures for one strike not obtainable and one strike approximated.

<sup>6</sup> Figures for two strikes not obtainable and one strike approximated.

<sup>7</sup> Figures for one strike not obtainable and two strikes approximated.

<sup>8</sup> Figures representing six strikes only.

<sup>9</sup> Figures representing five strikes and one strike approximated.

<sup>10</sup> Figures representing twenty-two disputes only.

<sup>11</sup> Figures representing forty-six disputes only.

<sup>12</sup> Figures representing forty-three disputes only.

**6. International Labour Organization.**—(i) *The Labour Charter.*—The Labour Charter in the Treaty of Versailles was the outcome of the appointment by the Peace Conference at Paris of a Commission to inquire into conditions of employment, from the international standpoint, to consider the international means necessary to ensure common action on matters affecting conditions of unemployment, and to recommend the form of permanent agency to continue such inquiry and consideration in co-operation with and under the direction of the League of Nations. The necessity was realized for the constitution, under the League, of a permanent labour organization to secure a world co-operation for industrial improvement, and for the establishment of industrial equality. This end is sought by the gradual elimination of existing differences in industrial development among the nations so as to remove obstacles to reform in certain countries.

The following nine general principles are laid down in the Labour Charter :—

- (a) The guiding principle that labour should not be regarded merely as a commodity or article of commerce.
- (b) The right of association for all lawful purposes by the employed as well as by the employers.
- (c) The payment to the employed of a wage adequate to maintain a reasonable standard of life as this is understood in their time and country.
- (d) The adoption of an eight hours' day or forty-eight hours' week as the standard to be aimed at where it has not already been attained.
- (e) The adoption of a weekly rest of at least twenty-four hours, which should include Sunday, wherever practicable.
- (f) The abolition of child labour and the imposition of such limitations on the labour of young persons as shall permit the continuation of their education and assure their proper physical development.
- (g) The principle that men and women should receive equal remuneration for work of equal value.
- (h) The standard set by law in each country with respect to the conditions of labour should have due regard to the equitable economic treatment of all workers lawfully resident therein.
- (j) Each State should make provision for a system of inspection, in which women should take part, in order to insure the enforcement of the laws and regulations for the protection of the employed.

With a view to the achievement of these objects a permanent Labour Organization was provided for, to consist of a General Conference of representatives of the members of the League of Nations to be held at least once a year, and an International Labour Office to be controlled by a Governing Body appointed by the General Conference. The organization of the International Labour Office at Geneva has been planned to correspond to the main duties imposed upon it by the Peace Treaty, these being the collection, distribution and publication of information on all subjects relating to the international adjustment of conditions of industrial life and labour, the preparation of the agenda for the annual Conference, and the performance of any other duties assigned by the Conference. The administration of the Office consists of a general secretariat, a diplomatic division, a scientific division, and a technical service. The financial organization is effected by the League of Nations.

(ii) *International Labour Conferences.*—The first International Labour Conference took place at Washington, U.S.A., on the 29th October, 1919, the Union of South Africa being represented thereat. The subjects of the agenda referred to the Conference by the Annex to the Peace Treaty were as follows :—

- (a) Application of principle of the eight hours' day or of the forty-eight hours' week.
- (b) Question of preventing or providing against unemployment.
- (c) Women's employment: (i) before and after child-birth, including the question of maternity benefit; (ii) during the night; and (iii) in unhealthy processes.
- (d) Employment of children: (i) minimum age of employment; (ii) during the night; and (iii) in unhealthy processes.
- (e) Extension and application of the international conventions adopted at Berne in 1906, on the prohibition of night work for women employed in industry, and the prohibition of white phosphorus in the manufacture of matches.

The decisions of the Conference on these subjects were embodied in six draft Conventions, which the Conference recommended should be accepted and ratified by the legislatures of the various members of the League, and in a further six recommendations for submission to members of the League for the consideration of their Governments. The endeavour of the Conference was to set up machinery which would obtain the adhesion of all less-advanced countries to provisions capable of general application in an attempt to bring about uniformity of principle and practice throughout the world. The ends intended to be secured, generally, have already been largely attained in the Union as in the more advanced countries.

The second International Labour Conference was held at Genoa on the 15th June, 1920, and the questions dealt with referred to hours of labour at sea, unemployment of seamen, employment of boys on board ship, and an international maritime code. The Union was not represented. Three draft conventions were adopted by the Conference.

The third Conference, which, properly speaking, may be said to be the first general Labour Conference since the Washington Conference, met at Geneva on the 25th October, 1921. That Conference, at which the Union was represented, dealt with the achievements of the International Labour Office since its creation, particularly as regards the measures taken to carry out the decisions of the two first Conferences; with the question of reforming the constitution of the Governing Body of the International Labour Office, and with a variety of miscellaneous matters, including agricultural labour conditions.

## § 6. Industrial Legislation.

**1. Workmen's Wages Protection.**—The *Workmen's Wages Protection Act* (No. 15 of 1914) was passed "to make better provision for securing the payment of workmen's wages." It provides generally that wages due to a workman shall form a first charge upon money payable to a contractor by his principal and that assignments and attachments are void as against the claims of workmen. Workmen whose wages are in arrear may serve upon the principal a notice of attachment supported by a solemn declaration. A copy of such notice and declaration must also be served on the contractor.

Where more than one workman joins in one notice the form of notice may be altered accordingly. In that event the amount of wages due to each workman may be shown opposite to his signature and the amount to be inserted to cover costs must not exceed £5 in respect of each workman or £25 in all, whichever amount is the less.

Upon service of such notice the amount of money specified therein must be retained by the principal out of moneys due (or to become due) to the contractor, until the Magistrate directs to whom and in what manner the money is to be paid, or until the workman consents in writing to the withdrawal of the attachment. The principal has, however, the right to pay the sum into court and the receipt of the clerk of the court discharges his liability. The principal or the clerk may pay the workman with the contractor's consent. The court may give judgment for payment. The attachment becomes void if a judgment is not obtained within two months of service of notice or such further period as a Magistrate may direct. Demands of workmen must be paid in the order of notices of attachment. Any number of workmen may join in one notice. The principal is not liable to pay more than is due from him to the contractor. The Act does not affect any other remedies available for a workman nor vary the rights between the parties. Notices may be served personally upon a principal or contractor or his agent, or by registered letter, or by leaving such notice at his place of abode or business. Workmen in the employment of a sub-contractor have the same rights and remedies against the contractor, as workmen employed by a contractor have against the principal.

**2. Workmen's Compensation Act.**—An Act (No. 25) was passed by Parliament in 1914, consolidating, amending, and extending throughout the Union the law providing for compensation for injuries suffered by workmen in the course of their employment, or for death resulting from such injuries. By Act No. 13 of 1917 an extension of the provisions of the Workmen's Compensation Act was effected so as to provide for compensation to workmen or their dependents who have contracted, or have died as the result of—

- (a) cyanide rash,
- (b) lead poisoning or its *sequelae*,
- (c) mercury poisoning or its *sequelae*, while handling cyanide or lead, or using mercury in the course of their employment.

(i) *Summary of Provisions.*—If personal injury resulting in incapacity or death is caused to a workman, and the injury has arisen out of and in the course of his work, his employer is liable to pay compensation in accordance with the prescribed scale (see below). It is provided however—

- (a) that no compensation shall be payable if the accident is proved to have been attributable to the workman's own serious and wilful misconduct, or where there has been a pre-existing diseased condition of the workman of which the employer was unaware;
- (b) that this Act does not deprive an injured person of his right to institute an ordinary action for damages, though the employer is not liable to pay both compensation and damages;
- (c) that an action instituted either for compensation or damages debars the injured person from the alternative action.

A workman is defined as a person (including any seaman on a Union ship) who enters into or works under a contract expressed or implied, written or oral, and whether he is engaged by time or on piece-work; but the following are excepted:—

- (a) Persons in naval or military service under the Crown, or the Government of the Union or of any British Possession, or members of the Public Service of the Union provided for under Section 46 or 47 of Act No. 29 of 1912.
- (b) Persons whose remuneration is at a rate exceeding £500 per annum.
- (c) Persons employed to perform work of a casual nature.
- (d) Outworkers.
- (e) Persons who contract or sub-contract and themselves engage other persons.
- (f) Persons whose rights to compensation are governed by the Native Labour Regulation Act, No. 15 of 1911.

Special provisions exist affecting the liability of the Crown and local authorities.

In order to obtain compensation the following provisions have to be complied with (subject to certain provisions which may apply in modification if the requirements have not been met):—

- (a) Written notice of the accident must be given to the employer or employing body as soon as reasonably possible, service of notice being effected by delivery or registered post.
- (b) Save as is otherwise provided in the Act, an application must, in the case of incapacity, be made within six months of the accident, or, in the case of death, within six months of death, or within twelve months of the accident, whichever date is the earlier.

Upon service of notice an employer has the right to require submission of the injured person to a medical examination. If an employer does not agree in writing with a workman as to compensation within two weeks after the receipt of notice, the questions in dispute are determinable by a Magistrate. Medical or technical assessors may be appointed for the assistance of the court. The mode and form of application to, and appearance before, the Magistrate are prescribed, and provision is made for the persons entitled to take proceedings on behalf of the dependents of a deceased workman. The question of costs is in the discretion of the Magistrate; and double costs may be awarded when the application appears to the Magistrate to be frivolous or vexatious. An appeal from a Magistrate's decision may be carried to a superior court. The Act further contains miscellaneous provisions as to the review of orders for periodical payments, as to medical examination during payments, as to the circumstances under which periodical payments shall be suspended or cease, as to circumstances precluding the recovery of compensation, as to there being no abatement of compensation if the claimant is insured, as to the payment over of compensation to the magistrate and the remittal to the Master of compensation awarded in certain cases, and the investment of money remitted to the Master in the Post Office Savings Bank. Compensation may not be assigned, charged, or attached, and is not subject to administration of estates or estate duty. The employer and workman may agree as to the amount of compensation. Special contracts in certain cases to receive less than the maximum amount of compensation are lawful; but outside the special provisions of the Act contracts in which rights to compensation are relinquished are invalid as concerning such relinquishment. There are special provisions in the event of the insolvency of the employer. The principal contractor is liable when a workman employed by a sub-contractor is injured (except in the case of a sub-contractor using machinery on work relating to agriculture). Threats and compulsion employed against workmen are punishable offences.

(ii) *Scales of Compensation.*—The schedule to the Act providing the scales of compensation and the manner of calculating it was printed in the first three issues of this Year Book.

**3. The Regulation of Wages, Apprentices and Improvers Act.**—(i) *Summary of Act.*—Act No. 29 of 1918, entitled the *Regulation of Wages, Apprentices and Improvers Act*, which came into force on 1st October, 1918, provides for the establishment of Wages Boards, and the regulation of the wages of women and young persons in certain trades and occupations specified in the schedule to the Act, as follows:—

- (a) Assisting in a shop or store in which any goods, wares or merchandize are sold, or in any tearoom or restaurant.
- (b) Tailoring, dressmaking, boot and shoemaking, and the making of any other article of wearing apparel.
- (c) Harnessmaking.
- (d) The manufacture of sweets and confectionery.
- (e) Soaps and candle-making.
- (f) Cardboard boxmaking.
- (g) Printing and bookbinding.
- (h) The preparation, manufacture and packing of tobacco and cigarettes.
- (i) Matchmaking and matchpacking.
- (j) Typewriting and clerical work.

The Governor-General may from time to time, by proclamation, add any trade or occupation to the schedule if the Minister is satisfied that the rates of wages prevailing in that trade or occupation are exceptionally low, or that there are other circumstances which make such action desirable. The Governor-General may likewise, by proclamation, withdraw any trade or occupation from the schedule.

Wherever a fixed minimum rate of wages exists under the Act for any district or area in respect of any specified trade or occupation, every employer carrying on business in that district or area must pay to every woman and young person (defined as meaning any person, male or female, under the age of eighteen) in his employ remuneration at the rate of not less than the fixed minimum wage for the period worked, clear of all deductions.

Special provision is made in regard to the employment of apprentices and improvers.\* Whenever a Wages Board fixes a minimum rate of wages in respect of a specified trade or occupation or on any other occasion, it may fix the number of apprentices and improvers in proportion to the number of skilled workers who may be lawfully employed, and the minimum rate which shall be payable to the apprentices and improvers.

Section six of Chapter III of the Act provides for the appointment of Wages Boards. They are not to consist of less than three members, and must be equally representative of employers and employees. The representatives so appointed may elect by unanimous vote a chairman who must be neither an employer nor an employee in the trade or occupation concerned. Should they fail to appoint a chairman the Minister will appoint one. Women are eligible for appointment as chairmen or representatives. The method of selection of representatives may be determined by the Minister by regulation. Section eight gives the Wages Boards power to take evidence on oath, if necessary, and to examine wages sheets and books of employers in relation to rates of wages paid by them. Section nine prescribes the powers and duties of Wages Boards, which include the consideration of any matter referred to them by the Minister in regard to the industrial conditions prevailing in any specified trade or occupation in the district or area for which a Board is appointed. More particularly it is within the sphere of the Wages Boards to fix minimum rates of wages which shall be payable to women and young persons and the number of apprentices and improvers in proportion to the number of skilled workers who may be lawfully employed, and the minimum rate payable to apprentices and improvers. Before exercising any of its powers a Board must give notice in the *Gazette*, and in a paper circulating in the district or area concerned, of the proposals contemplated by it and if objections are lodged within a period of two months it must hear those who desire to support such objections. Upon application, a Wages Board may, by notice, withdraw or vary any minimum rate or proportionate number fixed by it, and must reconsider any decision, if the Minister so directs.

An employer who employs persons on piece-work in occupations in respect of which a minimum time-rate but no minimum piece-rate has been fixed, is deemed to pay wages at less than the minimum rate unless he shows that the piece-rate of wages paid would yield to an ordinary worker at least the same amount of money as the minimum time-rate.

Any agreement made after the prescribed date on which a matter is under the Act regarded as fixed is, if in contravention thereof, considered to be void, and any such agreement made before that prescribed date becomes void as from such date.

The Minister has authority to designate officers with defined powers for the purpose of investigating complaints and for securing the proper observance of the Act. Suitable penalties are imposed in the case of employers guilty of contravening the provisions of the Act.

In connection with the Act the Governor-General may make regulations in regard to—

- (a) the appointment, powers and duties of the Boards,
- (b) the notice to be given of any matter under the Act,
- (c) the fixing of notices in factories,
- (d) the giving of notice by employers giving out work,
- (e) the method of defraying costs,
- (f) the apprenticeship and the employment of apprentices and improvers.\*

By virtue of this section regulations were published on the 13th September, 1918, defining the procedure to be adopted in the appointment of Wages Boards and other matters pertaining to the duties of the Boards.

(ii) *Procedure under the Act.*—To establish a Board, application should be made to the Inspector of White Labour for the District in which such Board is to be appointed. Before the Minister agrees to the appointment of a Board some evidence to show that the wages paid are inadequate is required. Comparisons in rate of wages should be based on that paid in other trades in the same district. If the Inspector considers a Board should be appointed, he recommends the exact area over which it should have jurisdiction and also the number of members which should be appointed, and whether any of these should

\* An *Apprenticeship Act* (No. 26), passed in 1922, specifically excludes certain designated trades from the operation of Act No. 29 of 1918 in this respect.

be women. If more than one application is received by the Inspector, he recommends according to the circumstances of the case, the necessity for separate Boards or one Board to meet the requirements of the applicants.

4. **Juveniles Act, 1921.**—The *Juveniles Act, 1921*, makes provision for the establishment of boards to deal with matters affecting the employment, training, welfare and supervision of juveniles, and for the supply of certain information to such boards. The Minister of Mines and Industries may establish a board for any area in the Union, and appoints the members of any board so established. Such members must be representative of employers and employees, as far as possible in equal numbers. The membership must also include persons of special knowledge or experience in educational matters and social conditions.

Regulations may be made under the Act—

- (a) providing for the consultation of organizations and associations in connection with the selection of members of the board ;
- (b) providing for the periods of office of members, the circumstances in which they shall vacate office, and the maximum and minimum number of members of the boards ;
- (c) prescribing the time and places of, and procedure at, meetings of the boards ;
- (d) prescribing the forms to be used for the purposes of the Act ;
- (e) defining the powers, duties and functions of the boards, including the registration of information as to juveniles, the conduct of employment bureaus for juveniles and matters concerning their training, supervision and general welfare ;
- (f) providing for the designation of officers of the Minister's department or of any other department to exercise powers and perform duties in relation to the supervision, welfare, training, employment and assistance of juveniles, and to co-ordinate the work of the several boards ; and allotting to any such officers the powers and duties of a board in any area where no board has been established ;
- (g) prescribing the allowances for out-of-pocket expenses to members of boards for attendance at the meetings thereof or when engaged on duties in connection with their work and generally for the better carrying out of the objects and purposes of this Act.

It is the duty of the principal of every school situated within the board area, before the expiry of one month after the commencement of every school term, to furnish the board with written information regarding every pupil on the roll of the school who—

- (a) will, before the commencement of the following term, attain an age at which attendance at a school ceases by law to be compulsory for him ; or
- (b) is a candidate for an examination, the passing of which has the same effect as the attainment of that age ; or
- (c) having taken a course of education at a school more advanced than is required by law in respect of him, has notified his intention of leaving the school, or has failed to return to school.

Every employer of a juvenile within a board area is called upon to supply to the board particulars of his own name, address and occupation, and of the name, age and address of the juvenile employee ; also, if the board so requires, the nature of the occupation at which the juvenile is employed, as well as particulars of educational attainments and of any continuing educational course which he may be pursuing. Every employer of a juvenile is further required to notify the board of any cessation of such employment.

Under the Act *juvenile* is defined as " a person who is under the age of eighteen years, and who was subject to laws relating to compulsory education, but shall not include any classes of persons exempted by the Minister."

## § 7. Miners' Phthisis : A Problem of Labour.

1. **Legislation.**—Act No. 34 of 1911 was the first Act to make provision for the creation of a fund for the purpose of allowances to workers upon mines who suffer from miners' phthisis ; and subsequent enactments on the subject were passed in 1912, 1914, 1916, 1917 and 1918. The provisions of these measures were noted from time to time in previous issues of this Year Book. In August, 1918, a Commission was appointed to consider the whole question.

As the result of the Commission's inquiries, the question was dealt with on a comprehensive basis in Act No. 40 of 1919, which consolidated and amended all the previous legislation relating to miners' phthisis. The Board established under the prior law (by which is meant the sum-total of the superseded enactments) was reconstituted with functions and powers which, in addition to those of the former Board (outlined in previous issues), included also the following :—

- (a) the power to establish co-operative workshops for beneficiaries and cause land and buildings acquired by it (and it is hereby authorized to acquire land and buildings for this purpose) to be devoted to such workshops ;

- (b) the power to invest moneys received from miners in land and in the improvement thereof with a view to settling such miners upon land so purchased and improved or invest such moneys in any other manner prescribed;
- (c) the right, subject to the approval of the Minister, to grant, sell or otherwise alienate land acquired by it.

The Compensation Fund created under the Act absorbed the Miners' Insurance Fund and the more limited Compensation Fund established under Act No. 19 of 1912. The principal source of revenue for the consolidated Fund was specified by section 10 of the Act as follows:—

10. (1) From and after the commencement of this Act there shall be levied by the Board from employers as hereinafter provided during every three months such an amount as may in the opinion of the Board be required during that period of three months for the purposes of the Compensation Fund.

(2) The amount to be so levied from each employer shall be assessed as follows:—

- (a) forty-five per cent. of the amount in proportion to the earnings in respect of underground work in a scheduled mine during the previous period of three months of the miners employed by such employer;
- (b) thirty-five per cent. of the amount in proportion to the silicosis rate (ascertained by the Bureau as hereinafter directed) of such employer;
- (c) twenty per cent. of the amount in proportion to the amount for which such employer was assessed for normal income tax in respect of the last accounting period of such employer taxed under the provisions of the Income Tax (Consolidation) Act, No. 41 of 1917, or any amendment thereof:

Provided that no variation or inaccuracy in computing such percentages shall invalidate any such levy; but the Board shall, so soon as conveniently may be after the last day of July in every year, correct all such variations and inaccuracies which have occurred during the year preceding such last day of July by imposing a further levy upon or granting a refund to such employer.

(3) The silicosis rate of every employer shall be ascertained annually by adding together the periods of underground employment (exclusive of any periods of absence on military service) during the five years ending on the last day of July last previous (so far as the Bureau can trace such periods) of all miners who have, in the opinion of the Bureau, developed for the first time silicosis to a degree entitling them to any benefit under this Act during the twelve months ending on the thirty-first day of July last previous and distributing the total period thus obtained among the employers in proportion to the aggregate period during which such miners were employed underground in a scheduled mine by each employer: Provided that the Minister may add each or all of the following methods of computing the silicosis rate:—

- (a) the results of dust sampling investigations;
- (b) conclusions drawn by an actuary appointed by the Minister from records of the periods worked by beneficiaries in each scheduled mine;
- (c) the reports of inspectors of mines as to breaches in any scheduled mine of any law or regulation prescribed for the laying of dust or for the improvement of ventilation or generally for the prevention of silicosis in mines;
- (d) the prevalence of silicosis as revealed by the periodical examination of miners and natives.

(4) In the event of a scheduled mine being closed down or having been closed down subsequent to the first day of February, 1919, there shall become due to the Compensation Fund from the employer a contribution equal in amount to three-sevenths of the total amount paid to the Compensation and Insurance Funds in respect of such mine during the seven years ending upon the thirty-first day of July last previous to such closing down. If such mine has been worked for less than seven years previous to such thirty-first day of July, the amount of such contribution shall be three-sevenths of the total sum paid to such funds in respect of such mine during the period for which such mine has been worked. For the purposes of this sub-section a mine shall be deemed to have closed down if it employs less than one-tenth of the number of miners which it was employing on the first day of March, 1919: Provided that this sub-section shall have no application if the Minister is satisfied that such closing down was, or is, of a merely temporary nature.

The new Act, therefore, unlike the prior law, imposes on the scheduled mines practically the sole liability for the maintenance of the Fund. A subsidiary fund, the Settlement and Industries Fund, was provided for to enable the Board to carry out the scheme for settling beneficiaries on the land and in industries.

A new scale of benefits was introduced as set forth in the subjoined table. Recognition was given to the existence of a so-called *ante-primary* stage of silicosis, preceding the more definite *primary* stage.



## SCALE OF BENEFITS UNDER THE MINERS PHTHISIS ACT, 1919.

Class of Person Affected.	Scale of Benefits.
<b>A.—CASES UNDER THE NEW LAW.</b>	
<b>I. Miners.</b>	
(i) In the ante-primary stage	<p style="text-align: center;"><i>In one sum.</i></p> <p>Twelve times that part of miner's monthly earnings not exceeding £29. 3s. 4d.; and six times that part of the earnings exceeding £29. 3s. 4d., but not exceeding £37. 10s.; and three times that part of the earnings exceeding £37. 10s.</p>
(ii) In the primary stage. Tuberculosis without silicosis	<p style="text-align: center;"><i>In one sum, or by instalments with 4½ per cent. interest.</i></p> <p>The above scale, with an addition of 50 per cent.</p>
(iii) In the secondary stage. Tuberculosis with silicosis	<p style="text-align: center;"><i>Monthly during miner's life.*</i></p> <p>(a) One-half of that part of the miner's monthly earnings not exceeding £20; and one-quarter that part of the earnings exceeding £20 but not exceeding £28. 6s. 8d.; and one twentieth that part of the earnings exceeding £28. 6s. 8d.            (b) One fifth of (a) in respect of the miner's wife (during life), if married to him before the date of award;            (c) One tenth of (a) in respect of each legitimate child (not exceeding three), during life and until the age of sixteen.</p>
<b>II. Dependents of Deceased Miners.</b>	
(i) Widow and children..	<p style="text-align: center;"><i>Monthly Allowance.</i></p> <p>Double the amount prescribed in (b) and (c) above, with the same conditions.</p>
(ii) Other dependents, if wholly so	Double the amount prescribed in (b).
(iii) Other dependents, if partly so	The balance of any sums outstanding to the miner's credit with the Board.
<b>III. Native Labourers.</b>	
(i) In the ante-primary stage	Same scale as for miners in the ante-primary stage [Class I (i) above].
(ii) In the primary stage. Tuberculosis without silicosis	The same as for (i), with an addition of 50 per cent.
(iii) In the secondary stage. Tuberculosis with silicosis	Double the amount of (i).
<b>B.—CASES UNDER THE PRIOR LAW.</b>	
<b>I. Miners holding Benefits under Prior Law.</b>	
In the secondary stage Tuberculosis with silicosis	Same scale as for class I (iii) in A above (subject to a residential qualification).
<b>II. Dependents of Deceased Miners</b>	
	Same scale as for Class II in A above (subject to residential qualification).

\* Provided that, if the miner leaves Africa south of the Equator without the written permission of the Board, or outstays the period limited by such permission, such allowance shall finally cease as soon as the amount of seven hundred and fifty pounds has been paid to the miner.

The medical bureau established under the Act of 1916 was continued in all its functions, and the same regulations with penalties for contravention were enforced regarding the medical examination of would-be underground workers and the periodical examination of underground employees on scheduled mines. The decisions of the bureau may be appealed from. Provision was made for the conduct of scientific investigations relating to silicosis.

2. Cases dealt with under Phthisic Acts.—The table hereunder gives the numbers of cases dealt with under the Miners' Phthisic Acts in which awards have been made, distinguishing between persons born in South Africa and those born elsewhere; and the section of the particular Act under which the awards have been made:—

(1) NUMBER OF ORIGINAL AWARDS MADE BY THE MINERS' PHTHISIS BOARD UNDER THE PRIOR LAW AND THE NEW LAW, 1st AUGUST, 1913, TO 31st MARCH, 1921.

HEADING.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20 (eight months).	1920-21.
<b>MINERS—</b>								
Ante-primary Silicosis *—								
South African born...	—	—	—	—	—	—	126	137
Born elsewhere.....	—	—	—	—	—	—	210	232
Primary Silicosis †—								
South African born...	357	328	220	76	61	97	198	95
Born elsewhere.....	592	603	344	140	139	219	488	172
Secondary Silicosis ‡—								
South African born...	110	47	35	4	36	24	8	7
Born elsewhere.....	651	206	187	33	114	73	32	11
Tuberculosis without Silicosis §—								
South African born...	—	—	—	26	14	20	26	15
Born elsewhere.....	—	—	—	36	25	30	22	23
Tuberculosis with Ante-primary Silicosis—								
South African born...	—	—	—	—	—	—	—	1
Born elsewhere.....	—	—	—	—	—	—	1	7
Tuberculosis with Primary Silicosis   —								
South African born...	—	—	—	12	7	10	—	1
Born elsewhere.....	—	—	—	48	42	42	12	1
Tuberculosis with Secondary Silicosis ¶—								
South African born...	—	—	—	14	8	16	3	—
Born elsewhere.....	—	—	—	120	72	80	13	1
Special Awards—Silicosis ¶¶—								
South African born...	—	—	—	3	1	1	—	—
Born elsewhere.....	—	—	—	7	3	1	—	—
Dependents of deceased non-beneficiary miners..	77	162	67	36	20	31	10	6
<b>TOTAL.....</b>	<b>1,777</b>	<b>1,436</b>	<b>853</b>	<b>564</b>	<b>542</b>	<b>653</b>	<b>1,149</b>	<b>709</b>

\* Section 25 (a) 1919 Act.

† Section 21 (1) (a), 1912 Act; Section 9 (1) (a), 1916 Act; Section 25 (b) 1919 Act.

‡ Section 21 (1) (b), 1912 Act; Section 9 (1) (b), 1916 Act; Section 25 (c) 1919 Act.

§ Section 9 (1) (a), 1912 Act; Section 26 (a) 1919 Act.

|| Section 9 (1) (f), 1916 Act; Section 26 (b) 1919 Act.

¶ Section 11 (a), 1916 Act.

N.B.—For the period 1/8/12—31/7/16 (1912 Act) the second and third classes are Silicosis with or without Tuberculosis.

For the period 1/8/16—31/7/17 seven (three South African born and four others) in the second class and nine (one South African born and eight others) in the third class are Silicosis with Tuberculosis.

For the period 1/8/17—31/7/18 eight (three South African born and five others) in the second class and seventy-four (twenty South African born and fifty-four others) in the third class are Silicosis with Tuberculosis.

For the period 1/8/18—31/7/19 two (both others) in the second class and fifteen (two South African born and thirteen others) in the third class are Silicosis with Tuberculosis.

For the period 1/8/19—31/3/20 two (one South African born and one other) in the second class and nine (three South African born and six others) in the third class are Silicosis with Tuberculosis.

1912 Act.—Act No. 19 of 1912 as amended by Act No. 29 of 1914 (1/8/12 to 31/7/16).

1916 Act.—Act No. 44 of 1916 as amended by Acts Nos. 44 of 1917 and 24 of 1918 (1/8/16 to 31/7/19).

1919 Act.—Act No. 40 of 1919 (subsequent to 31/7/19).

For the period 1/4/20—31/3/21 five (two South African born and three others) in the first class, one (South African born) in the second class, and seven (two South African born and five others) in the third class are Silicosis with Tuberculosis.

(ii) MINERS' PHTHISIS ACTS—NUMBER AND PARTICULARS OF CASES IN WHICH GRANTS HAVE BEEN MADE—PERIOD 1st AUGUST, 1912, TO 31st MARCH, 1921.

Year.	Born in South Africa.					Born Elsewhere.					Dependents.	Grand Total.		
	A.P. S.	P.S.	S.S.	T.	T.S.	S.A. S.	A.P. S.	P.S.	S.S.	T.			T.S.	S.A. S.
	*	†	‡	§		¶	*	†	‡	§		¶	**	
1912-13..	—	560	227	—	—	—	—	335	1,501	—	—	—	509	3,182
1913-14..	—	357	110	—	—	—	—	582	651	—	—	—	77	1,777
1914-15..	—	328	47	—	—	—	—	603	296	—	—	—	162	1,436
1915-16..	—	220	85	—	—	—	—	344	187	—	—	—	67	853
1916-17..	—	76	4	26	26	3	—	149	33	36	168	7	36	564
1917-18..	—	61	36	14	15	1	—	139	114	25	114	3	20	542
1918-19..	—	97	24	20	26	1	—	219	73	39	122	1	31	668
1919-20 (eight months).	126	198	8	26	3	—	210	486	32	22	26	—	10	1,149
1920-21..	137	95	7	15	2	—	282	172	11	23	9	—	6	709
TOTAL....	263	1,992	498	101	72	5	442	3,031	2,898	145	439	11	918	10,815

\* Ante-primary Silicoeis, Section 25 (a), Act No. 40 of 1919.

† Primary Silicoeis, Section 21 (1) (a), Act No. 19 of 1912; Section 9 (1) (e), Act No. 44 of 1916; Section 25 (b), Act No. 40 of 1919.

‡ Secondary Silicoeis, Section 21 (1) (b), Act No. 19 of 1912; Section 9 (1) (b), Act No. 44 of 1916; Section 25 (c), Act No. 40 of 1919.

§ Tuberculoeis without Silicoeis, Section 9 (1) (e), Act No. 44 of 1916; Section 26 (a), Act No. 40 of 1919.

|| Tuberculoeis with Silicoeis, Section 9 (1) (f), Act No. 44 of 1916; Section 26 (b), Act No. 40 of 1919.

¶ Special Award Silicoeis, Section 11 (a), Act No. 44 of 1916.

\*\* Deceased Non-Beneficiary Miners, Sections 21 (1) (c), 21 (1) (d), Act No. 19 of 1912; Section 6, Act No. 29 of 1914; Sections 9 (2) (a), 9 (2) (b), 11 (b), Act No. 44 of 1916; Sections 27 (b), 29 (c), Act No. 40 of 1919.

(iii) ANALYSIS OF AWARDS UNDER HEADING "TUBERCULOSIS [WITH SILICOEIS]" T.S. IN TABLE (ii)—PERIOD 1st AUGUST, 1916, TO 31st MARCH, 1921.

Year.	Born in South Africa.			Born Elsewhere.			Total.
	A.P.S.	P.S.	S.S.	A.P.S.	P.S.	S.S.	
	*	†	‡	*	†	‡	
1916-17.....	—	12	14	—	48	120	194
1917-18.....	—	7	8	—	42	72	129
1918-19.....	—	10	16	—	42	80	148
1919-20 (eight months).....	—	—	3	1	12	13	29
1920-21.....	1	1	—	7	1	1	11
TOTAL.....	1	30	41	8	145	286	511

\* Ante-primary Silicoeis, Section 26 (b), Act No. 40 of 1919.

† Primary Silicoeis, Section 9 (1) (f), Act No. 44 of 1916; Section 26 (b), Act No. 40 of 1919.

‡ Secondary Silicoeis, Section 9 (1) (f), Act No. 44 of 1916; Section 26 (b), Act No. 40 of 1919.

3. Medical Examinations.—The following tables give for the period 1st August, 1920, to 31st July, 1921, particulars as to medical examinations held in respect of applications to benefit under the Miners' Phthisis Acts made, prior to the 1st August, 1916, in accordance with the provisions of Act No. 19 of 1912, and after that date, in terms of Act No. 40 of 1919. Table (i) shows the number of examinations and investigations conducted by the central medical bureau, and table (ii) gives details of the medical reports received by the Miners' Phthisis Board during the period indicated:—

## (i) EXAMINATIONS AND INVESTIGATIONS CONDUCTED BY THE MEDICAL BUREAU, 1920-21.

Class of Examination.	Relevant Sections of Act (No. 40 of 1919).	Number of Examinations.*
Initial.....	43	4,021
Special.....	43	3,343
Periodical—First.....	42	555
Second.....		718
Third.....		1,515
Fourth.....		2,072
Fifth.....		2,099
Sixth.....		2,501
Seventh.....		4,248
Eighth.....		6,916
Ninth.....		4,066
Tenth.....		331
		25,021
<b>Benefits—</b>		
Examinations of Applicants who were not Beneficiaries prior to 1st August, 1916.....	25, 28	
First Examinations.....	—	197
Second and Further Examinations.....	—	1,195
		1,392
Examinations of Applicants who were Beneficiaries prior to 1st August, 1916.....	28	
First Examination—		
Formerly in Primary Stage.....	—	18
Formerly in Secondary Stage.....	—	45
		63
Second and Further Examinations—		
Formerly in Primary Stage.....	—	458
Formerly in Secondary Stage.....	—	175
		633
Natives.....	39	1,886
Post-mortem Claims—		
Miners.....	27, 29, 30	
With Post-mortem Examination.....	—	193
Without Post-mortem Examination.....	—	206
		399
Natives.....	39 (2)	333
Reviews.....	—	182
Appeals.....	45	33
Change House Attendants.....	—	63
<b>TOTAL OF ALL EXAMINATIONS.....</b>	<b>—</b>	<b>37,279</b>

\* Attention may be called to the fact that the number of examinations is not always identical with the number of examinees.

## (ii) REPORTS OF MEDICAL EXAMINATIONS RECEIVED BY MINERS' PHTHISIS BOARD, YEAR ENDED 31st MARCH, 1921.

Classification.	Without Tuberculosis.	With Tuberculosis.	Total.
<b>A.—*Applications under Act No. 19 of 1912:—</b>			
First examinations.....	—	—	—
Second and further.....	—	—	58
Proviso under Section 21 (1) (b).....	—	—	—
<b>TOTAL.....</b>	<b>—</b>	<b>—</b>	<b>58</b>
<b>B.—Applications under the 1916 and 1919 Acts:—</b>			
First examinations.....	266	19	285
Second and further.....	874	74	948
Section 9 (1) (c)—			
First examinations.....	16	3	19
Second and further.....	170	26	196
Section 10—			
First examinations.....	7	1	8
Section 28—			
Second and further (Section 10, Beneficiary Miners).....	378	36	414
Periodical examinations (first notifications).....	327	52	379
<b>TOTAL.....</b>	<b>2,038</b>	<b>211</b>	<b>2,249</b>
<b>GRAND TOTAL.....</b>	<b>—</b>	<b>—</b>	<b>2,307</b>

\* No distinction made between tuberculous and non-tuberculous cases.

NOTE.—Reports received from Bureau in respect of applicants under Section 9 (1) (c) and Section 10 of the New Law, in which it is stated that applicants' prior condition was due to tuberculosis, now inactive, have been included under the heading "Without Tuberculosis."

4. *Records of Beneficiaries.*—The examination of records prepared by the Miners' Phtthisis Board as to miners who have been granted awards has permitted the preparation of the data given in the subjoined tables, in respect of which the Government Actuary has reported in terms of section 13 of Act No. 19 of 1912. Tables (i) and (ii) show the ratio per cent. which the number of miners having the periods of service shown bears to the total number of miners who received original awards on the grounds of silicosis during the period 1st August, 1912, to 31st March, 1921. It may be safely assumed that the improvement shown from year to year can be taken as a reliable indication that the conditions on the mines are steadily improving. The average actual service is shown for each year, both in groups and as a whole. It will be seen that taking the cases as a whole, the actual average service is considerably greater for the last two years than for the first two years of the experience dealt with, more especially in the higher groups. The average age is also shown for each year in groups and as a whole. Here, also, taking the full period of experience, it appears that the average age has increased each year, and on the whole a decided upward movement is perceptible in this respect.

The average estimated expectation of life for secondary stage cases also appears to have steadily, though slowly, increased from year to year. Only the cases where the medical examiners have given a definite indication in years or months can be utilized in this connection, but these constituted about 85 per cent. of the cases up to the end of the year 1917, when the medical examiners ceased to give a definite indication in years or months. In respect of this information it is to be observed that the medical examiners were as a rule only able to give very approximate estimates, and naturally periodically modified their opinions, and consequently the basis of their estimates, as the result of the accumulating experience derived from the actual deaths which had occurred among the beneficiaries, and the variations in the state of health of beneficiaries who came up for re-examination. From the detailed experience it appears as if the actual average service of the South African born is shorter than that of those born elsewhere, especially for the earlier years, that their average age is lower, and that their medical expectation of life is greater. It appears also as if the average actual service of machinemen is shorter than that of those not doing machine work, and that their average age is lower. The average medical expectation of life was very similar for machinemen and others.

Comparing the cases in table (i) with those in table (ii), it will be seen that both the average actual service and the average age are lower in the former cases, as was to be expected.

The underground service shown in the tables is confined to that in the mines coming within the scope of the Acts. Many of the miners coming from overseas have worked in mines in other parts of the world, in some of which miners' phtthisis is contracted. This additional service could not, however, be dealt with satisfactorily, as the statements made by the applicants in regard to such service are unreliable, and it is impossible without a very thorough and prolonged investigation to differentiate between healthy and unhealthy mines outside South Africa. It is possible that some of the overseas miners have had the disease partly developed before arriving in this country, and if this is so it would appear as if they were even less susceptible to the disease as compared with the South African born, than the figures brought out in the tables indicate.

In table (iii) the total deaths (in the various classes) among the miners originally classed in the secondary stage in each of the ten years dealt with are grouped with the total numbers involved, and the percentage of deaths and the average age at death for each group, and for the yearly totals, are shown. The cases where intimation of death has not been received include, especially in the earlier years, a large number of cases where the payments have been exhausted. The exclusion of these cases makes the percentage of deaths lower than it should be. The average ages at death are in practically all cases considerably lower for those born in South Africa than for those born elsewhere, and are shown by the records of the Phtthisis Board to be lower also for machinemen than for those otherwise employed. The percentage of deaths is much higher on the average for machinemen than for those otherwise employed, and for those born outside South Africa than for those born therein. The average age at death in the various classes does not differ materially from year to year.

In table (iv) the total deaths of beneficiary miners are recorded to the 31st March, 1921, the classification being on the basis of the observations made at the last medical examination.

(i) **MINERS' PHTHISIS—PARTICULARS AS TO MINERS WHO RECEIVED ORIGINAL AWARDS ON THE GROUNDS OF ANTE-PRIMARY AND PRIMARY MINERS' PHTHISIS WITH OR WITHOUT TUBERCULOSIS, SHOWING PERIODS OF UNDERGROUND SERVICE, RATIO PER CENT., AVERAGE SERVICE AND AVERAGE AGE, PERIOD 1st AUGUST, 1912, TO 31st MARCH, 1921.**

YEAR.	PERIODS OF UNDERGROUND SERVICE, IN YEARS.						TOTAL.
	10 years and over.	8 years and under 10.	6 years and under 8.	4 years and under 6.	2 years and under 4.	Under 2 years.	
(1) RATIO PER CENT. WHICH NO. UNDER EACH PERIOD OF SERVICE BEARS TO TOTAL NO.							
1912-13.....	1.89	7.43	17.84	24.73	36.62	11.49	100.00
1913-14.....	3.60	10.86	22.40	23.80	31.67	7.78	100.00
1914-15.....	7.32	15.19	23.07	29.70	22.88	2.84	100.00
1915-16.....	7.58	11.80	25.00	31.18	22.47	1.97	100.00
1916-17.....	13.30	17.43	27.52	25.23	16.06	0.46	100.00
1917-18.....	11.96	21.20	30.97	17.89	17.94	0.54	100.00
1918-19.....	11.99	21.90	33.06	18.18	13.63	1.24	100.00
1919-20 (8 months)	20.17	20.24	28.96	16.84	6.80	0.99	100.00
1920-21.....	21.06	24.62	25.86	18.26	8.20	2.00	100.00

(2) AVERAGE ACTUAL SERVICE UNDER EACH PERIOD OF SERVICE.							
1912-13.....	11.57	8.41	6.55	4.74	2.90	1.88	4.40
1913-14.....	11.15	8.40	6.65	4.70	2.84	1.45	4.92
1914-15.....	10.90	8.50	6.75	4.85	2.96	1.61	5.79
1915-16.....	11.18	8.68	6.69	4.90	3.03	1.45	5.78
1916-17.....	13.26	8.73	6.84	4.90	2.68	1.33	6.37
1917-18.....	12.27	8.77	6.99	5.17	3.13	1.67	6.96
1918-19.....	11.78	8.87	6.93	5.13	3.20	1.30	7.04
1919-20 (8 months)	11.05	8.84	6.96	5.05	3.45	1.00	7.66
1920-21.....	11.04	8.88	7.64	5.12	3.03	1.46	7.70

(3) AVERAGE AGE UNDER EACH PERIOD OF SERVICE.							
1912-13.....	38.64	38.02	36.70	35.63	34.97	34.54	35.69
1913-14.....	42.30	38.60	37.14	35.47	33.27	36.13	35.78
1914-15.....	41.68	38.70	38.65	36.00	35.82	39.00	37.47
1915-16.....	43.78	40.24	38.11	37.02	35.64	42.00	37.97
1916-17.....	43.69	43.24	41.25	39.27	40.29	47.00	41.29
1917-18.....	45.00	41.51	38.63	39.06	40.91	47.00	40.53
1918-19.....	43.48	39.69	41.44	43.31	44.78	43.83	41.94
1919-20 (8 months)	48.40	40.14	41.00	40.09	42.21	42.62	42.21
1920-21.....	44.77	40.97	37.96	39.32	40.24	49.46	40.85

(ii) **MINERS' PHTHISIS—PARTICULARS AS TO MINERS WHO RECEIVED AWARDS ON THE GROUNDS OF SECONDARY MINERS' PHTHISIS WITH OR WITHOUT TUBERCULOSIS, SHOWING PERIODS OF UNDERGROUND SERVICE, RATIO PER CENT., AVERAGE AGE, ETC., PERIOD 1st AUGUST, 1912, TO 31st MARCH, 1921.**

YEAR.	PERIODS OF SERVICE, IN YEARS.						TOTAL.
	10 years and over.	8 years and under 10.	6 years and under 8.	4 years and under 6.	2 years and under 4.	Under 2 years.	
(1) RATIO PER CENT. WHICH NO. UNDER EACH PERIOD OF SERVICE BEARS TO TOTAL NO.							
1912-13.....	7.24	14.96	20.87	20.87	31.65	4.41	100.00
1913-14.....	10.55	23.80	28.47	21.85	13.99	1.84	100.00
1914-15.....	27.72	23.18	23.86	17.19	7.72	0.35	100.00
1915-16.....	23.26	20.93	27.91	16.28	9.88	1.74	100.00
1916-17.....	19.75	19.75	29.63	20.99	7.41	2.47	100.00
1917-18.....	13.93	22.89	30.35	19.40	12.44	0.99	100.00
1918-19.....	21.29	34.19	26.45	9.68	7.10	1.29	100.00
1919-20 (8 months)	49.98	20.41	8.17	10.20	9.20	2.04	100.00
1920-21.....	10.53	21.05	15.79	15.79	21.05	15.79	100.00

- (ii) MINERS' PHTHISIS—PARTICULARS AS TO MINERS WHO RECEIVED AWARDS ON THE GROUNDS OF SECONDARY MINERS' PHTHISIS WITH OR WITHOUT TUBERCULOSIS, SHOWING PERIODS OF UNDERGROUND SERVICE, RATIO PER CENT., AVERAGE AGE, ETC., PERIOD 1st AUGUST, 1912, TO 31st MARCH, 1921—continued.

YEAR.	PERIODS OF SERVICE, IN YEARS.						TOTAL.
	10 years and over.	8 years and under 10	6 years and under 8.	4 years and under 6.	2 years and under 4.	Under 2 years.	
1912-13.....	12.04	8.44	6.67	4.72	2.91	1.27	5.49
1913-14.....	11.15	8.52	6.69	4.83	2.94	1.37	6.58
1914-15.....	11.32	8.61	6.67	4.79	2.95	1.70	7.78
1915-16.....	11.75	8.70	6.78	4.96	3.19	1.74	7.90
1916-17.....	21.19	8.86	6.91	5.00	3.37	1.38	7.54
1917-18.....	11.92	8.80	6.95	4.92	2.98	1.50	7.13
1918-19.....	11.92	8.87	7.00	4.94	2.80	1.79	8.12
1919-20 (8 months)	11.25	9.20	7.00	5.20	3.20	1.00	8.85
1920-21.....	11.00	8.75	6.66	5.33	3.25	1.66	8.84

## (2) AVERAGE ACTUAL SERVICE UNDER EACH PERIOD OF SERVICE.

1912-13.....	12.04	8.44	6.67	4.72	2.91	1.27	5.49
1913-14.....	11.15	8.52	6.69	4.83	2.94	1.37	6.58
1914-15.....	11.32	8.61	6.67	4.79	2.95	1.70	7.78
1915-16.....	11.75	8.70	6.78	4.96	3.19	1.74	7.90
1916-17.....	21.19	8.86	6.91	5.00	3.37	1.38	7.54
1917-18.....	11.92	8.80	6.95	4.92	2.98	1.50	7.13
1918-19.....	11.92	8.87	7.00	4.94	2.80	1.79	8.12
1919-20 (8 months)	11.25	9.20	7.00	5.20	3.20	1.00	8.85
1920-21.....	11.00	8.75	6.66	5.33	3.25	1.66	8.84

## (3) AVERAGE AGE UNDER EACH PERIOD OF SERVICE.

1912-13.....	46.97	41.96	38.58	38.49	38.90	40.68	39.87
1913-14.....	42.93	40.85	40.28	40.63	39.72	43.00	40.74
1914-15.....	42.06	40.60	40.00	40.55	42.13	36.00	40.96
1915-16.....	43.80	40.44	38.67	37.25	41.53	40.67	40.32
1916-17.....	43.78	44.59	42.50	40.62	44.83	47.50	43.07
1917-18.....	44.96	45.41	41.86	42.38	41.84	44.00	43.23
1918-19.....	44.66	42.43	43.90	42.60	43.00	49.09	43.44
1919-20 (8 months)	43.41	46.00	41.25	41.60	39.60	45.00	43.22
1920-21.....	47.00	46.50	43.00	40.33	50.25	43.66	45.36

- (iii) MINERS' PHTHISIS—NUMBER AND PERCENTAGE OF DEATHS OF MINERS WHO RECEIVED ORIGINAL AWARDS ON THE GROUNDS OF SECONDARY MINERS' PHTHISIS WITH OR WITHOUT TUBERCULOSIS—PERIOD 1st JUNE, 1911, TO 31st MARCH, 1921.

YEAR.	BORN IN SOUTH AFRICA.				BORN ELSEWHERE.			
	No. of Beneficiaries.	No. of Deaths.	Percentage of Deaths.	Average Age at Death.	No. of Beneficiaries.	No. of Deaths.	Percentage of Deaths.	Average Age at Death.
1911-12 (14 months).....	264	108	40.90	39.35	494	386	78.13	43.50
1912-13.....	228	82	35.96	41.20	1,099	557	52.10	44.48
1913-14.....	113	52	46.01	40.25	730	403	55.20	44.01
1914-15.....	40	23	57.50	41.52	233	180	71.14	43.77
1915-16.....	27	16	59.25	38.80	162	109	67.22	42.44
1916-17.....	28	20	86.93	44.40	164	125	76.21	44.21
1917-18.....	34	26	76.47	38.45	184	108	58.68	43.61
1918-19.....	32	8	25.00	38.87	127	53	41.73	43.49
1919-20 (8 months).....	14	5	35.71	39.40	40	7	12.50	39.00
1920-21.....	6	1	16.66	33.00	17	1	7.67	44.00
TOTAL.....	781	341	43.66	40.27	3,236	1,927	59.54	43.67

## (iv) NUMBER OF DEATHS OF BENEFICIARY MINERS NOTED BY THE MINERS' PHTHISIS BOARD, CLASSIFIED IN ACCORDANCE WITH THE RESULTS OF THE LAST MEDICAL EXAMINATION—1st AUGUST, 1912, TO 31st MARCH, 1921.

Period.	South African Born.				Born Elsewhere.				Total.
	S.	S1.	S2.	T.	S.	S1.	S2.	T.	
1912-13.....	—	3	21	—	—	2	134	—	160
1913-14.....	—	6	31	—	—	13	218	—	288
1914-15.....	—	2	32	—	—	12	242	—	288
1915-16.....	—	11	42	—	—	30	301	—	384
1916-17.....	—	6	63	1	—	39	285	1	375
1917-18.....	2	13	52	6	4	49	260	4	390
1918-19.....	11	38	113	12	10	71	276	13	544
1919-20 (8 months)	6	23	44	3	5	43	141	6	271
1920-21.....	8	24	60	8	13	68	191	12	379
TOTAL.....	27	126	458	30	32	322	2,028	36	3,059

S.—Silicosis in the ante-primary stage or physically unfit for underground work by reason of the presence of silicosis, though not in either the primary or the secondary stage.

S1.—Silicosis in the primary stage with or without tuberculosis.

S2.—Silicosis in the secondary stage with or without tuberculosis.

T.—Tuberculosis without silicosis.

5. Revenue and Expenditure under Phthisis Acts.—The subjoined tables give particulars as to revenue and expenditure of the Compensation Fund under the Miners' Phthisis Acts for a period of years. Particulars are given in table (iii) as to the cost of administration for five years. The total payments in respect of awards to the 31st March, 1921, amounted to £4,868,483, and the total expenditure of the Fund at the same date, £5,170,328.

Under section 9 (1) of the *Miners' Phthisis Act, 1919*, the Insurance Fund (see previous issues of this Year Book) was merged in the Compensation Fund.

## (i) MINERS' PHTHISIS COMPENSATION FUND—REVENUE FOR YEARS 1915-16 TO 1920-21.

Nature of Revenue.	1/8/15— 31/7/16.	1/8/16— 31/7/17.	1/8/17— 31/7/18.	1/8/18— 31/7/19.	1/8/19— 31/3/20.	1/4/20— 31/3/21.
	£	£	£	£	£	£
Contribution by Employers..	497,380	571,887	448,339	398,351	542,097	925,515
Interest.....	25,438	34,928	34,572	10,665	15,770	17,936
Fines.....	1,478	1,175	882	438	344	593
Miscellaneous.....	19,618	22,603	27,338	66,922	12,475	172
TOTAL.....	£ 543,912	630,653	511,131	476,276	570,686	944,216

## (ii) MINERS' PHTHISIS COMPENSATION FUND—EXPENDITURE FOR YEARS 1915-16 TO 1920-21.

Nature of Expenditure.	1/8/15— 31/7/16.	1/8/16— 31/7/17.	1/8/17— 31/7/18.	1/8/18— 31/7/19.	1/8/19— 31/3/20.	1/4/20— 31/3/21.
	£	£	£	£	£	£
Settlement and Industries Account.....	—	20,000	20,000	20,000	20,000	20,000
Payments in regard to Awards granted under prior Law..	—	103,894	53,271	27,040	93,517	72,086
Payments to Beneficiaries under Act No. 40 of 1919..	140,379	54,897	276,838	145,574	785,213	710,808
Full and Partial Awards.....	228,731	96,694	185,931	202,015	—	—
Monthly Payments.....	21,000	121,410	82,959	31,199	—	—
Medical and Funeral Expenses	1,150	1,472	4,272	5,598	3,640	5,826
Interest Payable.....	—	—	—	—	1,541	4,444
Miscellaneous.....	924	38,140	46,570	48,545	1,991	3,635
TOTAL.....	£ 392,784	436,516	669,841	479,969	905,902	816,799



(iii) EXPENDITURE ON ADMINISTRATION OF MINERS' PHTHISIS ACTS,  
1916-17 TO 1920-21.

Nature of Expenditure.	1/8/16— 31/7/17.	1/8/17— 31/7/18.	1/8/18— 31/7/19.	1/8/19— 31/3/20.	1/4/20— 31/3/21.
	£	£	£	£	£
Fees of Members of Board...	4,431	4,819	5,166	3,238	5,066
Salaries of Staff.....	10,657	12,621	14,822	11,887	22,164
Medical Practitioners' Fees (in- cluding X-ray examinations and hospital fees).....	8,553	8,496	10,299	9,874	14,295
Actuary's Fees.....	105	105	1,404	70	105
Rent of Offices, etc.....	1,085	1,486	1,431	—	—
Buildings.....	234	350	228	—	—
Furniture and Fittings.....	1,627	1,021	930	—	—
Typewriters and Motor Cycles	228	—	170	—	—
Incidental Expenses (including transport and subsistence, rail fares, sundries, investi- gation expenses, etc.).....	2,985	5,192	3,901	2,306	3,760
Stationery.....	1,560	} 1,078	1,203	—	—
Printing.....	—		1,206	—	—
Postage.....	1,108	—	1,065	—	—
X-Ray and Photographic Equipment.....	5,845	5,308	3,132	1,997	3,150
Pathological Services.....	750	750	917	833	1,250
<b>TOTAL.....£</b>	<b>39,228</b>	<b>42,432</b>	<b>44,697</b>	<b>30,205</b>	<b>49,790</b>

## CHAPTER VIII.

## PRICES AND COST OF LIVING.

## § 1. Introductory.

1. **General.**—No adequate measures were taken until January, 1919, to ascertain with regularity as a section of routine statistics the facts relating to prices and the comparative cost of living in various parts of the Union. The only material previously available was that reported upon (1) in January, 1914, by the Economic Commission which referred particularly to the lack of means and authority for collecting the necessary data on a sufficiently comprehensive scale; (2) in 1916 by a Special Commission to inquire into increased costs attributable to the War; and (3) by the Cost of Living Commission appointed in 1917 to inquire further into the rise of prices. Summaries of the reports of the Commissions have been given in previous issues of this Year Book (1 and 2); but are not repeated in full, a short reference only being made thereto, as they have been replaced by figures collected from January, 1919, under authority of the *Statistics Act*. These figures include wholesale and retail prices, the former from 1910 and the latter from 1895. Under the same statutory authority a yearly census of rents of habitations is taken (from 1918 to 1920 this census was taken at half-yearly intervals). The cost of living at various periods from 1895, as denoted in the various tables given in this Chapter, has been calculated upon data rendered available as the result of the various investigations referred to.

2. **Economic Commission (1913).**—The Commission found that on every basis of calculation the high cost of both food and rent in the Union, even at that date, was outstanding, rent being the chief factor. Rents for white working-class dwellings were referred to as being high throughout the country, corresponding to about half of the family expenditure on food. The proportion in England and Germany was calculated at about one-fourth, in America one-third, and in Belgium one-fifth. The leading cause of high rents is indicated by the Commission as the division of the South African community into two distinct racial strata with widely differing standards of living and purchasing power. The class of house considered was that provided only for white persons; and, as these houses were comparatively few in number, the supply was subject to all the uncertainty of a small market, and the cost of building for this reason also was high. The cost of importing material and the high rate of interest were also factors to be weighed. The position was radically different from that in an all-white community where there is a continuous series of individuals with standards of living ranging from the highest to the lowest, and shading off into one another. The Commission in further considering the cost of living brought into view other elements to show that working class life in the Union was rendered unavoidably expensive in numerous ways. The working class man for climatic and other reasons must often ride to his work, the cost of conveyance being high. The cost of amusements, of medical attendance, and nursing also was high; and outside the Transvaal and Orange Free State the cost of education was a factor. On the other hand, expenditure on clothing was for climatic reasons less—also expenditure on coal; but there was an undoubted balance of loss against the family in the Union as compared with a family in England. However, as a set-off against the high cost of living, the Commission reported various scales of wages as being correspondingly high in comparison with those in other countries.

The table given below indicates the finding of the Commission in an international comparison of the cost of food, rent, and the cost of living, the index figure for Johannesburg being calculated at 100 :—

**INTERNATIONAL COMPARISON OF COST OF FOOD, RENT, AND COST OF LIVING,  
1913.—INDEXES.**

Place.	Cost of Food.	Rent.	Cost of Living.
Johannesburg.....	100	100	100
Union of South Africa.....	—	80	87
United Kingdom.....	64	23	49
France.....	72	22	54
Germany.....	69	28	56
Belgium.....	60	17	45
United States of America.....	84	47	71
Canada.....	85	45	76
Australia.....	69	46	61
New Zealand.....	63	46	57

3. **Other Commissions.**—A reference is given in Year Book No. 4 and previous issues as to the operations and findings of the Commission of 1916 and the Cost of Living Commission, 1917, including the findings of a Parliamentary Select Committee appointed in 1919. The matters dealt with have an important bearing upon economic conditions prevailing during the period of the War.

4. **Statistics of Prices and Cost of Living.**—The Economic Commission of 1913 definitely advised the Government to charge itself with the establishment of a section of statistical work covering the principal subjects with which the Commission had been dealing, i.e. prices, rents, the cost of living, and wages, as having a vital interest for the workers and industrialists of the Union, and a direct bearing upon the economic problems, which then faced the country, and during succeeding years have faced it more insistently. This Commission and the subsequent Commissions referred to above, which were appointed in 1916 and 1917, found themselves at a disadvantage owing to the absence of statistical data; and comparisons with other Dominions showed that in this particular respect the Union was most unfortunately placed. It was not, however, possible to give effect to the recommendations of the Economic Commission until the latter part of the year 1918, when a section of the Office of Census and Statistics was constituted for the purpose of maintaining a regular service of statistics of this character.

During the period which has since elapsed much has been done to collate such scattered information as was already in existence, mainly consisting of data obtained by various commissions and in principal by the Cost of Living Commission. From January, 1919, the Office of Census and Statistics took over from the last-named Commission the work of preparing and publishing monthly statements as to price movements; and in addition to this work has done everything possible to make good some, at least, of the deficiencies of the past in this branch of statistics, and to initiate a regular and reasonably adequate statistical service.

It was fortunate, however, that the experience of other countries was available; and the Statistical Council in its consideration of a scheme to cover this important subject had before it the experience of Australia (where a highly specialized system has been created by the Commonwealth Statistician), New Zealand, Canada, and the United States of America. In all these countries the matter had received detailed consideration; and statistical methods had been afforded close and critical examination. Thus the system adopted in South Africa, though modified to suit the peculiar circumstances of a country in which the bulk of the population consists of native and coloured persons, has been very largely borrowed from systems practised elsewhere.

This system has been fully explained in a publication (S.P. 13) issued in August, 1919, which has been followed by similar reports issued in subsequent years.

## § 2. Wholesale Prices.

1. **System of Collection.**—The list of commodities in regard to which prices are collected under the *Statistics Act* comprises 188 articles. A Report on the subject (S.P. 13) contains an explanation of the method of collection. The list of commodities may be extended from time to time should this prove expedient; and prices have been traced back to 1910.

In the selection of articles consideration is of necessity given to their relative importance in the economy of the country. Staple commodities alone are dealt with, and it has further been recognized as essential to secure a brand, gauge, or standard sufficiently definite to make comparison reasonably certain. In a number of cases, especially as regards soft goods, it has been found difficult, if not impossible, to arrive at the approximate consumption, and it has, therefore, been necessary to omit such items when price indexes for groups have been computed. Prices and price indexes for individual items which, for the reason given above, cannot be taken into consideration in calculating indexes for groups, have, however, been included, following the practice of the United States of America, where prices and relatives are given for a number of commodities which are not taken into account in the computation of group indexes.

**2. Price Indexes and Prices.**—In calculating price indexes for individual commodities the prices in the year 1910 have been taken for the present as the basis for comparison (1000).

The different groups of wholesale indexes for 1910-1920 have been weighted on the average national consumption basis of three years—1917-1919. For the year 1921 the consumption basis for the purpose of weighting has been advanced one year, to the average of 1918-1920, and this system will be continued for future years.

Information for arriving at the national consumption has been drawn mainly from the import and export figures and the agricultural and factory censuses.

Price averages are based on quarterly returns furnished by representative firms in Cape Town, Port Elizabeth, East London, and Durban, as representing the coast centres, and in Johannesburg as representing the inland centres. The following method of calculating the average price for the Union has been adopted:—

As regards each town separately, the predominant price or, if there was no predominant price, the actual price nearest to the average of all quotations, was taken as the base price; the arithmetical average of the base prices for the coast towns was then calculated; finally the Union price was obtained by taking the mean between the Johannesburg base price and the average of the base prices for the coast towns.

Wholesale prices are given in summary in each *Quarterly Abstract of Union Statistics*, and for 1921 the subject is more fully dealt with in the annual report on Prices, etc. (S.P. 35).

The following tables give the indexes of groups for a series of years:—

### WHOLESALE PRICES—INDEXES OF GROUPS, 1910 TO 1922.

(Basis—Index Number for 1910 = 1000 in the case of each Group.)

#### (i) SUMMARY OF GROUP INDEXES.

Year.	All Groups.	Food and Groceries.	Food, Groceries, Fuel, and Light.	Other Groups.	South African Goods.	Imported Goods.
1910.....	1000	1000	1000	1000	1000	1000
1911.....	979	968	970	1009	967	1010
1912.....	1012	1033	1027	980	1011	1013
1913.....	1125	1201	1186	1021	1169	1017
1914.....	1090	1098	1079	1122	1083	1106
1915.....	1204	1177	1156	1333	1154	1325
1916.....	1379	1293	1277	1645	1268	1651
1917.....	1583	1398	1392	2075	1373	2091
1918.....	1723	1448	1450	2380	1419	2464
1919.....	1854	1637	1623	2300	1584	2525
1920.....	2512	2392	2309	2713	2249	3185
1921.....	1806	1560	1532	2191	1627	2501
1922—Jan.....	1472	1276	1303	1797	1265	1991
April.....	1435	1267	1291	1693	1261	1875

## (ii) DETAILED INDEXES OF GROUPS.

Group.	1915.	1916.	1917.	1918.	1919.	1920.	1921.	1922. (April.)
I. Metals.....	1696	2292	3245	3898	3198	3330	2607	1650
II. Jute, Leather, Hides and Skins.....	1511	1739	2054	2265	2332	2705	1649	1361
III. Grains, Meal, etc..	1199	1342	1449	1471	1706	2693	1472	1234
IV. Dairy Produce.....	1135	1168	1222	1283	1600	2023	1589	1061
V. Groceries.....	1035	1127	1212	1272	1403	1901	1723	1366
VI. Meat.....	1301	1383	1520	1650	1723	2116	1638	1280
VII. Building Materials.	1195	1401	1753	2074	2084	2445	2082	1656
VIII. Chemicals.....	1278	1561	1872	1833	1424	1271	1261	1207
IX. Fuel and Light....	990	1148	1349	1470	1510	1658	1743	1488
X. Soft Goods*.....	1362	1765	2297	2900	3255	4418	3324	2377
XI. Miscellaneous.....	1275	1669	2178	2572	2475	3174	2899	2024
ALL GROUPS.....	1204	1379	1583	1723	1854	2512	1805	1435

\* As consumption of articles included in Group X cannot be estimated, indexes for this group have been arrived at by taking the arithmetical average of the indexes for individual commodities.

## § 3. Retail Prices.

1. **System of Collection.**—Monthly quotations are obtained from forty-six towns, including six towns in South-West Africa. Retail dealers, fully representative of their locality and of good standing, have been selected in each town, and are required to render quotations each month in respect of articles dealt with by them during that period. The practice followed is to require that the return shall quote the retail, over-the-counter, selling price of each article named therein, or of that brand or grade of such article most commonly in demand. The price, in other words, is the actual price predominating in the bulk of the month's sales of each article specified.

The quotations in respect of each town in the case of the principal towns, and otherwise of each area (see following paragraph), are treated for the purpose of determining the price predominating amongst the total number of quotations, or where there is no predominating price, the price nearest to the average of the total of the prices. The resulting average prices in the nine principal towns are in the case of all the staple articles published in the *Monthly Bulletin of Union Statistics*.

2. **Price Indexes.**—Price Indexes are given for the nine principal towns of the Union regarded as a whole in table (i) (a) representing relative prices of commodities in various groups. These figures are used as a basis of the graph included in this section. Similar information for 1919, 1920, and 1921 is given in tables (i) (b) and (c) for the seven regions into which the Union has been mapped for the purpose. Indexes are given in table (ii) showing the relative cost of food in the nine principal town from 1910. Particulars are given in table (iii) of average prices from 1895 of retail commodities in the nine principal towns of the Union regarded as a whole, and, from 1919 onwards, in the seven regions referred to. These prices have been used for the calculation of the indexes in table (i). The prices for each town has been weighted according to the white population in order to secure the average for all towns. The towns enumerated in each region are as follows:—

**REGIONAL DIVISIONS OF THE UNION FOR THE PURPOSE OF STATISTICS  
RELATING TO RETAIL PRICES AND THE COST OF LIVING.**

Division.	Towns and Areas from which Price Quotations are Received.
I. Coastal.....	Cape Peninsula, Port Elizabeth, East London, Durban, Mossel Bay, Uitenhage.
II. South (Non-Coastal).	Paarl, Oudtshoorn, Grahamstown, Queenstown, Cradock, Umtata.
III. Central.....	Kimberley, Beaufort West, Bloemfontein, Kroonstad, Jagersfontein, Aliwal North.
IV. Eastern.....	Pietermaritzburg, Harrismith, Ladysmith, Newcastle, Standerton, Kokstad.
V. Witwatersrand and Pretoria	Johannesburg, Pretoria, Krugersdorp, Germiston, Benoni.
VI. Northern (excluding V)	Ermelo, Pietersburg, Rustenburg, Middelburg, Potchefstroom, Witbank, Vryburg, Mafeking.
VII. North-Western.....	Calvinia, Prieska, Upington.

(i) INDEXES OF RETAIL PRICES OF FOOD, FUEL, AND LIGHT.

Year.	Group I.		Group II.	Group III.	Groups I, II, and III.	Group IV.	All Groups.
	Cereal Foods.	Other Foods (not Animal Products).	Dairy Produce.	Fresh Meats.	All Foods.	Fuel, and Light.	
(a) PRINCIPAL TOWNS FROM 1895 (BASIS, YEAR 1910=1000).							
1895.....	1049	1094	989	833	990	1389	1044
1896.....	1078	1177	1114	996	1090	1342	1120
1897.....	1090	1159	1088	1137	1118	1240	1123
1898.....	1016	1237	1112	1271	1144	1270	1159
1899.....	1095	1171	1108	1292	1157	1324	1178
1900.....	1076	1132	1162	1243	1152	1263	1165
1901.....	1149	1241	1291	1349	1267	1720	1314
1902.....	1013	1130	1322	1540	1254	1436	1275
1903.....	881	1083	1207	1525	1168	1333	1188
1904.....	933	1044	1098	1306	1091	1234	1108
1905.....	934	971	1086	1225	1056	1182	1071
1906.....	851	1026	1007	1186	1009	957	1002
1907.....	849	999	1016	1151	998	954	993
1908.....	955	948	1009	1045	992	1192	1016
1909.....	953	1047	1001	973	991	1091	1003
1910.....	1000	1000	1000	1000	1000	1000	1000
1911.....	1149	1097	1033	1109	1093	980	1081
1912.....	1259	1113	1043	1189	1146	946	1125
1913.....	1251	1131	1069	1211	1163	943	1140
1914.....	1322	1086	1098	1183	1148	891	1121
1915.....	1484	1244	1216	1098	1223	888	1192
1916.....	1586	1245	1237	1159	1275	989	1245
1917.....	1763	1499	1356	1241	1418	1022	1376
1918.....	1823	1457	1251	1375	1437	1141	1406
1919.....	1927	1551	1452	1457	1559	1169	1518
1920.....	2814	2079	1914	1740	2049	1379	1979
1921.....	2132	1759	1604	1419	1666	1472	1646

(b) REGIONAL DIVISIONS FROM 1919 (BASIS, AVERAGE OF NINE TOWNS, YEAR 1910 = 1000).

1919.....	1934	1561	1388	1445	1540	1209	1506
1920.....	2783	2088	1817	1745	2020	1405	1955
1921.....	2137	1791	1488	1363	1622	1520	1612

(c) DETAILED INDEXES OF REGIONAL DIVISIONS, 1921.

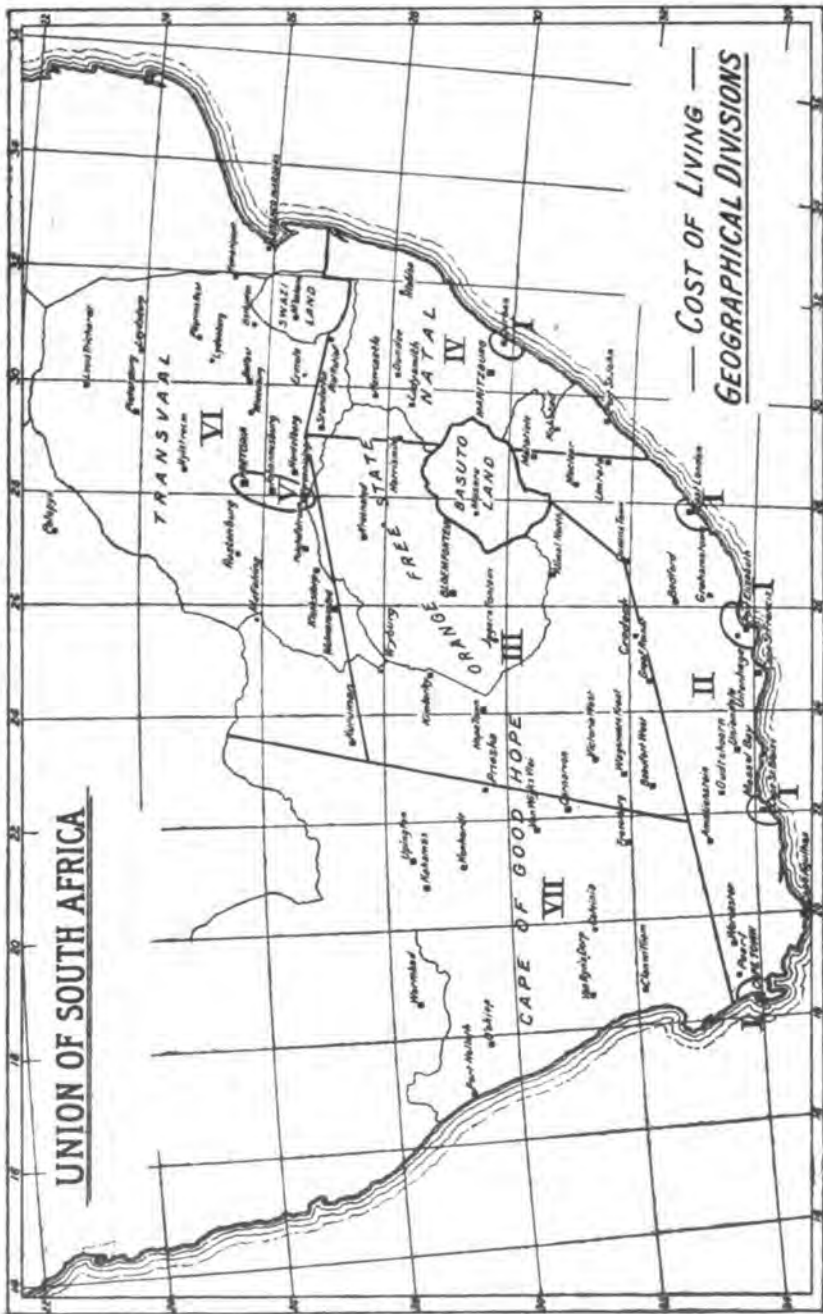
I. Coastal.....	2037	1736	1624	1425	1652	1745	1663
II. South (Non-Coastal)....	2056	1789	1343	1250	1527	1758	1554
III. Central.....	2147	1782	1284	1187	1504	1455	1500
IV. Eastern.....	2045	1944	1324	1370	1592	1571	1590
V. Witwatersrand and Pretoria.....	2220	1787	1599	1436	1692	1278	1648
VI. Northern.....	2302	1869	1237	1336	1588	1418	1571
VII. North-Western.....	2335	2039	1111	980	1469	1860	1512

(ii) INDEXES OF RETAIL PRICES OF FOOD IN NINE TOWNS FROM 1910.

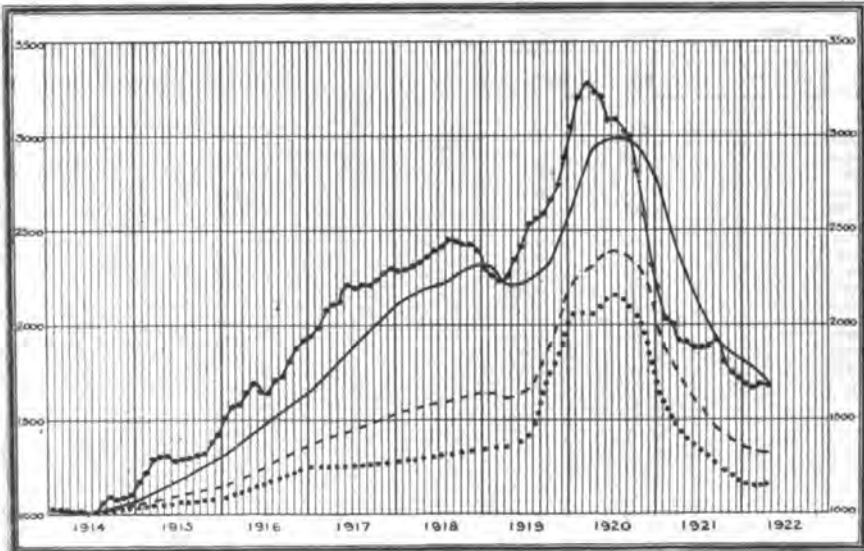
(BASIS OF TABLE—AVERAGE OF NINE TOWNS IN 1910=1000).

Year.	Cape Town.*	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Johannesburg.*	Bloemfontein.	Weight'd Average.
1910..	870	1014	915	868	934	1020	1139	1060	954	1000
1911..	1047	1067	1010	1124	990	1099	1174	1121	1006	1093
1912..	1073	1072	1038	1108	990	1096	1231	1215	1039	1146
1913..	1100	1073	1053	1275	990	1113	1228	1229	1032	1163
1914..	1088	1089	1047	1280	1042	1093	1257	1187	1115	1148
1915..	1208	1260	1137	1212	1124	1127	1381	1248	1182	1228
1916..	1233	1245	1143	1236	1276	1240	1332	1319	1172	1275
1917..	1856	1491	1292	1260	1428	1488	1563	1426	1339	1418
1918..	1348	1430	1361	1383	1464	1512	1561	1456	1365	1437
1919..	1520	1643	1496	1489	1493	1564	1648	1570	1505	1559
1920..	1978	2183	1982	1999	2007	2072	2141	2062	2009	2049
1921..	1639	1682	1608	1499	1674	1719	1729	1680	1548	1666

\* Cape Town includes Wynberg. Johannesburg includes other Reef Towns.

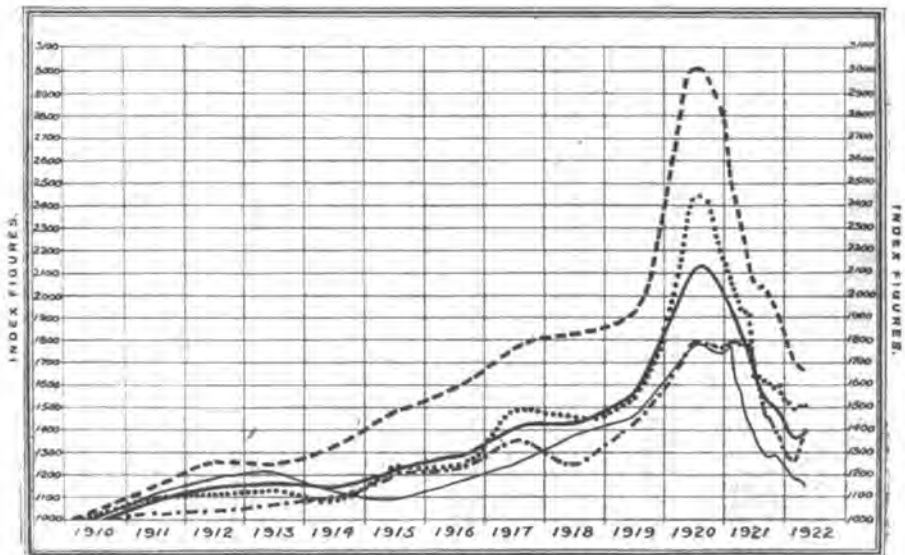


GRAPH SHOWING THE TREND OF WHOLESALE PRICES OF COMMODITIES IN SOUTH AFRICA AND THE CORRESPONDENCE BETWEEN THE PRICES OF IMPORTED GOODS AND OF ENGLISH WHOLESALE PRICES.



EXPLANATION OF GRAPH.  
 (a) ALL GROUPS OF COMMODITIES - - - - - (c) SOUTH AFRICAN GOODS .....  
 (b) IMPORTED GOODS - - - - - (d) ENGLISH WHOLESALE PRICES - - - - -  
 BASE (a), (b), AND (c) AVERAGE OF 1914 = 1,000.  
 BASE (d) ECONOMIST'S INDEX NUMBERS JUNE, 1914 = 1,000.

RETAIL PRICE OF FOOD, 1910 TO APRIL, 1922, PRINCIPAL TOWNS.



EXPLANATION OF CURVES—1- CEREALS - - - - - 2- DAIRY PRODUCE - - - - - 3- MEAT .....  
 4- ALL FOODS - - - - -



(iii) **WEIGHTED AVERAGE OF PREDOMINANT RETAIL PRICES OF FOOD, FUEL, AND LIGHT IN SIX TOWNS FROM 1896 TO 1900, IN NINE TOWNS FROM 1910, AND IN SEVEN DIVISIONS FROM 1910.**

Year.	Bread.	Flour (Ordinary White).	Oatmeal. (S.A.)	Rice.	Tea.	Coffee (Ground).	Con- densed Milk.
	lb.	25 lb.	lb.	lb.	lb.	lb.	14-oz. tin.
	d.	s. d.	d.	d.	s. d.	s. d.	s. d.
1895.....	2.75	4 5	3.8	2.5	1 10	1 6	6.8
1896.....	2.75	4 5.5	3.8	2.5	2 1.5	1 6	7.5
1897.....	3	4 6.8	3.5	2.5	2 1	1 6	7.3
1898.....	3	4 0.5	3.3	2.75	2 4.5	1 6	7
1899.....	3.50	4 2.5	3.5	2.75	2 0.8	1 6	6.8
1900.....	3	4 5.5	3.25	2.75	1 11	1 2.5	6.5
1901.....	3.25	4 9.8	3.75	2.5	1 11	1 3	7.3
1902.....	3.25	3 9.8	3.5	2.75	1 10.5	1 3	7.5
1903.....	2.25	3 8.25	3.25	2.5	1 8.8	1 3	6
1904.....	2.25	4 0.25	3.5	2.5	1 9.3	1 3	5.8
1905.....	2.75	3 3	3.5	2.75	1 9	1 1	6
1906.....	2.50	3 8	3.75	2.5	1 9.3	1 3	5.5
1907.....	2.25	3 5	3.75	2.5	1 9.5	1 3	5.5
1908.....	2.75	3 8.75	4	2.75	1 5.3	1 3	6.3
1909.....	2.75	3 10.25	3.3	2.25	2 1	1 3	6.3
1910.....	2.75	4 0	4	3	1 10	1 3	6
1911.....	2.92	4 11.5	3.9	3.18	1 10.8	1 4.9	6.4
1912.....	2.92	5 9.25	3.9	3.18	1 10.8	1 4.9	6.5
1913.....	2.91	5 7.75	4.01	3.16	1 11.1	1 5.4	6.6
1914.....	2.95	5 11.2	4.1	2.9	2 1.8	1 5.9	6.7
1915.....	3.20	6 10.4	5.1	3.3	2 0.9	1 7.3	7.8
1916.....	3.25	7 6	5.3	3.4	2 5.2	1 9.1	9.3
1917.....	3.75	8 1.5	6.8	4.4	2 2.8	1 7.2	11.4
1918.....	3.98	8 4.5	6.36	5.16	2 2.5	1 7.3	1 1.8
1919, Nine Towns	4.27	8 7.9	6.4	6.1	2 3.6	1 9.1	1 2.6
Seven Divisions.	4.31	8 8.4	6.7	6.1	2 4.4	1 9.5	1 2.8
1920, Nine Towns	6.33	12 7.8	7.9	9.4	2 9.8	1 11.6	1 5.2
Seven Divisions.	6.23	12 9	8.1	9.4	2 11.2	2 0.4	1 5.8
1921, Nine Towns	6.03	9 9.3	7.4	5.2	2 5.6	1 9.2	1 5.3
Seven Divisions.	5.02	9 10	7.7	5.2	2 6.8	1 9.6	1 5.7

Year.	Sugar.	Golden Syrup.	Jam. (S.A.)	Candles.	Potatoes.	Paraffin.	Coal.
	lb.	lb.*	lb.*	lb.	12 lb.	Gal.	100 lb.
	d.	d.	d.	s. d.	s. d.	s. d.	s. d.
1895.....	3.25	4.5	6	10	1 0.8	2 5	1 11.5
1896.....	3.25	4.5	6	9.5	1 4.5	2 4.5	1 10.5
1897.....	3.25	4.5	6	9	1 3.5	1 10.3	1 11
1898.....	3.50	4.5	6	8.5	1 4.8	1 8.8	2 1
1899.....	3.25	4.5	6	8.5	1 4.5	1 10	2 2
1900.....	3.50	4.5	6	8.5	1 3.5	1 11	1 11.5
1901.....	3.75	4.5	6	9	1 8.8	2 5.5	2 10
1902.....	3.25	4.5	6	8.5	1 5.3	1 9.5	2 5.8
1903.....	3	4.5	6	8	1 5.3	1 8.8	2 4.3
1904.....	3	4.5	6	6.3	1 2	1 3.8	2 3.6
1905.....	3	4.5	6	7	10.5	1 7.5	1 11.6
1906.....	3	3.5	6	7	1 1.3	1 2.5	1 7.3
1907.....	3	3.5	6	7	11.3	1 2.8	1 7.3
1908.....	2.75	3.5	6	7.3	1 0.3	1 3.5	2 2
1909.....	3	3.5	6	7.5	1 0.5	1 4.3	1 10.8
1910.....	3	3.5	6	7	11	1 6.5	1 6.3
1911.....	3	3.8	6.2	7.3	1 3	1 4.4	1 6
1912.....	3.06	3.8	6.2	7.2	1 4	1 4.2	1 5.5
1913.....	2.94	3.8	6.1	6.9	1 5.3	1 4.4	1 5.6
1914.....	2.75	4.1	6.3	6.2	11.5	1 4.2	1 4.7
1915.....	3.25	5.5	6.6	6.5	1 4.8	1 6.7	1 4.2
1916.....	3.50	6.1	6.8	10.3	10.8	1 9.9	1 4.8
1917.....	5.20	7.5	7.7	10.3	1 8.4	2 0.3	1 4.8
1918.....	4.20	7.8	8.5	1 1.5	1 10.4	2 5.1	1 5.9
1919, Nine Towns	4.27	8.0	8.8	1 3.4	2 2.2	2 8.5	1 5.1
Seven Divisions.	4.26	8.3	8.5	1 3.2	2 2.2	2 9.2	1 5.5
1920, Nine Towns	6.41	10.8	10.4	1 4.3	3 4.5	3 0.4	1 9.2
Seven Divisions.	6.24	11.1	10.8	1 4.4	3 4.1	3 1.1	1 8.9
1921, Nine Towns	6.32	10.6	10.2	1 1.4	1 11.6	3 2	1 11.4
Seven Divisions.	6.41	10.9	10.6	1 1.5	1 11.7	3 2.4	2 0

\* In 2-lb. tins.

(iii) WEIGHTED AVERAGE OF PREDOMINANT RETAIL PRICES OF FOOD, FUEL, AND LIGHT IN SIX TOWNS FROM 1895 TO 1909, IN NINE TOWNS FROM 1910, AND IN SEVEN DIVISIONS FROM 1919—(continued).

Year.	Butter.	Cheese.	Bacon.	Eggs.	Fresh Milk.	Beef.	Mutton.
	lb.	lb.	lb.	doz.	pt.	lb.	lb.
	s. d.	s. d.	s. d.	s. d.	d.	d.	s. d.
1895.....	1 9-5	1 4	0 10-8	1 6	2-50	6-3	5-5
1896.....	1 9-8	1 2-8	1 1	1 8	3-50	7-3	6-8
1897.....	1 8-5	1 3-3	1 0-5	1 7-8	3-50	7-8	8-3
1898.....	1 10-8	1 3-8	1 1-5	1 8	3-25	9	9
1899.....	1 9-8	1 3	1 0-8	1 9	3-50	9	9-5
1900.....	2 0-3	1 3-3	1 2-5	2 2	3	9-3	8-3
1901.....	2 0	1 4	1 3-5	2 5	4	9-8	9-3
1902.....	2 0	1 3-8	1 3-8	2 5-3	4-25	10-3	9-5
1903.....	1 9-5	1 2-3	1 4	2 5	3-75	11-3	10-3
1904.....	1 5-8	1 1	1 0-8	2 5-3	3-50	9-5	9
1905.....	2 0	1 1	1 2	1 11	2-75	9	8-3
1906.....	1 6-5	1 2	1 1-5	1 10-3	3	9	7-8
1907.....	1 6-8	1 0	1 1-8	1 9-3	3-25	8-8	7-5
1908.....	1 7-5	1 2-5	1 2	1 6-5	3	8	6-8
1909.....	1 7-5	1 2-3	1 2-8	1 6-8	2-75	7-5	6-3
1910.....	1 6	1 3	1 4	1 5	3-20	7-2	6-8
1911.....	1 8-6	1 2-3	1 4-4	1 9-6	3	7-9	7-6
1912.....	1 9-2	1 3	1 4-4	1 10-4	3	8-5	8-1
1913.....	1 8-6	1 2-6	1 5-9	2 1-4	3	8-7	8-3
1914.....	1 8-3	1 2-5	1 5	2 4-1	3	7-9	7-3
1915.....	1 8-4	1 5-1	1 6-5	2 0-4	3-10	7-5	8-3
1916.....	1 11-9	1 5-9	1 8	2 6-3	3-25	8	8-4
1917.....	1 10-2	1 8-9	1 9	2 6	3-60	8-3	9
1918.....	2 0-3	1 7-1	1 10-6	2 3-8	3-40	9-3	10-3
1919, Nine Towns	2 9-9	1 8-3	2 0	2 8-1	3-66	9-3	11-4
Seven Divisions.	2 9-1	1 8-7	1 11-8	2 5-5	3-52	9-4	11-1
1920, Nine Towns	3 3	2 5-9	2 7-8	3 4-6	5-28	10-5	1 2-3
Seven Divisions.	3 2-5	2 7	2 7-2	3 0-8	4-91	10-8	1 2-1
1921, Nine Towns	2 4-9	1 8-6	2 5-5	2 9-6	4-60	9-3	10-9
Seven Divisions.	2 3-6	1 9-1	2 5-6	2 0-7	4-13	9-1	10-3

§ 4. Housing and Rents.

1. **Housing Accommodation.**—The want of adequate housing accommodation in the larger centres of population in the Union reached its most acute stage in the last few years, and was forcibly brought home to the public by the influenza epidemic of 1918. High building costs during and after the war period and the consequent rise in the value of existing properties, combined with a growing urban population, were primarily responsible for this state of affairs. It was recognized generally that private enterprise could not as hitherto be relied upon to alleviate the distress, and that action by public bodies such as the Municipalities and the Government was essential. Of the larger towns in the Union, Bloemfontein led the way with an extensive scheme of municipal house building; and material results were soon obtained. Attention was chiefly directed towards providing for workmen with limited means, and the idea held consistently in view was to enable persons of this class to become sooner or later the owners of the houses erected for them. The case of Bloemfontein is illustrative of the policy which was adopted at the other principal urban centres in order to relieve the existing congestion. At Cape Town and Durban vigorous demonstrations of public opinion led to the raising of considerable Municipal loans for the purposes of a comprehensive scheme of building; and near the former city the Government made a grant of land in connection with the *Garden City* movement. Plans of the same general character in a more or less advanced stage were also under preparation in Johannesburg and Kimberley (where the problem of native housing was given close attention), and East London and Pretoria. (See paragraph 5 below).

2. **Rent Legislation.**—In pursuance of its policy to reduce the cost of living in every direction possible, the Government introduced into Parliament during the 1920 session a Rents Act, with effect from June, 1920, until the 30th June, 1921, from which date it has been extended, by later enactment, from year to year. This Act provides for the constitution of rent boards to receive and investigate complaints by lessees, with power to order the lessor to reduce the rent. Rent boards are also vested with the power to call upon all or any particular lessors of dwellings within the area falling under its jurisdiction to submit returns in respect thereof, giving details as to rent and such other information

as the board may require. The lessor of a dwelling may not require or accept nor may the lessee offer in consideration of the grant, renewal or continuation of a tenancy thereof, the payment of any bonus, premium, or other like sum in addition to the rent. The grounds for recovery of possession of a dwelling by the lessor or for the ejection of the tenant are limited by the Act to cases where damage has been done by the tenant, or where the lessee creates a nuisance to adjoining or neighbouring owners of property, or where the premises are reasonably required by the lessor for his own personal occupation or that of some person in his employ, or for the purpose of a reconstruction or re-building scheme.\*

The provisions of the Act do not apply to (a) a dwelling situated in an area for which no rent board has been constituted; (b) a dwelling the erection of which has been or is completed after the first day of April, 1920; (c) a dwelling let at a rent which includes any payment in respect of board and attendance; and (d) a dwelling which is let as a fully furnished dwelling.

A rent board may declare a rent to be reasonable, or otherwise, after considering *inter alia* (a) the rent paid immediately prior to the first day of July, 1914, for the same dwelling or similar dwellings in the same neighbourhood; (b) the actual amount of any increase or decrease since the first day of July, 1914, in rates and taxes; (c) improvements and additions, other than necessary repairs, effected since the first day of July, 1914; and, (d) any increase since the first day of July, 1914, in the cost of executing repairs, such increase, however, in no case to exceed ten per cent. of the annual rent. In the case of dwellings erected since the first day of July, 1914, it is provided that no rent shall be regarded as unreasonable which, after deduction of all rates and taxes and stand licences, if any, paid in respect of the dwelling and of the land on which it is situate, gives the lessor an annual return of not more than (a) 10 per cent. on the actual cost of erection of the dwelling and (b) 8 per cent. on the actual cost to the owner who erected the dwelling of the land on which it is situated.

**3. Housing Committee.**—The Government in July, 1919, appointed a Committee to investigate the whole question of housing. The Committee visited the principal towns of the Union and examined a large number of witnesses. In the case of all towns it found serious overcrowding, the number of new buildings erected having fallen far short of requirements. The report on the nine principal towns showed the total number of houses required to be 9,550 for housing white people or coloured people living in the same style as white people. This number did not, however, make provision for any increase of population, nor was full provision made therein for houses required to replace the dilapidated and unsanitary houses which exist in many of the towns.

With regard to houses for the occupation of natives in towns and in urban locations, the Committee could only give a very rough estimate; but it reported that, to provide additional accommodation in locations for natives in the nine towns visited, and to improve existing unsanitary and unhealthy conditions prevailing in such locations not less than 10,000 houses of two, three, and four rooms were required.

In pursuance of the Committee's recommendations, a Housing Act was passed during the Parliamentary Session of 1920, empowering any local authority, as defined therein, to borrow money from the State for the purpose of enabling it to construct, or lend money for the construction of approved dwellings, and to carry out approved schemes or to lend money to enable approved schemes to be carried out, the terms of repayment and the rate of interest to be determined by the Treasury. Provision is also made in the Act for the grant or expropriation of land for the purpose of providing sites for approved schemes. The Act further provides for the advance by the Treasury to an Administrator of funds for the purpose of purchasing or providing stocks of building materials; and empowers the Minister (1) to prohibit the construction of buildings of less public importance than dwelling houses, and (2) to prohibit, save under permit, the export of building materials; (3) to appoint a Central Housing Board as an advisory body.

**4. Central Housing Board.**—The Central Housing Board was appointed in September, 1920, with the following personnel:—Sir E. N. Thornton (chairman), Sir J. G. van Boeschoten and Messrs. P. Eagle and F. W. Jameson. Its principal functions were thus defined:—

- (a) To inquire into and report as to the necessity for the provision of dwellings in areas of local authorities.
- (b) To advise and assist generally the Minister of Public Health and Administrators.
- (c) To advise and assist local authorities in the preparation of proposals for dwellings and schemes, and to submit such proposals to Administrators with recommendations thereon.
- (d) To promote, by the convening of committees, the co-operation of persons and associations intimately connected with housing questions.

\* See Act No. 10 of 1922.

**5. Housing Loans Funds.**—The total amount voted by Parliament for the establishment of Housing Loans Funds in the different Provinces under the *Housing Act* (see paragraph 3 above) was £1,300,000 (to the 31st March, 1922), and on this basis the Board, from the date of its inception to the 31st December, 1921, approved a number of municipal housing schemes and housing loan applications involving a total commitment of £1,212,219. Particulars are given in the appended tables which show (i) the position as regards house construction and loans authorized under the Act in each of the Provinces, and (ii) the extent to which advantage was taken of the facilities provided by the Act in certain urban centres. It is to be noted that financial stringency led, in 1921, to the considerable curtailment and subsequently to the suspension of the programme contemplated under the Act.

(i) **HOUSING ACT—CONSTRUCTION AND LOANS AUTHORIZED AND ISSUES MADE FROM HOUSING LOANS FUNDS IN EACH PROVINCE TO 31st DECEMBER, 1921.**

Province.	Municipal Schemes and Dwellings.	Housing Loans.	Total Loans.	Total Issues.	Dwellings for Occupation by		
					Europeans.	Natives and Coloured.	Total.
	£	£	£	£			
Cape.....	292,459	86,706	379,165	110,644	310	197	507
Natal.....	405,111	875	405,986	275	221	—	221
Transvaal...	37,400	171,157	208,557	141,473	139	—	139
Orange Free State.....	42,750	175,761	218,511	115,179	167	333	500
<b>UNION...</b>	<b>777,720</b>	<b>434,499</b>	<b>1,212,219</b>	<b>367,571</b>	<b>837</b>	<b>530</b>	<b>1,367</b>

(ii) **HOUSING LOAN SCHEMES AND APPLICATIONS APPROVED IN CERTAIN URBAN CENTRES TO 31st DECEMBER, 1921.**

	Municipal Schemes.			Individual Construction.	
	Number of Houses.		Advances Approved.	Number of Houses.	Loans Approved.
	For Europeans.	For Natives and Coloured.			
	No.	No.	£	No.	£
Cape Town.....	—	—	—	62	57,772
East London.....	19	—	23,539	6	7,375
Kimberley.....	—	170	90,120	4	3,950
Port Elizabeth.....	100	100	150,000	5	5,974
Durban.....	220	—	437,231	—	—
Pretoria.....	—	153	15,000	51	67,488
*Witwatersrand.....	—	100	20,000	77	72,438
Bloemfontein.....	22	—	39,050	101	154,158

\* Benoni, Brakpan, Germiston, Krugersdorp, Roodspoor—Maraisburg, and Springs.

6. **Building Plans Passed in Urban Areas.**—The following tables give particulars of building plans passed in urban areas in the Union during 1920-21 and by certain principal municipalities over a period of years:—

(i) **URBAN AUTHORITIES—NUMBER OF BUILDING PLANS PASSED WITH ESTIMATED VALUE OF BUILDINGS TO BE ERECTED, OF ALTERATIONS TO EXISTING BUILDINGS, AND NUMBER OF DWELLING HOUSES ACTUALLY COMPLETED DURING THE YEAR 1920-21.**

Heading.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
<b>New Buildings—</b>					
Plans Passed.....No.	1,120	379	1,185	653	3,337
Estimated value of buildings £	1,806,487	447,979	1,282,642	496,994	4,034,102
<b>Alterations to existing buildings—</b>					
Plans passed.....No.	2,138	621	866	642	4,267
Estimated value of alterations.....£	837,449	163,458	223,060	110,446	1,343,413
<b>Total—</b>					
Plans passed.....No.	3,258	*1,138	†5,637	1,295	11,328
Estimated value.....£	2,643,936	*691,367	†3,429,306	616,440	7,381,049
<b>New dwelling houses completed during year.....No.</b>	674	231	874	643	2,422

\* Includes 138 plans for new buildings and alterations valued at £79,930, which cannot be sub-divided owing to lack of detailed information.

† Includes 3,586 plans for new buildings and alterations valued at £1,923,604, which cannot be sub-divided owing to lack of information.

(ii) **PLANS PASSED, ESTIMATED VALUE OF BUILDINGS TO BE ERECTED, AND OF ALTERATIONS TO EXISTING BUILDINGS, AND THE NUMBER OF NEW DWELLING HOUSES COMPLETED, 1918-19 TO 1920-21.**

Town.	Number of Plans Passed during Year.			Estimated Value of Plans Passed during Year.			Number of Dwelling Houses Actually Completed.		
	1918-1919.	1919-1920.	1920-1921.	1918-1919.	1919-1920.	1920-1921.	1918-1919.	1919-1920.	1920-1921.
Cape Town..	532	823	933	606,766	920,520	1,303,325	84	133	184
East London	78	146	208	34,396	151,354	251,005	4	14	7
Kimberley...	170	315	271	78,800	128,280	141,335	28	23	37
Port Elizabeth	89	110	172	41,828	201,062	160,924	1	2	6
Durban.....	230	828	681	226,776	699,806	402,905	63	191	130
Petermaritzburg.....	75	109	138	23,360	57,383	70,930	*	*	*
Benoni.....	509	286	247	323,774	197,510	198,210	190	100	126
Boksburg....	67	103	106	18,735	44,145	46,125	14	25	29
Germiston....	134	207	126	45,913	163,962	156,405	32	58	—
Johannesburg	3,552	4,177	3,507	1,244,943	2,055,022	1,896,324	*	*	*
Krugersdorp.	104	115	105	42,156	30,155	32,405	56	11	24
Pretoria.....	240	607	326	207,208	327,823	381,590	63	141	101
Roadepoort-Maraaisburg	51	62	43	10,750	13,985	12,955	11	24	15
Bloemfontein	85	172	206	33,942	123,665	155,650	10	59	165

\* Not available.

7. **Censuses of Rents.**—The figures given hereunder represent the results of censuses of rents of habitations occupied by white persons.

Censuses of rents were taken in the nine principal towns of the Union in respect of August, 1918, March and August, 1919, March and August, 1920, and March, 1921 and 1922, and yearly similar censuses are being taken regularly by securing returns from house

agents and property owners in a few of the larger towns and by means of a postal census of occupiers in the case of the other towns.

Investigation has also been made as to rentals of habitations in various other towns in the seven regions of the Union utilized for statistics of the cost of living, and particulars as to the predominant rentals in each regional division are given hereunder.

A comparison of the information derived from the Population Censuses of 1918 and 1921 (see paragraph 8) and from the postal census of March, 1922, showed that, in the case of the nine principal towns of the Union commonly dealt with in these statistics, the previous investigations had yielded substantially accurate results. It was found that the average rents of houses constructed of brick, stone, brick and stone, and concrete corresponded very closely with the figures obtained in previous calculations. In the case of the smaller towns, the postal census of March, 1922, while confirming the rent figures for the two Population Censuses, indicated that the previous estimates had been overstated. The rents have accordingly been recalculated from 1918, and the revised figures will be found in tables (i) (b) and (ii) (b) hereunder. The old tables are given on pages 344 and 345 of Year Book No. 4. The amendment of the rent figures has necessitated a recalculation of the cost of living statistics for the seven regional divisions (§ 5 below).

The upward tendency of rents was to some extent maintained to March, 1922, but relatively the increase was still below the rise in food prices on the 1910 basis, although the latter fell by 35 per cent. since October, 1920. Building costs continued to be high, and as new houses were built their rents tended to be higher than those of existing dwellings.

(i) INDEXES OF RENTS OF HOUSES OF THREE TO SIX ROOMS IN (a) NINE PRINCIPAL TOWNS AND (b) SEVEN REGIONAL DIVISIONS, 1910 TO 1922.

Basis of Tables—Average for 1910 = 1000.

(a) NINE PRINCIPAL TOWNS.

YEAR.	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.	Average.
1910.....	880	752	733	783	716	801	1210	1204	1153	1000
1911.....	881	709	680	835	678	789	1294	1200	1148	1002
1912.....	684	717	768	851	692	855	1342	1211	1154	1020
1913.....	723	740	777	874	710	885	1315	1205	1194	1029
1914.....	751	803	833	847	761	922	1291	1191	1222	1034
1915.....	782	793	834	743	753	933	1230	1120	1187	998
1916.....	823	813	852	572	772	956	1217	1094	1185	990
1917.....	848	823	868	708	781	974	1201	1098	1206	1003
1918—										
January.....	864	849	895	799	808	1013	1259	1161	1232	1051
August.....	906	868	931	824	821	1061	1329	1185	1268	1084
1919—										
March.....	896	849	928	876	815	1075	1340	1207	1284	1096
August.....	910	859	960	910	885	1136	1423	1247	1301	1135
1920—										
March.....	952	883	1006	976	882	1202	1493	1320	1312	1194
August.....	956	888	1018	993	927	1234	1558	1335	1312	1203
1921—										
March.....	951	898	987	1008	932	1236	1584	1335	1328	1204
1922—										
March.....	954	888	1019	950	927	1294	1596	1399	1411	1240

(b) SEVEN REGIONAL DIVISIONS.

YEAR.	I. Coastal.	II. Southern (Non-Coastal).	III. Central.	IV. Eastern.	V. Witwatersrand and Pretoria.	VI. Northern.	VII. North-Western.	Union.
1918.....	907	566	763	713	1193	728	695	918
1919.....	935	598	803	754	1245	797	734	960
1920.....	989	602	833	835	1349	936	814	1043
1921.....	1002	678	908	856	1376	971	855	1064
1922—March....	1020	694	892	861	1432	987	816	1088

(ii) **PREDOMINANT MONTHLY RENTS OF HOUSES OF THREE TO SIX ROOMS IN**  
 (a) **NINE PRINCIPAL TOWNS AND (b) SEVEN REGIONAL DIVISIONS, 1910**  
**TO 1922.**

(a) **NINE PRINCIPAL TOWNS.**

	Cape Peninsula.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Witwatersrand.	Bloemfontein.	Average.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1910...	3 10 3	3 17 8	3 15 8	4 0 10	3 13 11	4 2 9	6 4 11	6 4 4	5 19 1	5 3 3
1911...	3 10 4	3 13 3	3 15 2	4 8 2	3 10 0	4 1 5	6 13 7	6 3 11	5 18 0	5 3 6
1912...	3 10 8	3 14 0	3 19 3	4 7 10	3 11 6	4 8 3	6 18 7	6 5 0	5 19 2	5 5 4
1913...	3 14 8	3 16 5	4 0 2	4 10 3	3 13 4	4 11 5	6 15 9	6 4 5	6 3 4	5 6 3
1914...	3 17 1	4 2 11	4 6 0	4 7 5	3 13 7	4 15 3	6 13 4	6 3 0	6 6 2	6 10 0
1915...	4 0 9	4 1 10	4 6 1	3 16 8	3 17 9	4 16 4	6 7 0	5 15 8	6 2 7	6 3 0
1916...	4 5 0	4 3 11	4 7 11	2 19 1	3 19 8	4 18 8	6 5 8	5 13 0	6 2 4	5 2 2
1917...	4 7 7	4 5 6	4 9 6	3 13 1	4 0 8	5 0 7	6 4 0	5 13 4	6 4 6	5 3 7
1918—										
Jan...	4 9 2	4 7 8	4 12 5	4 2 6	4 2 11	5 4 7	6 10 0	5 19 11	6 7 3	5 2 6
Aug...	4 13 6	4 9 6	4 16 1	4 5 1	4 4 9	5 10 3	6 16 3	6 2 4	6 10 11	5 11 11
1919—										
Mar...	4 12 6	4 7 9	4 15 10	4 10 5	4 4 2	5 11 0	6 18 3	6 4 8	6 12 7	5 13 2
Aug...	4 13 11	4 8 8	4 19 2	4 14 11	4 6 3	5 17 4	7 6 11	6 8 9	6 14 4	5 17 1
1920—										
Mar...	4 18 4	4 11 2	5 3 10	5 0 9	4 11 1	6 4 2	7 14 3	6 16 4	6 15 6	6 3 4
Aug...	4 18 8	4 11 8	5 5 1	5 2 6	4 15 8	6 7 5	8 0 10	6 17 10	6 15 6	6 4 2
1921—										
Mar...	4 18 2	4 12 9	5 1 11	5 4 1	4 16 3	6 7 7	8 3 6	6 17 10	6 17 1	6 4 4
1922—										
Mar...	4 18 6	4 11 8	5 5 3	4 18 1	4 15 9	6 13 7	8 4 10	7 4 5	7 5 8	6 8 0

(b) **SEVEN REGIONAL DIVISIONS.**

YEAR.	I. Coastal.	II. South (Non- Coastal).	III. Central.	IV. Eastern.	V. Witwaters rand and Pretoria.	VI. Northern.	VII. North- Western.	Average for Union.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
1918.....	4 13 8	2 18 5	3 18 9	3 13 7	6 3 2	3 15 2	3 11 9	4 14 9
1919.....	4 16 6	3 1 9	4 2 11	3 17 10	6 8 7	4 2 4	3 15 10	4 19 1
1920.....	5 2 1	3 8 4	4 11 2	4 6 3	6 19 4	4 16 8	4 4 1	5 7 8
1921.....	5 3 6	3 10 0	4 13 3	4 8 4	7 2 1	5 0 3	4 6 2	5 9 10
1922—March...	5 5 4	3 11 8	4 12 1	4 8 11	7 7 10	4 19 10	4 4 3	5 12 4

**8. Rent Returns at Population Censuses.**—At the 1921 Population Census, as at the 1918 Census, data were gathered as to ownership (private of otherwise) of dwellings, number of occupants, and rents of private dwellings (3 to 6 rooms), with results as shown in the abbreviated tables appearing below. It has to be noted that owing to the increased congestion of the population, a number of houses have been shared or actually divided between families, and in many instances these were returned at the 1921 Census as separate dwellings. For this and for other reasons it must not be taken that the increase of 9,000 "dwellings" occupied by the white population in urban areas represents the actual number of new houses built in the period 1918 to 1921. The number of rooms returned in each case excluded kitchens unless used also for sleeping purposes.

(i) **NUMBER AND PROPORTION OF DWELLINGS AND OCCUPANTS (EUROPEANS) IN URBAN AREAS, CLASSIFIED IN ACCORDANCE WITH THE NUMBER OF LIVING ROOMS—CENSUSES 1918 AND 1921.**

Number of Living Rooms.	Dwellings.				Occupants.					
	Number.		Per Cent.		Number.		Per Cent.		Average No. per Dwelling.	
	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.
1.....	4,815	4,735	3.5	3.2	10,990	12,701	1.5	1.6	2.28	2.68
2.....	13,292	14,668	9.8	9.9	52,509	60,662	7.3	7.4	3.95	4.14
3.....	31,846	34,801	22.9	23.6	143,104	160,968	19.9	19.8	4.49	4.68
4.....	37,066	39,923	26.7	27.0	183,642	203,473	25.6	25.0	4.95	5.10
5.....	23,523	24,721	16.9	16.7	122,426	135,130	17.0	16.6	5.20	5.47
6.....	12,619	13,002	9.1	8.8	70,944	76,550	9.9	9.4	5.82	5.89
7.....	6,136	6,227	4.4	4.2	36,889	39,589	5.2	4.9	6.01	6.36
8.....	3,286	3,241	2.4	2.2	21,328	22,426	3.0	2.8	6.63	6.92
9.....	1,651	1,625	1.2	1.1	11,586	12,527	1.6	1.5	7.02	7.71
10.....	1,028	1,102	0.8	0.8	8,624	10,072	1.2	1.2	8.39	9.14
Over 10 Unspecified..	3,199	3,421	2.3	2.3	54,786	77,783	7.6	9.5	17.13	22.74
TOTAL	138,780	147,750	100.0	100.0	718,447	814,733	100.0	100.0	5.18	5.51

(ii) **OWNERSHIP OF PRIVATE DWELLINGS OCCUPIED BY EUROPEANS IN URBAN AREAS—CENSUSES 1918 AND 1921.**

Ownership.	Cape.		Natal.		Transvaal.		Orange Free State.		Union.	
	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.
Owned by Occupier.....	19,125	23,082	3,649	4,753	17,327	19,571	4,528	5,786	44,641	53,192
Not owned by Occupier.....	33,629	32,942	6,975	6,891	34,111	35,574	5,814	6,138	80,517	81,540
TOTAL.....	52,754	56,024	10,624	11,644	51,438	55,145	10,342	11,919	125,158	134,732
Percentage of houses owned by occupier...	36.3	41.2	84.8	40.8	33.7	35.5	48.8	48.6	35.7	39.5

(iii) **NATURE OF DWELLINGS OCCUPIED BY EUROPEANS IN CERTAIN \* PRINCIPAL URBAN AREAS OF THE UNION—CENSUSES 1918 AND 1921.**

Census Year.	Private Dwellings.	Residential Chambers, Flats, Clubs, etc.	Dwellings and Business Premises Combined.	Boarding and Lodging Houses.	Hotels.	Other.	Total.
1918.....	97,573	2,921	3,660	1,319	628	2,003	108,104
1921.....	104,234	1,820	4,163	1,585	684	1,415	113,851

\* Sixty Urban Areas in 1918; Sixty-two in 1921.



## (iv) SUMMARY OF OCCUPIED AND RENTED PRIVATE DWELLINGS AND OCCUPANTS IN FIFTY-ONE TOWNS—CENSUS 1921 (WHITE PERSONS).

TOWNS.	Total all Occupied Dwellings.	PRIVATE DWELLINGS.			NUMBER OF OCCUPANTS.		Average Number of Occupants, all Dwellings.	Average Monthly Rent Dwellings of 3-6 Rooms.
		Owned by Occupier.	Rented.	Rent Unspecified.	Private Dwellings.	Other than Private Dwellings.		
	No.	No.	No.	No.	No.	No.	£ s. d.	
<b>CAPE OF GOOD HOPE—</b>								
Cape Peninsula—								
Cape Town.....	16,416	4,661	9,455	591	80,690	18,433	6-04	5 6 0
Wynberg.....	1,810	666	963	79	8,730	841	5-29	4 1 5
Port Elizabeth.....	4,176	1,111	2,575	140	20,225	3,751	5-74	4 4 3
East London.....	2,696	980	1,360	158	13,807	2,408	6-01	4 17 1
Kimberley.....	3,327	1,390	1,385	279	15,232	2,421	5-31	4 18 2
Uitenhage.....	1,343	464	727	80	6,746	923	5-71	3 4 6
Grahamstown.....	1,141	487	478	59	4,568	701	4-62	3 1 6
Paarl.....	1,074	445	466	57	4,510	1,236	5-35	2 19 0
King William's								
Town.....	1,065	452	450	65	4,809	1,144	5-59	3 15 3
Oudtshoorn.....	1,044	342	596	41	4,955	682	5-38	2 18 5
Simonstown.....	414	65	263	48	1,914	287	5-32	4 3 2
Graaff-Reinet.....	864	356	387	65	3,816	690	5-22	2 15 3
Worcester.....	706	298	283	24	2,866	973	5-44	3 9 11
Stellenbosch.....	539	219	210	24	2,321	1,296	6-71	4 11 6
Craddock.....	571	238	271	23	2,693	497	5-59	3 6 7
Beaufort West.....	619	195	357	22	2,698	362	4-94	3 4 7
Robertson.....	496	229	212	14	2,192	452	5-33	2 6 4
Wellington.....	468	200	192	19	1,884	805	5-75	2 19 10
George.....	429	215	181	19	2,124	354	5-78	2 13 7
Mossel Bay.....	454	116	291	17	2,164	343	5-40	3 0 11
Allwal North.....	420	180	178	31	1,908	582	5-93	3 18 3
Somerset East.....	406	181	158	33	1,808	348	5-31	3 7 0
Queenstown.....	892	407	375	43	4,276	365	5-76	4 15 0
<b>NATAL—</b>								
Durban.....	7,134	2,492	3,252	684	35,371	10,508	6-43	7 4 11
Pietermaritzburg.....	2,952	1,115	1,310	354	14,169	1,705	5-38	5 1 2
Ladysmith.....	547	197	251	68	2,730	394	5-71	4 3 1
Newcastle.....	265	113	87	29	1,102	892	7-52	4 5 5
<b>TRANSVAAL—</b>								
Witwatersrand—								
Johannesburg.....	26,772	8,588	13,846	2,198	123,487	24,480	5-58	7 5 0
Germiston.....	3,210	501	2,325	160	14,053	1,363	4-80	6 2 3
Benoni.....	2,780	541	1,841	191	12,120	1,860	5-03	5 12 8
Krugersdorp.....	2,844	788	1,476	267	12,290	1,354	4-80	4 15 2
Boksburg.....	2,508	470	1,642	229	11,162	1,009	4-85	4 16 2
Rodepoort.....	1,459	356	891	124	6,424	475	4-73	4 17 8
Brakpan.....	1,455	337	830	156	6,192	709	4-74	5 19 2
Springs.....	892	150	525	166	3,900	559	5-00	5 18 2
Pretoria.....	5,528	2,093	2,270	704	26,975	5,337	5-85	7 6 1
Potchefstroom.....	1,262	604	447	134	6,432	1,021	5-91	4 10 4
Klerksdorp.....	560	234	229	66	2,757	366	5-58	4 6 9
Middelburg.....	433	193	169	44	2,177	265	5-64	4 11 7
Ernelo.....	404	209	129	33	2,071	525	6-43	6 1 1
Pietersburg.....	396	162	152	31	1,808	409	5-83	5 8 7
Witbank.....	359	76	200	49	1,598	210	5-04	4 11 11
Standerton.....	382	149	100	55	1,581	476	6-20	4 19 3
Rustenburg.....	276	131	94	18	1,394	269	6-03	5 4 0
<b>ORANGE FREE STATE—</b>								
Bloemfontein.....	2,559	702	1,354	249	12,416	3,646	6-28	6 4 0
Kroonstad.....	749	215	396	55	3,481	744	5-64	4 13 5
Harrismith.....	416	192	155	31	1,789	380	5-21	4 11 5
Bethlehem.....	528	171	242	51	2,410	1,024	6-53	5 1 4
Parys.....	528	261	217	23	2,510	186	5-11	4 3 4
Jagersfontein.....	373	124	190	32	1,641	108	4-69	3 2 3
Ficksburg.....	343	177	115	25	1,666	281	5-68	3 10 2

NOTE.—The rents specified in this and the following statement represent the average rents of all private dwellings of 3-6 rooms, occupied by Europeans, accounted for on the Census forms relating to the various towns, irrespective of occupations of householders, locality, or materials of which the houses are constructed.

The figures are therefore not strictly comparable with those obtained from the special rent Censuses which are confined to houses of ordinary size in which the bulk of the population reside.

(v) **AVERAGE MONTHLY RENT IN THREE TO SIX ROOMS RENTED DWELLINGS (EUROPEAN OCCUPANTS) IN THE NINE PRINCIPAL MUNICIPAL AREAS—CENSUSES 1918 AND 1921.**

Municipality.	Three Rooms.		Four Rooms.		Five Rooms.		Six Rooms.	
	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Cape Town.....	2 18 11	3 12 2	4 1 3	4 17 9	5 1 6	6 18 9	6 11 11	8 8 11
Port Elizabeth....	2 11 11	3 1 6	3 8 9	4 0 4	4 14 2	5 7 4	5 14 4	6 10 4
East London.....	3 2 3	3 15 11	3 15 9	4 6 6	4 19 6	5 14 2	5 16 5	6 8 5
Kimberley.....	3 2 9	3 18 0	3 18 6	4 15 7	4 15 5	5 16 5	5 13 10	6 15 7
Pietermaritzburg..	2 18 9	3 10 10	3 11 8	4 8 4	4 10 7	5 10 0	5 8 7	6 16 5
Durban.....	3 17 8	5 5 1	4 13 8	6 4 9	5 14 10	7 18 3	6 14 8	9 11 9
Pretoria.....	4 11 9	5 9 9	6 0 3	7 2 0	7 15 11	10 2 9	9 4 2	11 12 2
Johannesburg.....	4 16 5	5 16 11	5 17 4	7 3 2	8 1 7	10 2 1	10 0 0	13 0 3
Bloemfontein.....	4 4 9	5 2 8	5 3 9	6 0 3	6 18 0	8 11 10	7 10 1	9 15 0
<b>NINE TOWNS</b>	<b>4 0 3</b>	<b>4 17 6</b>	<b>4 17 3</b>	<b>5 19 3</b>	<b>6 2 2</b>	<b>7 15 6</b>	<b>7 4 11</b>	<b>9 7 5</b>

(vi) **PRIVATE DWELLINGS OCCUPIED BY EUROPEANS IN NINE PRINCIPAL MUNICIPAL AREAS, CLASSIFIED ACCORDING TO THE MATERIALS OF WHICH THE OUTER WALLS (EXCLUDING FOUNDATIONS) WERE CONSTRUCTED—CENSUSES 1918 AND 1921.**

Municipality.	Brick and Brick and Stone.		Stone and Concrete.		Wood, Iron, Wood and Iron, and Brick Lined.		Other Materials.		Total.	
	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.	1918.	1921.
Cape Town.....	12,478	13,683	350	367	412	608	58	49	13,298	14,707
Port Elizabeth....	3,027	3,028	77	88	575	696	5	14	3,684	3,826
East London.....	1,211	1,217	38	27	1,112	1,228	13	26	2,374	2,498
Durban.....	4,679	4,966	33	28	1,194	1,345	29	39	5,935	6,378
Bloemfontein.....	1,724	1,944	17	29	195	316	11	16	1,947	2,305
Kimberley.....	1,637	1,800	30	33	739	893	581	328	2,987	3,054
Pietermaritzburg..	2,444	2,565	28	32	68	87	100	93	2,640	2,779
Johannesburg.....	17,880	18,941	169	210	4,915	5,381	208	95	23,172	24,627
Pretoria.....	4,061	4,307	44	44	630	696	20	22	4,755	5,067
<b>NINE TOWNS..</b>	<b>49,141</b>	<b>52,451</b>	<b>786</b>	<b>858</b>	<b>9,840</b>	<b>11,250</b>	<b>1,025</b>	<b>682</b>	<b>60,792</b>	<b>65,241</b>

### § 5. Cost of Living.

1. **General.**—Statistics as to the cost of living were published monthly by the Cost of Living Commission from December, 1917, to December, 1918; after which date the preparation of monthly statements was undertaken by the Census and Statistics Office. Full information regarding the methods of compilation is given in annual reports dealing with wholesale and retail prices, rents, and the cost of living, and also in previous editions of this Year Book.

The quantities used for weighting purposes were substantially those adopted by the Cost of Living Commission and were based upon an inquiry in 1913, in respect of employees in the Railway Service. The standard of salary adopted for the inquiry was £240 per annum at the coast and £300 per annum at Bloemfontein, Johannesburg, and Pretoria. The basis of computation thus arrived at, although it makes no allowance for changes of regimen due to war and post-war conditions, the limitation of supplies of certain commodities and the general rise of prices, serve satisfactorily for the purposes of comparison, and for the computation of the indexes and other relatives.

The Cost of Living Commission included in its published figures estimates of monthly expenditure on boots, clothing, and sundries; but this practice has not been adopted in respect of the following tables. (But see paragraph 2 below, where the whole question is considered.)

By the latter part of 1920 sufficient information had been collected to enable calculations to be made on the basis of national consumption instead of the somewhat arbitrary family budget.

The national consumption figures have been prepared, as far as possible, on a three years' average (centred on 1918) and represent the consumption of food by white persons and by coloured persons who have adopted a European dietary. The bulk of the maize, kafir corn, and rice has been excluded and a figure for milk has been obtained by recalculating the budget figure in proportion to the white population with due allowance for the increased use of fresh milk and decreased use of condensed milk. The figure for rent has been obtained by taking the number of white occupants per house in the urban areas in 1918 and assuming that the same proportion is true for the whole country.

Calculations based on the new system as well as on the old were made for the last three months of 1920. As the divergence between the results of the two methods was small (chiefly due to an over-weighting of condensed milk under the family budget method) the Statistical Council resolved to abandon the old system and to introduce the new from January, 1921.

Indexes in the case of Table (i) have been calculated on the old system. Satisfactory information as to prices has been obtained for six towns only. The weighted average of these six towns has been calculated on the proportion of these towns to the nine towns in 1910=1000. On the assumption that the cost of living in Pretoria, Johannesburg, and Bloemfontein in 1895-1909 was in the same proportion to the six towns as in 1910, these figures should give a fair estimate of the average for the Union. Indexes in Table (iii) have been calculated on the national consumption basis. Tables (ii) and (iv) give the same relatives as are contained in Tables (i) and (iii), respectively, in a somewhat more popular form showing the changing value of the sovereign calculated as being worth 20s. in 1910. Table (v) gives figures corresponding to those contained in Tables (iii) and (iv) in respect of seven regional divisions of the Union for the years 1919 to 1921.

Table (vi) hereunder has been framed for the purpose of indicating the relative purchasing power of money at various periods in Australia, Canada, New Zealand, the United Kingdom, and South Africa. For this purpose the prices applicable to each period and country have been weighted according to the family budget system. The resulting relatives furnish comparisons based in each case upon the average prices in nine principal towns in the Union in 1910.

(i) **PRICE INDEXES—COST OF LIVING (FOOD, FUEL, LIGHT, AND RENT) IN SIX TOWNS, 1895 TO 1910 (BASIS—AVERAGE OF NINE TOWNS IN 1910=1000).**

YEAR.	Cape Town.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Weighted Average.
1895.....	808	931	1053	1082	804	788	1038
1896.....	857	1000	1118	1082	812	837	1091
1897.....	878	908	1106	1135	816	820	1105
1898.....	853	1082	1265	1122	816	906	1133
1899.....	845	1108	1257	1127	812	906	1142
1900.....	857	1102	1335	1233	1057	1033	1191
1901.....	955	1139	1343	1265	1041	1086	1292
1902.....	1016	1090	1224	1257	1053	1098	1331
1903.....	935	1008	1212	1257	1037	1102	1220
1904.....	878	992	1147	1131	1010	1086	1158
1905.....	861	882	971	1053	951	1041	1080
1906.....	808	857	910	1041	918	951	1112
1907.....	804	869	908	980	918	951	980
1908.....	820	873	845	1024	894	922	969
1909.....	841	886	833	927	849	910	1022
1910.....	816	947	849	869	846	898	1000

(ii) PURCHASING POWER OF A SOVEREIGN BASED ON PREDOMINANT RETAIL PRICES OF FOOD, FUEL, LIGHT, AND RENT IN SIX TOWNS, 1895 TO 1910, COMPARED WITH PURCHASING POWER IN THE NINE TOWNS REGARDED AS A WHOLE IN 1910=20s.

YEAR.	Cape Town.	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Weighted Average.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1895.....	24 8	21 6	19 0	18 6	24 10	25 5	19 3
1896.....	23 4	20 0	17 11	18 6	24 7	23 11	18 4
1897.....	22 9	22 1	16 9	17 8	24 6	24 5	18 1
1898.....	23 6	18 6	15 10	17 10	24 6	22 1	17 8
1899.....	23 8	18 1	15 11	17 9	24 7	22 1	17 7
1900.....	23 4	18 2	15 0	16 8	18 11	19 4	16 10
1901.....	20 11	17 7	14 11	15 10	19 8	18 5	15 5
1902.....	19 8	18 4	16 4	15 11	19 0	18 2	15 1
1903.....	21 5	18 3	16 6	15 11	19 3	18 2	16 5
1904.....	22 9	20 2	17 6	17 8	19 8	18 5	17 4
1905.....	23 8	22 8	20 7	19 0	21 0	19 8	18 6
1906.....	24 8	23 4	22 0	19 8	21 9	21 0	18 0
1907.....	24 9	23 0	22 1	20 5	21 9	21 0	20 5
1908.....	24 5	22 10	23 8	19 6	22 4	21 8	20 8
1909.....	23 9	22 7	24 0	21 7	23 7	22 0	19 7
1910.....	24 6	21 1	23 7	23 0	23 8	22 3	20 0

(iii) PRICE INDEXES—COST OF LIVING (FOOD, FUEL, LIGHT, AND RENT) IN NINE TOWNS, 1910 TO 1921 (BASIS—AVERAGE OF NINE TOWNS IN 1910=1000).

YEAR.	Cape Town.*	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Johannesburg.*	Bloemfontein.	Weight'd Average.
1910.....	830	928	876	860	854	943	1156	1109	1037	1000
1911.....	931	941	924	1028	880	983	1198	1142	1059	1052
1912.....	956	945	941	1058	885	1005	1249	1191	1083	1088
1913.....	985	954	963	1127	891	1026	1237	1197	1093	1101
1914.....	979	982	972	1112	929	1028	1244	1167	1145	1092
1915.....	1062	1079	1026	1035	960	1054	1294	1173	1177	1126
1916.....	1096	1082	1038	993	1070	1131	1266	1213	1170	1158
1917.....	1168	1230	1137	1063	1177	1279	1395	1281	1278	1248
1918.....	1190	1217	1198	1175	1213	1326	1435	1330	1321	1289
1919.....	1293	1350	1285	1270	1241	1390	1518	1414	1421	1376
1920.....	1597	1686	1592	1598	1561	1726	1856	1739	1729	1698
1921.....	1413	1403	1391	1325	1401	1542	1654	1536	1464	1494

(iv) PURCHASING POWER OF A SOVEREIGN BASED ON PREDOMINANT RETAIL PRICES OF FOOD, FUEL, LIGHT, AND RENT IN NINE TOWNS, 1910 TO 1921, COMPARED WITH PURCHASING POWER IN THE NINE TOWNS REGARDED AS A WHOLE IN 1910 = 20s.

YEAR.	Cape Town.*	Port Elizabeth.	East London.	Kimberley.	Pietermaritzburg.	Durban.	Pretoria.	Johannesburg.*	Bloemfontein.	Weight'd Average.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1910.....	24 1	21 7	22 10	23 3	23 5	21 3	17 4	18 0	19 3	20 0
1911.....	21 6	21 3	21 8	19 5	22 7	20 4	16 9	17 6	18 11	19 0
1912.....	20 11	21 2	21 3	18 11	22 7	19 11	16 0	16 10	18 6	18 5
1913.....	20 4	21 0	21 0	17 9	22 5	19 6	16 2	16 9	18 4	18 2
1914.....	20 5	20 4	20 7	18 0	21 6	19 5	16 1	17 2	17 6	18 4
1915.....	18 10	18 7	19 6	19 4	20 10	19 0	15 5	17 1	17 0	17 9
1916.....	18 3	18 6	19 3	20 2	18 8	17 8	15 4	16 6	17 1	17 3
1917.....	17 1	16 3	17 7	18 10	17 0	15 8	14 4	15 7	15 8	16 0
1918.....	16 10	16 5	16 9	17 0	16 6	15 1	13 11	15 1	15 2	15 6
1919.....	15 5	14 10	15 7	16 10	16 1	14 5	13 2	14 2	14 1	14 6
1920.....	12 6	11 10	12 7	12 6	12 10	11 7	10 9	11 6	11 7	11 9
1921.....	14 2	14 3	14 5	15 1	14 3	13 0	12 1	13 0	13 8	13 5

\* Cape Town includes Wynberg. Johannesburg includes other Reef townships.

(v) INDEXES FOR SEVEN REGIONAL DIVISIONS OF THE UNION AND AMOUNT REQUIRED TO PURCHASE THAT WHICH IN 1910 COULD HAVE BEEN PURCHASED FOR £1 IN NINE PRINCIPAL TOWNS REGARDED AS A WHOLE (BASIS OF TABLES—AVERAGE COST OF FOOD, FUEL, LIGHT, AND RENT IN NINE TOWNS IN 1910=1000 OR £1).

Year.	I. Coastal.	II. South. (Non- Coastal.)	III. Central.	IV. Eastern.	V. Witwaters- rand and Pretoria.	VI. Northern.	VII. North- Western.	Union.
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## INDEX FIGURES.

1919....	1316	1164	1252	1190	1440	1228	1173	1316
1920....	1630	1470	1544	1522	1779	1526	1454	1634
1921....	1433	1244	1292	1332	1560	1362	1275	1422
1922— 1st Qr.	1250	1081	1127	1185	1395	1239	1110	1256

## PURCHASING POWER OF A SOVEREIGN.

	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1919....	15 2	17 2	16 0	16 10	13 11	16 3	17 1	15 2
1920....	12 3	13 7	12 11	13 2	11 3	13 1	13 9	12 3
1921....	13 11	16 1	15 6	15 0	12 10	14 8	15 8	14 1
1922— 1st Qr.	16 0	18 6	17 9	16 11	14 4	16 2	18 0	15 11

(vi) PURCHASING POWER OF A SOVEREIGN COMPARED IN SOUTH AFRICA, AUSTRALIA, CANADA, NEW ZEALAND, AND THE UNITED KINGDOM, 1910, JULY, 1914, AND 1921. (BASIS OF TABLES—UNION OF SOUTH AFRICA, 1910 = £1.)

Country.	Food, Fuel, Light, and Rent.			Food.		
	1910.	1914, July.	1921, Dec.	1910.	1914, July.	1921, Dec.

## PURCHASING POWER OF A SOVEREIGN.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
South Africa.....	1 0 0	0 18 7	0 14 10	1 0 0	0 17 8	0 13 11
Australia.....	1 8 9	1 4 6	0 17 4	1 8 6	1 4 3	0 17 3
Canada.....	1 5 0	1 3 6	0 16 0	1 2 3	1 0 9	0 14 9
New Zealand.....	1 9 10	1 6 5	0 18 5	1 8 9	1 4 5	0 17 2
United Kingdom.....	—	1 14 7	0 18 4	—	1 5 8	0 13 1

AMOUNT REQUIRED ON THE AVERAGE TO PURCHASE THAT WHICH IN SOUTH AFRICA (AVERAGE OF NINE PRINCIPAL TOWNS) COULD HAVE BEEN PURCHASED IN 1910 FOR £1.

	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
South Africa.....	1 0 0	1 1 7	1 7 0	1 0 0	1 2 8	1 8 8
Australia.....	0 13 11	0 16 4	1 3 1	0 14 0	0 16 6	1 3 2
Canada.....	0 13 0	0 17 0	1 5 0	0 18 0	0 19 3	1 7 1
New Zealand.....	0 13 5	0 15 1	1 1 8	0 13 11	0 16 5	1 3 4
United Kingdom.....	—	0 11 7	1 1 10	—	0 15 7	1 10 6

2. "Sundries."—While variations in prices and variations in average rentals are calculable by methods giving accurate results, the same cannot be said of other items of necessary expenditure in an average household, particularly such items as clothing, boots, etc. Variations of individual taste and the immense variety in qualities and prices in production make it quite impossible to calculate variations of such expenditure for general purposes with any degree of certainty. Nevertheless, it was found necessary for the purpose of calculating allocations of War allowances to members of the Public Service to carry forward the work previously done by the Cost of Living Commission, which fixed from time to time variations computed by the Commission as to household expenditure on an item termed "sundries," including all items of household expenditure not covered by items of food, fuel, light, and rentals dealt with above. In a salary adopted as the basis of calculations the amount allowed for expenditure on "sundries" was approximately one-third of the total household expenditure.

The cost of sundries had been assessed by the Commission in 1914 at 126s. and in July, 1918, at 200s. on the basis of monthly expenditure in a family budget.

The first calculation undertaken by the Census and Statistics Office was in December, 1919. Returns were obtained from a number of firms in each of the nine principal towns, showing the increase in the cost of certain items of clothing, boots, and hardware between July, 1918, and December, 1919. From these returns the percentage increase in the cost of each item was calculated and weights applied similar to those adopted by the English Cost of Living Committee. In the case of sundry groceries and soft goods, the percentage increase obtained from the returns of wholesale prices was adopted. The final weighted percentage increase was applied to the July, 1918, base.

Further calculations were made in June and December, 1920, and March and June, 1921, and in each case the amounts of the previous calculations were treated as the base and the percentage increase or decrease applied to them. In December, 1920, an independent investigation was made as a check, carrying price comparisons back in each case to the year 1914. The result confirmed the substantial accuracy of the figure arrived at by the method above described.

It became evident, however, that this method was not entirely satisfactory. A continually shifting base made detailed investigation for purpose of comparison extremely difficult. Besides, such calculations, though approximating closely for some time to calculations made on a fixed base, could, under certain circumstances, diverge to a considerable degree. It was, therefore, decided in accordance with a decision of the Statistical Council that the quarterly compilation of these figures should be carried out on a statistical basis, to base all future calculations on actual 1914 prices, and the figures for the quarters ended 30th September and 31st December, 1921, and 31st March, 1922, were calculated on this basis.

The following items are comprised under the head of "sundries": clothing, soft goods, boots, vegetables and wood, sundry groceries, coloured and native servants, and hardware.

The following figures give the results of calculations at different dates:—

Date.	Amount.	Percentage Increase.	
		Over 1910.	Over 1914.
	s.	%	%
July, 1914.....	126		
July, 1918.....	200	9.2	58.7
December, 1919.....	252.8	119.3	100.6
June, 1920.....	301.4	161.0	139.2
December, 1920.....	301.4	161.0	139.2
March, 1921.....	287.8	149.0	128.4
June, 1921.....	264.0	128.8	109.5
September, 1921.....	248.4	115.2	97.1
December, 1921.....	217.2	88.3	72.4
March, 1922.....	210.6	82.5	67.1

In the above table the percentages over 1910 have been calculated on the assumption that the prices for "sundries" rose between 1910 and 1914 at the same rate as food, fuel, light, and rent. The close correspondence between retail and wholesale index numbers during this period serves to justify the method adopted.

3. **Profiteering Act, 1920.**—During the 1920 Session of Parliament the Government, following out its purpose to control the steadily rising price of the fundamental necessities of life, introduced legislation to prevent the making of unreasonable profits on the sales of commodities, and to deal with the operations of trusts, combines, and other organizations in so far as these tend to the creation of monopolies, or act in restraint of trade. The executive functions under the Act were exercised through a Board of Control, which was empowered to investigate prices, costs, and profits at all stages; to control and direct the sale and distribution of supplies; and subject to the approval of the Minister to prohibit, regulate, or restrict the export of any article required for the maintenance of the food supplies of the Union. The Board received and investigated complaints; and in any case where it considered undue profit had been made might require the seller to refund the excess; or exercising its right of private prosecution might take action against the offender in a Magistrate's or a Superior Court. Provision was also made for the formation of local committees. These bodies received and investigated complaints, took action on their own initiative, and in case of unreasonable profit being proved might require the seller to refund the excess, or, alternatively, might take action against the offender in a Magistrate's Court. The Act continued in force until the 30th June, 1922, when it expired.

## CHAPTER IX. SOCIAL CONDITION.

### § 1. Ecclesiastical.

1. **General.**—The numbers of the population of the Union who returned themselves at the Census of 1911 as belonging to certain Churches and professing certain forms of religious belief are summarized in § 2 (13) of Chapter III. The Churches referred to hereunder are those in respect of which the largest numbers of persons were returned as adherents, and represent 90 per cent. of the white population of the Union. The Lutheran Church is excepted, as particulars have not been available. According to the Census, the numbers of white and coloured persons claiming to belong to the Churches named hereunder and the proportions per cent. of the numbers to the population, were as follows :—

CHURCH.	White Adherents.	Proportion per cent. of White Population.	Coloured Adherents.	Proportion per cent. of Coloured Population.	All Adherents.	Proportion per cent. of Total Population.
Dutch Reformed.....	693,898	54·37	204,702	4·36	898,600	15·04
Church of England.....	255,640	20·03	276,849	5·89	532,489	8·91
Wesleyan Methodist.....	80,402	6·30	459,017	9·71	538,419	8·98
Presbyterian.....	58,633	4·59	72,117	1·53	130,750	2·19
Roman Catholic.....	53,793	4·22	37,242	0·79	91,035	1·52
Congregational.....	13,335	1·05	147,023	3·13	160,358	2·69

2. **The Dutch Reformed Church.**—The passing by the Union Parliament of Act No 23 of 1911 gave authority for the union of the Dutch Reformed Churches in the various Provinces, and made comprehensive provision in regard to organization, the holding of property, and other matters concerning the united Church and its component congregations

*Organization.*—

- (a) Each of the four Churches (Cape, Natal, Transvaal, and Orange Free State) is ruled by a Synod, possessed of the highest legislative, judicial, and administrative power.
- (b) To ensure regular working of Church administration, the congregations are mutually divided into Church Districts (or Circles), as fixed from time to time by the Synod.
- (c) Each congregation has a representative and managing Church Council.
- (d) There is also a Federal Council, which, guided by certain provisions, interests itself for the general good of the four aforesaid Churches.
- (e) Arrangements also exist for the connection of Mission Churches with the Dutch Reformed Church.

*Statistics.*—The following statistics have been furnished for the year 1920-21 :—

#### DUTCH REFORMED CHURCH STATISTICS, 1920-21.

	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
<b>European—</b>	No.	No.	No.	No.	No.
Congregations...	180	8	81	64	333
Adherents.....	334,665	10,032	142,770	124,172	611,639
Members.....	155,346	5,185	65,722	57,773	284,026
<b>Mission Churches—</b>					
Congregations...	77	*	37	53	167
Adherents.....	64,000	*	45,000	27,840	136,840
Members.....	19,340	*	12,246	9,756	41,342

\* No statistics available.



**3. English Church.**—(i) *Organization and Government.*—The official title of the English Church in South Africa is the Church of the Province of South Africa (otherwise known as the Church of England), and it is in communion with the Church of England and the other Provinces of the Anglican Communion throughout the world. It is a voluntary association, and has its own constitution and its own rules and regulations. It is governed by a Provincial Synod, in which every Diocese in the Province has its representatives, both clergy and laity, and no resolution, rule, canon, or constitution is regarded as a law of the Church of the Province but such as shall have received the concurrent assent of all orders of the Church—bishops, priests, and laymen. The Church of the Province is divided into twelve Dioceses constituted in the following years: Cape Town, 1847; Grahamstown, 1853; Natal, 1853; St. Helena, 1853; Bloemfontein, 1863; Zululand, 1870; St. Johns, 1873; Pretoria, 1878; South Rhodesia, 1891; Lebombo, 1893; George, 1911; Kimberley and Kuruman, 1912; Johannesburg, 1922. Each of the above Dioceses has the right to send clerical and lay representatives to the Provincial Synod on the basis of one of each order for every ten (or part of ten) licensed priests in the Diocese. The enactments of the Provincial Synod are binding upon all members of the Church in South Africa, though it is expressly stated in Article II of the Constitution that the Provincial Synod of the Church of the Province shall be subordinate to a higher authority of a General Synod of the Church of the Anglican Communion, to which such Province shall be invited to send representatives whenever such General Synod shall be convened. The Church of the Province has accepted the General Consistory of the Lambeth Conference as its Court of Final Appeal. The organization of the various Dioceses is very similar to that of the Province. All the Dioceses have their Synods, but the Diocesan Synods only exercise powers delegated from the Provincial Synod, and all acts and resolutions passed by the Diocesan Synods are subject to revision by the Provincial Synod. There are at the present time some 600 clergy working in the Province, of whom the majority are employed in parochial or missionary work, but some few are engaged in educational and extra-parochial work. There being very little in the way of endowment, the work of the Churches depends almost entirely upon the free-will offerings of its members.

(ii) *Colleges and Schools.*—In connection with the Church there are several schools and colleges for European boys and girls. Of these the principal are, for boys, the Diocesan College, Rondebosch, Cape Town; S. Andrew's College, Grahamstown; Michael House, Balgowan, Natal; S. John's College, Johannesburg; S. Andrew's College, Bloemfontein; and for girls S. Cyprian's, Cape Town; Herschel, Claremont (Cape); the Diocesan School for Girls, Grahamstown; the Diocesan School for Girls, Pretoria; S. Anne's, Hilton Road, Pietermaritzburg; S. Margaret's Diocesan Girls' School, Umtata; S. Michael's School for Girls, Bloemfontein; several schools under the charge of the Society of S. John the Divine, Natal; and the lately established school for girls at George.

In addition to these there is the training college for teachers, and several schools under the direction of the Community of the Resurrection at Grahamstown. There are various training colleges for native clergy and teachers, the chief of which are at Zonnebloem, Cape Town; S. Matthew's Training College, Keiskama Hoek; S. Alban's College, Estcourt, Natal; S. Bede's, Umtata; Diocesan Training College, Pietersburg, Transvaal; the College of the Resurrection, Johannesburg; and at Kwa Magwaza, Zululand. There is also at Grahamstown a training college for European clergy at S. Paul's hostel.

The Church of the Province is also doing much in the education of the native people, and there are hundreds of mission schools throughout the Union of South Africa.

(iii) *Hostels and Houses of Mercy.*—Of the works of mercy connected with the Church there are three Houses of Mercy—at Leliebloem, Cape Town; Irene, Transvaal; and at S. Monica's, Queenstown.

There are several orphanages and homes for children. Of these the principal are: S. Michael's Home, Cape Town; S. George's Orphanage, Cape Town (for girls); House of Bethany, Plumstead, Cape Town (for girls); the Woodville Orphanage, Grahamstown; S. John's Hostel, Cape Town (for boys); S. George's Orphanage, Cleveland, Transvaal (for boys).

(iv) *Sources of Revenue.*—In South Africa itself the Church raises about £166,000 yearly. Of this a sum of close on £23,000 is received from endowments, but by far the greater part is derived from church collections and subscriptions. In addition to this, an amount of about £30,000 is sent from overseas, but this is employed almost entirely on missionary work among the native peoples.

Full particulars in connection with the Church, such as the names of the Bishops and clergy, and its work generally, are given in the *Church Year Book*, published at the English Church House, 61 Burg Street, Cape Town.

**4. Wesleyan Methodist Church of South Africa.**—Wesleyan missions were first founded at the Cape of Good Hope in 1816, by the Wesleyan Methodist Missionary Society, London, and since then have been established throughout the whole of South Africa up to, and beyond, the Zambezi River. The advent of the British settlers in 1820 made it necessary

to provide religious services for the scattered European population, and this led in due course to the formation of European churches throughout the area of settlement. These churches and missions remained under the control of, and continued to be supported by, the parent society in London until 1883, when a separate South African Conference was established, and all the missions and churches south of the Vaal River were placed under its jurisdiction, under the title of the *Wesleyan Methodist Church of South Africa*. The work in the areas north of the Vaal River still continues under the control of the Missionary Society in London (see below).

(i) *Organization*.—The area under the jurisdiction of the South African Conference is divided into six districts. These again are divided into smaller areas as circuits, each under the oversight of a superintendent minister, or missionary. The administration of each district rests with an annual synod composed of representatives, ministerial and lay, of all the circuits within the district. The supreme legislative and executive authority is vested in the Annual Conference, which is composed of representatives elected by the various district synods and other official members appointed by the Conference itself.

(ii) *General Statistics*.—At the Conference held at Kimberley in April, 1921, the following official returns were reported:—

	No.		No.
Churches.....	1,595	Church members.....	106,324
Other preaching places.....	2,905	Candidates for Church membership.....	48,813
Ministers.....	281	Junior (catechumen) members.....	44,242
Evangelists.....	322	Increase of Church members during	
Local preachers.....	4,755	the year.....	2,969
Other unpaid agents.....	9,985	Day schools (native, coloured, and	
Sunday schools:		Indian):	
Schools.....	940	Schools.....	1,051
Officers and teachers.....	3,037	Teachers.....	2,123
Scholars.....	41,528	Scholars.....	70,202
	(Income, £4,785.)		(Income, £86,016.)

Native Training and Industrial Institutions:		English Secondary Schools:	
	No.		No.
Institutions.....	11	Schools.....	4
Teachers.....	110	Teachers (resident).....	57
Pupils.....	2,733	Scholars.....	824
	(Income, £40,175.)		(Income, £26,905.)

Sustentation and Mission Fund:	---	Invested funds (Superannuation and	
Total contributions.....	£12,506	other).....	£182,480
Total revenue for all purposes, in-		Total estimated value of land and	
cluding Education.....	£280,724	buildings at last valuation (1920)	£1,000,000

(iii) *Wesleyan Methodist Church in the Transvaal*.—The Wesleyan Methodist Church is organized north of the Vaal River as the *Transvaal and Swaziland District*, under a synod, of which the chairman and general superintendent is the Rev. F. J. Briscoe. The district is under the control of the Church in England.

(iv) *General Statistics for Transvaal District*.—The following general statistics are furnished in respect of the year 1921:—

Number of churches—		Number of ministers—	
European.....	73	European.....	43
Native.....	448	Native.....	46
Coloured Colonial.....	9		
	-----	Total.....	89
Total.....	530	Number of adherents—	
Number of other places for religious		European.....	28,090
services.....	937	Native and coloured.....	82,890
			-----
		Total.....	110,980

Income of Church (1921)..... £72,369

(v) *Institutions in the Transvaal*.—There are three institutions connected with the Wesleyan Methodist Church in the Transvaal: the Epworth Homes at Malvern, Johannesburg, and Sunnyside, Pretoria, for European children, and a native training institution at Kilmerton, near Pretoria. At the latter institution native normal students are trained, and the number now receiving instruction is upwards of two hundred.

**5. Presbyterian Church of South Africa.**—The Presbyterian Church of South Africa is governed by its General Assemblies held annually, under a Moderator elected by the Assembly. The Moderator for 1921-22 is the Right Rev. John Black, M.A., Woodstock. The General Assembly is constituted of representatives of the eight Presbyteries of the Union, viz.: Adelaide, Cape Town, Kaffraria, King William's Town, Mankazana, Natal, Orange River, Transvaal, and the Presbytery of Rhodesia.

The following figures give particulars in respect of the years 1919 and 1920 :—

**PRESBYTERIAN CHURCH—STATISTICS FOR UNION, 1919 AND 1920.**

Description.	1919.	1920.	Description.	1919.	1920.
	No.	No.		£	£
Congregations.....	105	157*	Value of Church property.....	305,588	321,040
European members.....	12,054	12,098	Amount raised for the Church in year.....	52,491	64,000
European adherents.....	5,504	5,270	Amount spent on native mission work.....	17,460	18,820
European children in Sunday schools.....	8,360	8,572	Amount raised by natives.....	3,860	4,451
Native members.....	10,288	12,397	Invested Fund.....	4,740	7,016
Catechumens.....	4,308	4,617			
Mission schools.....	207	211			
Pupils in mission schools.....	11,261	11,690			

\* 80 main charges and 77 other Preaching Stations.

The Church has erected, at a cost of £9,000, and maintains, at Queenstown (Cape Province), an orphanage for the accommodation of sixty children.

**6. Roman Catholic Church.**—The Union contains the following ecclesiastical divisions of the Church :—

*Western Vicariate and Central Prefecture, Cape Province—*

Vicar-Apostolic: The Right Rev. John Rooney, D.D., St. Mary's Cathedral, Cape Town.

*Eastern Vicariate, Cape Province—*

Vicar-Apostolic: The Right Rev. Hugh MacSherry, D.D., St. Augustine's, Port Elizabeth.

*Kimberley Vicariate—*

Vicar-Apostolic: Temporarily in charge of the Right Rev. Charles Cox, D.D., O.M.I., Johannesburg.

*Natal Vicariate—*

Vicar-Apostolic: The Right Rev. Henry Delalle, D.D., O.M.I., Emmanuel Cathedral, Durban.

*Vicariate of the Transvaal—*

Vicar Apostolic: The Right Rev. Charles Cox, D.D., O.M.I., the Immaculate Conception, Johannesburg.

*Prefecture-Apostolic of Northern Transvaal—*

Prefect-Apostolic: Vacant.

*Vicariate of the Orange River—*

Vicar-Apostolic: The Right Rev. John Simon, D.D.

Two new ecclesiastical divisions have been established (in Zululand and in Natal), but the final arrangements as to the heads of these Prefectures have not yet been made.

*General Statistics.*—The following figures are given for the year 1920 :—

Bishops.....	No. 6	Convents.....	No. 35
Priests.....	249	Communities.....	15
Religious Brothers.....	305	Colleges and schools.....	262
Nuns.....	1,774	Other institutions.....	7
Churches, chapels, and stations....	260		

**7. Congregational Churches.**—The Congregational, or Independent, Churches in South Africa have been closely connected during a century with the London Missionary Society, which, though unsectarian, has generally been associated intimately with Congregationalism. The chairman for 1921-22 is the Rev. J. H. Glover, M.A., Durban.

*General Statistics.*—The following figures give information for the year 1921-22 :—

Number of ministers.....	80
"    lay preachers.....	745
"    buildings.....	410
"    Church members.....	25,400
"    children in Sunday schools.....	8,924
"    teachers in Sunday schools.....	750

**§ 2. Benevolent Institutions and Organizations.**

1. **General.**—The Union has no lack of benevolent organizations in country districts, as well as in the towns, and seeing that there is no poor law in any of the Provinces, and that poor relief by the State has only been necessary on any considerable scale in such circumstances as existed in the period of depression which followed the South African War, and on certain other exceptional occasions, the greater part of assistance given to persons in poverty and distress is that afforded by the various benevolent institutions. It has also to be noted, however, that in all the larger towns and in many other localities public general hospitals have been established, supported in a few cases altogether, and in most cases at least in part, by the State, which also (see Chapter V) provides and controls hospitals for the mentally diseased and hospitals and institutions for lepers. Exigencies of space make it impossible to enumerate the various benevolent organizations to be found throughout the country, but it may be noted that, apart from the benevolent institutions belonging to the various churches (see § 1 above) and the smaller organizations attached to individual churches in most localities, there are in various towns such organizations as the following:—Ladies' benevolent societies, aid associations, children's homes and orphanages, children's aid societies, Salvation Army homes, social farms, rescue homes, and other institutions maintained by the Army organization; homes for the aged and the poor, Nazareth homes, convalescent homes, local representation of the St. Vincent de Paul Society, and Jewish and other benevolent societies.

2. **Government Expenditure on Poor Relief.**—Particulars are given in the subjoined tables as to expenditure by the Administration in each Province for a period of years on relief of paupers, the maintenance of certain institutions for the accommodation of poor persons suffering from chronic infirmities, and grants-in-aid of certain other non-Government benevolent institutions :—

**GOVERNMENT EXPENDITURE ON PAUPER RELIEF AND GRANTS TO BENEVOLENT INSTITUTIONS, 1914-15 TO 1920-21.**

(i) UNION.

PROVINCE.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£	£
Cape of Good Hope	19,399	20,413	22,139	24,111	29,087	35,431	56,200
Natal.....	5,345	5,105	4,669	4,282	5,384	7,061	7,872
Transvaal.....	43,800	43,096	39,628	46,308	47,217	51,953	73,942
Orange Free State..	18,588	14,741	14,619	16,827	21,036	23,871	25,818
<b>TOTAL.....£</b>	<b>87,132</b>	<b>83,415</b>	<b>81,055</b>	<b>91,528</b>	<b>102,704</b>	<b>118,316</b>	<b>163,832</b>

(ii) CAPE OF GOOD HOPE.

Description of Expenditure and Name of Institution.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£	£
Pauper Relief.....	18,329	19,199	20,796	20,256	24,711	28,696	50,166
Grants-in-Aid of Charitable Institutions and Organizations.....	1,070	1,214	1,343	3,855	4,376	6,735	6,034
<b>TOTAL.....£</b>	<b>19,399</b>	<b>20,413</b>	<b>22,139</b>	<b>24,111</b>	<b>29,087</b>	<b>35,431</b>	<b>56,200</b>

GOVERNMENT EXPENDITURE ON PAUPER RELIEF AND GRANTS TO  
BENEVOLENT INSTITUTIONS, 1914-15 TO 1920-21—continued.

## (iii) NATAL.

Description of Expenditure and Name of Institution.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
Pauper Relief.....	£ 1,545	£ 1,697	£ 1,530	£ 1,582	£ 1,889	£ 2,126	£ 2,337
Grants-in-Aid of Charitable Institutions and Organizations*.....	3,800	3,468	3,139	2,700	3,475	4,935	5,535
TOTAL.....£	5,345	5,165	4,669	4,282	5,364	7,061	7,872

\* Grants to orphanages have been omitted from these figures. In 1918-19 and 1919-20 the payments to orphanages amounted to £1850; 1920-21, £2500.

## (iv) TRANSVAAL.

Description of Expenditure and Name of Institution.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
Pauper Relief.....	£ 26,665	£ 27,757	£ 25,211	£ 32,525	£ 24,606	£ 26,807	£ 33,396
Rietfontein Hospital	7,847	4,308	3,887	3,626	10,935	11,445	14,176
Grants-in-Aid of Charitable Institutions and Organizations.....	9,288	11,031	10,530	10,157	11,676	13,701	20,370
TOTAL.....£	43,800	43,096	39,628	46,308	47,217	51,953	73,942

## (v) ORANGE FREE STATE.

Description of Expenditure and Name of Institution.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
Pauper Relief.....	£ 8,864	£ 9,111	£ 8,599	£ 9,797	£ 10,606	£ 13,591	£ 11,000
National Hospital, Bloemfontein.....	8,974	4,700	5,140	6,100	9,500	9,400	13,818
Grants-in-Aid of Charitable Institutions and Organizations.....	750	930	880	930	930	880	1,000
TOTAL.....£	18,588	14,741	14,619	16,827	21,036	23,871	25,818

3. **Charitable Institutions.**—The following particulars are furnished in respect of all Government, Government-aided, and Private Institutions in the Union, the object of which is to afford relief, protection, or shelter to those persons who are in distress, in need of succour, or homeless. Such institutions include orphanages, childrens' homes, crèches, homes for convalescents, aged, or infirm persons; institutions for decrepit and chronic sick persons, rescue homes, shelters for men and women, almshouses, and kindred institutions, but do not include benevolent or friendly societies, charity organizations, hospitals, maternity homes, sanatoriums, lazarettos, or infectious diseases hospitals.

## (i) CHARITABLE INSTITUTIONS IN THE UNION FROM 1918-19.

Year.	Number of Institutions.	Staff.		Accommodation. Number of Beds.		Inmates at End of Year.		Revenue.	Expenditure.
		White.	Coloured.	White.	Coloured.	White.	Coloured.		
1918-19	101	632	195	5,893	592	4,889	344	£ 203,449	£ 238,683
1919-20	118	702	215	6,484	585	6,088	414	249,144	287,319
1920-21	152	792	318	7,872	762	11,083	590	379,009	399,065

## (ii) NUMBER OF INSTITUTIONS, STAFF, AND ACCOMMODATION, 1920-21.

Province.	Number of Institutions.	Staff.		Accommodation.		
		White.	Coloured.	Number of Wards, Dormitories, or Single Rooms.	Number of Beds.	
					White.	Coloured.
Cape of Good Hope.....	91	417	158	1,059	4,188	519
Natal.....	26	119	59	223	1,023	233
Transvaal.....	28	212	80	389	2,071	10
Orange Free State.....	7	44	21	92	590	—
<b>TOTAL.....</b>	<b>152</b>	<b>792</b>	<b>318</b>	<b>1,763</b>	<b>7,872</b>	<b>762</b>

## (iii) ADMISSIONS AND DISCHARGES ACCORDING TO PROVINCES, 1920-21.

Province and Race.	Admissions during Year.		Discharges, Deaths, etc., during Year.		Remaining at End of Year.	
	Adults.	Children.	Adults.	Children.	Adults.	Children.
Cape of Good Hope—						
White.....	70,212	1,219	69,709	908	1,539	3,331
Coloured.....	764	144	738	125	157	223
Natal—						
White.....	6,236	211	6,230	182	323	595
Coloured.....	—	84	—	76	—	210
Transvaal—						
White.....	26,869	888	25,082	750	2,433	1,698
Coloured.....	—	—	—	—	—	—
Orange Free State—						
White.....	3,976	176	3,842	105	454	660
Coloured.....	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>108,057</b>	<b>2,672</b>	<b>105,601</b>	<b>2,146</b>	<b>4,906</b>	<b>6,717</b>

## (iv) ADMISSIONS, DISCHARGES, ETC., REVENUE AND EXPENDITURE ACCORDING TO CLASSES OF INSTITUTION, 1920-21.

Class of Institution and Race.	Number of Institutions.	Admissions during Year.		Discharges, Deaths, etc., during Year.		Remaining at End of Year.		Revenue.	Expenditure.
		Adults.	Children.	Adults.	Children.	Adults.	Children.		
Orphanages—									
White.....	56*	23	1,126	33	862	128	4,597	£ 217,578	£ 229,449
Coloured...		—	106	—	84	3	330		
Homes for Aged Persons—									
White.....	17	146	—	134	—	388	—	} 39,007	39,778
Coloured...		—	—	—	—	—	—		
Rescue Homes—									
White.....	10	291	182	285	179	115	58	} 9,229	9,514
Coloured...		98	56	92	60	21	7		
Children's Homes—									
White.....	27	—	445	—	276	5	1,231	} 36,656	36,309
Coloured...		—	4	—	6	2	29		
Other Institutions—									
White.....	42	106,828	691	104,414	629	4,113	398	} 76,539	83,975
Coloured...		666	63	643	50	131	67		
<b>TOTAL.....</b>	<b>152</b>	<b>108,067</b>	<b>2,672</b>	<b>105,601</b>	<b>2,146</b>	<b>4,906</b>	<b>6,717</b>	<b>379,009</b>	<b>399,085</b>

\* Five Orphanages are also Homes for Aged Persons.

## (v) CHARITABLE INSTITUTIONS—REVENUE AND EXPENDITURE. 1920-21.

*Revenue.*

Province.	Government and other Grants.	Fees from Inmates.	Collections, Subscriptions, and Donations.	Other Revenue.	Total Revenue.
	£	£	£	£	£
Cape of Good Hope	85,700	11,602	51,882	35,320	184,504
Natal.....	8,995	8,502	14,326	7,136	38,959
Transvaal.....	44,467	5,688	68,524	18,249	131,928
Orange Free State.	10,753	196	3,651	9,018	23,618
<b>GRAND TOTAL.£</b>	<b>149,915</b>	<b>25,988</b>	<b>138,383</b>	<b>69,723</b>	<b>379,009</b>

*Expenditure.*

Province.	Salaries and Wages.	Maintenance of Inmates.	Buildings.	Other Expenditure.	Total Expenditure.
	£	£	£	£	£
Cape of Good Hope	27,348	105,949	45,729	16,682	195,703
Natal.....	6,887	22,208	5,836	6,241	41,122
Transvaal.....	20,988	62,109	15,674	35,187	133,908
Orange Free State.	2,729	16,651	7,340	2,132	28,352
<b>GRAND TOTAL.£</b>	<b>57,847</b>	<b>206,917</b>	<b>75,079</b>	<b>60,242</b>	<b>399,085</b>

## (vi) PARTICULARS OF CHARITABLE INSTITUTIONS IN CERTAIN TOWNS IN THE UNION, 1920-21.

Description.	Number.	Inmates at End of Year.		Average Daily Number of Inmates.		Revenue.	Expenditure.
		White.	Coloured.	White.	Coloured.		
<i>Cape Town.</i>							
Orphanages.....	11	754	73	722	72	£ 27,770	£ 35,348
Homes for Aged Persons	5	144	5	144	5	5,948	6,190
Rescue Homes.....	2	13	28	6	2	1,193	1,675
Children's Homes.....	3	34	42	37	42	3,243	3,132
Other Institutions.....	11	589	89	275	106	16,906	20,442
<i>Durban.</i>							
Orphanages.....	7	373	158	391	154	£ 13,821	£ 10,607
Homes for Aged Persons	1	8	—	7	—	300	300
Rescue Homes.....	1	11	—	17	—	955	923
Children's Homes.....	—	—	—	—	—	—	—
Other Institutions.....	2	165	—	149	—	7,240	9,996
<i>Johannesburg.</i>							
Orphanages.....	7	1,519	—	1,509	—	£ 67,121	£ 68,882
Homes for Aged Persons	2	113	—	120	—	26,953	27,685
Rescue Homes.....	2	64	—	52	—	3,960	4,008
Children's Homes.....	2	79	—	73	—	3,046	3,092
Other Institutions.....	6	1,941	—	156	—	13,440	14,262
<i>Pretoria.</i>							
Orphanages.....	1	20	—	20	—	£ 1,472	£ 1,601
Homes for Aged Persons	1	17	—	16	—	1,101	1,321
Rescue Homes.....	1	24	—	20	—	802	678
Children's Homes.....	1	45	—	40	—	3,112	2,988
Other Institutions.....	2	204	—	74	—	5,487	5,221

4. **Benevolent Institutions in Cape Peninsula and Johannesburg.**—Previous issues of this *Year Book* contained lists of benevolent institutions in the Cape Peninsula and Johannesburg. These have not been repeated owing to considerations of space.

5. **South African Prisoners' Aid Association.**—This Association, under the presidency of His Excellency the Governor-General and the chairmanship of the Director of Prisons, was formed in 1910 with the following objects:—

- (a) Visiting prisoners and encouraging them in self-reform.
- (b) Aiding released prisoners to live honourably.
- (c) Helping the deserving dependents of prisoners.
- (d) Befriending the innocent and ignorant under accusation.
- (e) Supervising prisoners released on probation or those whose sentence may be suspended.
- (f) Providing labour homes and refuges.
- (g) Establishing branches and appointing representatives wherever there are gaols.

(i) **Organization.**—The Association consists of members organized in branches in the principal centres of the Union, the directing control being vested in a Central Council consisting of the Chairman of the Association and two members nominated by each branch, which in turn works through its local committee. The fact that the Chairman of the Central Council is appointed by the Minister of Justice enables the Association to be kept in close touch with the Government. A grant is made quarterly by the Prisons Department to supplement funds raised locally by each branch for the purposes of its work. The allocation of the grant to the branches is made by the Central Council on the basis of the needs of the local work as reflected in the statistical and financial returns. In addition to the allocation of grants, the Central Council considers and shapes the whole policy of



the Association. It initiates new work and represents the views and needs of the Association to the Government.

(ii) *Statistics.*—The following tables give statistics as to the operations of the Association during the year 1921 :—

### PRISONERS' AID ASSOCIATION.

#### (a) MEMBERSHIP AND RECEIPTS, 1921.

BRANCH.	Supporters.	Members.	Local Receipts.	Government Grant.	Total Receipts.
			£	£	£
Bloemfontein.....	25	30	49	80	129
Cape Town.....	166	363	187	400	587
Durban.....	—	159	278	90	368
Pietermaritzburg...	31	99	52	95	147
Johannesburg.....	162	136	5,797	1,030	6,827
Kimberley.....	109	47	25	85	110
Pretoria.....	161	154	101	475	576
Port Elizabeth.....	—	24	8	20	28
<b>TOTAL.....</b>	<b>654</b>	<b>1,012</b>	<b>6,497</b>	<b>2,275</b>	<b>8,772</b>

#### (b) EXPENDITURE, 1921.

HEADING.	On Prisoners.	On Dependents.	Salaries, Office Expenses, etc.	Total.
	£	£	£	£
All Branches.....	6,377	747	1,648	8,772

#### (c) NUMBERS OF CASES INVESTIGATED AND ASSISTED, 1921.

BRANCH.	PRISONERS.					DEPENDENTS.		
	Investigations.	Work Found.	Monetary Assistance Given.	Other Assistance Given.	Assistance Refused.	Investigations.	Monetary Assistance Given.	Other Assistance Given.
Bloemfontein.....	28	—	3	6	2	21	6	5
Cape Town.....	193	39	23	126	5	82	11	71
Durban.....	254	7	44	44	10	80	18	35
Pietermaritzburg...	192	59	77	31	7	10	5	5
Johannesburg.....	269	27	17	73	6	220	152	68
Kimberley.....	12	—	1	11	—	7	7	—
Pretoria.....	1,062	24	26	96	8	132	22	110
Port Elizabeth.....	22	5	6	2	3	1	1	—
<b>TOTAL.....</b>	<b>2,032</b>	<b>161</b>	<b>197</b>	<b>389</b>	<b>41</b>	<b>553</b>	<b>222</b>	<b>294</b>

#### (d) INSTITUTIONS MAINTAINED, 1921.

INSTITUTION.	Inmates.	Beds Supplied.	Meals Supplied.
Cottesloe Hostel.....	70	8,179	32,217
Forest Hill.....	67	7,834	23,800
<b>TOTAL.....</b>	<b>137</b>	<b>16,013</b>	<b>56,017</b>

6. **Friendly Societies.**—The subjoined table contains particulars, collected for the first time in 1921 under the *Statistics Act*, of Friendly Societies in the Union. The figures relate to all societies, lodges, clubs, and other associations established primarily for the purpose of granting financial assistance to members or their dependents in case of incapacitation, sickness, death, unemployment, or other causes; insurance companies are not included. The returns obtained cover ninety-one Friendly Societies, whose funds at the end of their respective business years totalled £281,235 (invested £253,321; not invested £27,914).

### FRIENDLY SOCIETIES IN THE UNION, 1920-21.

#### (a) BENEFIT MEMBERS.

Heading.	Number.	Heading.	Number.
Admitted during year.....	8,266	Number receiving sick pay.....	8,972
Resigned, died, and removed.....	2,743	Total number of weeks during	
Number at end of year.....	42,351	which sick pay allowed.....	24,062
Number of deaths—			
Registered members.....	353		
Registered wives of members	117		

#### (b) REVENUE AND EXPENDITURE.

Revenue.	Amount.	Expenditure.	Amount.
	£		£
Entrance fees.....	1,447	Sick pay.....	32,751
Members' contribution.....	133,822	Medical attendance.....	23,621
Levies.....	2,092	Amount paid—	
Other.....	22,974	At death of members.....	80,048
		At death of registered wives	
		of members.....	1,612
		Administration.....	14,922
		Other.....	15,634
TOTAL.....£	160,335	TOTAL.....£	123,588

### § 3. Organisation and Legislation in Promotion of Child Welfare.

1. **Child Welfare Organizations.**—(i) *Objects.*—The various agencies and organizations in the Union which are concerned with child welfare and of which the activities are co-ordinated in the central deliberative body known as the Child Welfare Conference, have for their general objects:—

- (a) The *prevention* of any form of cruelty to children, including efforts to deal with the following conditions—  
Neglect; life in slums and over-crowding; destitution; sweating and over-work; disease; begging; crime; street trading; ignorance; prostitution; abandonment; unsuitable environment.
- (b) The *protection* of children, involving such problems as pre-natal care, i.e. the best way to ensure the survival of healthy babies, by attention to the needs of the expectant mother; proper attention at the time of birth; by the provision of proper medical and nursing attendance where necessary; systematic attention during infancy through the agency of Infant Consultation Bureaus, Babies' Welcomes and similar organizations; the care of children of school-going age, in school and out of it, including medical inspection of schools; after-care, i.e. the well-being of the adolescent boy and girl, and the elimination, wherever possible, of the blind-alley occupation and poor white problems; and the holding of mental clinics by specialists.

(ii) *History of Child Welfare Movement.*—Until the passing of the *Children's Protection Act*, No. 25 of 1913, the various laws in force in the Union with regard to the protection of children were found to be inadequate. The first effort of this kind of legislation was a Cape Colony law of 1879. A similar law was passed in Natal in 1896 and the Orange Free State in 1899. A *Children's Protection Act* was promulgated in Natal in 1901, and in 1907 the Cape Colony passed the *Infant Life Protection Act*. In 1909 the Transvaal passed a law the main lines of which are embodied in Chapter II of the existing Union Act of 1913. The latter is fully summarized in par. 2 below. The *Factories Act* of 1918 (par. 3) is concerned with an important aspect of the problem of child life protection. The Cape Provincial Ordinance of 1919, dealing with relief and charitable institutions, makes provision for the

payment to registered societies and institutions dealing with children, and the *Union Public Health Act of 1919* similarly authorizes the payment of grants to societies dealing with destitute children.

The various enactments owed their origin to a general appreciation of the problems arising out of the high infantile mortality which prevailed in many parts of the Union. The Society for the Protection of Child Life founded in Cape Town in 1907 and the Children's Aid Society, founded in Johannesburg a year later, were formed principally with the object of coping with this question. Many similar societies have since sprung up in all parts of the Union, and the movement has spread to Southern Rhodesia.

The first Child Welfare Conference was held at Cape Town in March, 1917, followed by one in Johannesburg in May, 1918, a third being called in Durban in September, 1919. These conferences, attended by over 250 delegates from all over the Union, have done much to educate and inform public opinion generally and to stimulate Government, Provincial, and Municipal action.

(iii) *Child Welfare Societies.*—The following societies exist in the various Provinces:—

*Cape of Good Hope.*—The Society for the Protection of Child Life in Cape Town, East London, Stellenbosch, and Wynberg; the Child Welfare Society in Aliwal North, Graaff-Reinet, Grahamstown, Kimberley, King William's Town, Oudtshoorn, Port Elizabeth, Caledon, and Hermanus.

*Natal.\**—The Child Welfare Society in Durban, Ladysmith, and Pietermaritzburg.

*Transvaal.*—The Children's Aid Society in Johannesburg, Benoni, Boksburg, Germiston, and Krugersdorp (West Rand); the Child Welfare Society in Potchefstroom and Pretoria.

*Orange Free State.*—The Child Welfare Society in Bloemfontain and Heilbron.

All the above societies have as their main objects all measures necessary to prevent any form of cruelty, neglect, or ill-treatment of children. They especially aim at securing the adequate carrying out of all Acts of Parliament and Provincial Ordinances dealing with children. They seek to promote any legislation that may be considered necessary to improve the moral and physical condition of children; and to establish infant life bureaux, mothers' welcomes, homes for neglected and other children, and to provide or secure, when necessary, for infants and children, hospital accommodation which is not otherwise established.

Other organizations also concerned, though not so directly, with the welfare of children are the Board of Aid in Cape Town; the Rand Aid Association; the Juvenile Advisory Boards throughout the Union; the Children's Care and After-Care Committees, Johannesburg; the Committee for the Care of the Feeble-Minded in Cape Town; and societies such as the Women's Christian Temperance Union, the National Council of Women Workers, and the various women suffrage societies, notably the National Service Fund in Johannesburg. Church organizations, such as the Salvation Army, do most valuable work in rescuing and succouring destitute children, and the various Christian and Jewish churches have their own societies for dealing with various aspects of the problem. Notable among these are the activities of the Dutch Reformed Church. In addition, orphanages and homes established by public and private enterprise have been opened, and hospitals and schools, in many cases, now have their guilds of helpers and boards of aid for keeping in touch with both mother and child.

(iv) *Activities of Child Welfare Organizations.*—(a) *Infant Consultation Bureaus.*—These have been started in various centres (six in Cape Town and suburbs), and in connection therewith free dinners are provided daily for expectant and nursing mothers. Mothers and guardians are encouraged to bring the babies to the bureaux regularly to have them weighed. There is a doctor in attendance and a lady health visitor. Medical advice is given and the proper kinds of food recommended. Simple remedies in the way of aperient and corrective medicines, tonics, ointments and liniments are provided, either free or for a small payment. The women are taught to cut out and sew simple garments, and are generally helped and advised. In most bureaux, milk tickets are given for varying periods, free or for payment, to ensure a supply of fresh milk delivered daily at the woman's own home. In Cape Town there is a milk fund, supported by private subscriptions of one shilling and upwards per month. The card indexing system is followed at the bureaux and a record kept of all children. These cards are filed for future reference, and kept for the Education Department for use where medical inspection of schools is in vogue. In Cape Town the bureaux are carried on at the expense of the Municipality, which provides the services of the medical superintendent and the lady health visitors, the Child Life Protection Society providing the helpers and voluntary workers. In other centres, such as East London, Grahamstown, Kimberley, and Port Elizabeth, bureaux are arranged on the same lines as in Cape Town, but no medical attendance is, so far, available. In Johannesburg a Babies' Welcome has been organized by the National Service Fund, with the help of the municipal lady health visitors.

(b) *Protected Infants.*—Under the *Children's Protection Act* any child under seven years of age, who is retained or received for the purpose of being nursed or maintained

\* Societies also formed at Vryheid and Greytown.

apart from its parents for a longer period than three days, is a *protected infant*. Within a municipal area, notice of such retaining or receiving must be given within forty-eight hours to the magistrate, or in outside areas within seven days to the field cornet of the ward. The magistrate notifies the police or the Child Welfare Society, where there is one, and the society sends one of its *authorized visitors*, men or women, to investigate the facts of the case. Reports are forwarded regularly to the magistrate for his information and any necessary action. In large centres like Cape Town and Johannesburg, the town and suburbs are divided into districts and apportioned to authorized visitors, all voluntary workers, who have satisfied the magistrate as to their fitness for the work. The homes of the children are visited at odd hours, on an average twice a month, and the general condition and environment reported on.

In addition, the larger Child Welfare Societies employ salaried inspectors to investigate cases of special difficulty and to carry out the instructions of the magistrate or the society. The Cape Town society employs three inspectors—one trained nurse and two others, and the Johannesburg society has one man. These inspectors investigate all complaints as to ill-treatment or neglect, warn the offenders, and, in the last resource, have them prosecuted under the Act. Cases of sickness which require treatment are sent to hospital or to the free dispensary for medicines, or, in the case of minor ailments, are dealt with at the bureaux. Children are rescued from harmful and immoral surroundings, boarded out with approved foster-parents, or indentured to farmers and others, under supervision. Cases of backward or feeble-minded children are dealt with, and juvenile delinquents put on probation or sent to industrial schools.

(c) *Lady health visitors*.—Lady health visitors are municipal employees and their duty is, primarily, to teach the mothers and guardians the value of fresh air, cleanliness, and regular feeding, and to advise them on the proper care of their own bodies and those of the children. They report to the medical officer of health, who, in turn, reports to the Council.

(d) *District Nurses*.—In the Cape Province, district nurses, under the Cape Hospital Board, give free nursing attendance in necessitous cases. In the Transvaal, the district nurses, during their course of training, work among the needy poor in Johannesburg and district. In the country districts, all over the Union, the needs of the poorer people are supplied by the *King Edward VII. Order of Nurses*. All these nurses do valuable work in bringing cases, which would otherwise not be known, to the notice of the *Child Welfare Societies*.

(e) *Orphanages and Homes*.—There are a large number of orphanages and homes in the Union, most of them supported by private enterprise and in some cases subsidized by Government, where children of different ages and conditions are received. A list of such institutions in the Cape Peninsula and on the Witwatersrand was given in previous issues of this Year Book. Similar bodies in the Cape Province are the Woodville Orphanage at Grahamstown, the Children's Home at Kimberley; in Natal the Infant Home at Durban; in the Orange Free State St. Faith's Home and the Railway Orphanage at Bloemfontein, and a Weeshuis at Bethlehem and Ladybrand.

(f) *Industrial Schools*.—Government industrial schools have been established in the Cape Province at George and the Paarl; in the Transvaal at Emmasdale, Heidelberg, and Standerton; and in the Orange Free State at Dewetsdorp. Other industrial schools and certified institutions are in existence at Adelaide, Graaff-Reinet, Knysna, Kimberley, Potchefstroom, Riebeek West, Tulbagh, Uitenhage, Wellington, and Worcester.

(g) *Crèches and Day Nurseries*.—Crèches and day nurseries have been opened in populous centres, especially in the vicinity of factories, and found to be a boon to working mothers.

(h) *Children's Courts*.—What are virtually *children's courts* are in existence in Cape Town and Johannesburg, where, at specified hours in each week, one of the magistrates sits to hear cases of children under the Act. The inspector of the Child Welfare Society is present and furnishes the history of the child and its family and environment. In many cases of destitution and neglect the child is committed to the care of the society. In other cases the help of the society is requested in removing children from undesirable surroundings or having them sent to homes under escort.

(i) *Feeble-Minded*.—In Cape Town, clinics are held regularly for the examination of suspected cases, at the society's office. There are two small homes in existence for the feeble-minded, one in the Cape of Good Hope at Retreat, and the other in the Orange Free State. Three homes (at Irene in the Transvaal and at Leliebloem and Clarefont in the Cape of Good Hope) have been certified to take in feeble-minded girls.

At the Third Annual Child Welfare Conference held in Durban in 1919, schemes were drawn up for the formation of four Provincial Mental Hygiene Societies and one National Council for Mental Hygiene. The latter has now been formed.

(j) *Medical Inspection of Schools.*—In Natal and in the Transvaal and, in a lesser degree, in the Cape of Good Hope, medical inspection of schools has been instituted. In Johannesburg there are school clinics and school nurses.

(v) *Future Development.*—The organizations have in view the pressing need for the establishment of children's hospitals and nursery schools, especially in the larger centres of population. The future work of the various societies forms the subject of discussion at the annual Child Welfare Conferences. It is under contemplation to affiliate the twenty-six existing Child Welfare Societies into one National Society for Child Welfare in South Africa, with a national organizing secretary.

The Fourth Annual Conference held at Bloemfontein in September, 1920, was largely attended; and among the resolutions passed was one for the federation of all Child Welfare Societies in the Union, in order to secure better co-operation in the work.

**2. Children's Protection Act.\***—(i) *General.*—This Act (No. 25 of 1913), which is based largely on the provisions of the United Kingdom *Children's Act of 1908*, is designed to consolidate and amend existing laws so as to provide for the better protection of children under the age of sixteen years. The administration of the law is vested in the Union Department of Education, since September, 1917.

(ii) *Punishment for Cruelty and Neglect.*—Any person who, having the custody, charge, or care of a child, wilfully assaults, ill-treats, neglects, abandons or exposes the child—or permits the child to be so treated—in a manner likely to cause unnecessary suffering or injury to health or physical injury, is liable to a fine of £100 or to imprisonment for twelve months, or to both fine and imprisonment. A parent or other person legally liable to maintain a child is held to have been guilty of neglect if he fails (for any reason other than lack of means not due to idleness or misconduct) to provide adequate food, clothing, medical aid or lodging for the child. A person may be convicted notwithstanding that actual suffering or injury or the likelihood thereof has been obviated by the action of another person. If a person convicted is proved to have been directly or indirectly interested in any sum of money accruing in the event of the death of the child, he may (apart from any charge of culpable homicide) in the event of the above interest in money being proved, be fined to the extent of £200, or be imprisoned for a period of five years.

(iii) *Begging and Street-trading.*—Any person who causes or procures any child, or having charge, custody or care of a child, allows it to be on any street, premises or place for the purpose of begging or receiving alms (whether or not there is any pretence of singing, playing, performing, offering anything for sale or otherwise) is guilty of an offence and liable to punishment. Local authorities are empowered to make by-laws prohibiting or restricting street-trading by children.

(iv) *Children in Immoral Surroundings.*—It is a punishable offence for any person having charge of a child between the ages of four and sixteen years to allow that child to reside in or frequent a brothel; or to cause or encourage the seduction, abduction, or prostitution of any girl under the age of sixteen years. Allowing a girl to consort with or to enter or continue in the employment of any prostitute or person of known immoral character constitutes such cause or encouragement as is referred to.

(v) *General Provisions.*—Any policeman has power in certain circumstances to take offenders into custody without any warrant. Any policeman or other person authorized by a Magistrate or Justice of the Peace may take a child, against whom an offence has been committed or there is reason to believe that an offence has been committed, to a place of safety (i.e. any police station, hospital, surgery or other suitable place, the occupier of which is willing temporarily to receive the child). When any person is charged or convicted the child concerned may by order of court in writing be taken out of the custody of such person and given to the custody of a relative of the child or some other fit person. Such child may not be taken or sent outside the Union without the authority of the Minister of Justice.

When a child is committed to the care of some person the religious persuasion of the person selected must either be the same as that to which the child belongs or a suitable undertaking in the matter must be given. Warrants to search for or remove a child may be issued. Power is given to compel a parent in the case of a child under fourteen years to pay any fine imposed by a Court instead of the child. The evidence of the husband or wife of an accused person is admissible. Local authorities may subscribe from their funds to the support of societies working within their area for the protection of children.

A local education authority may direct its medical officer (or other medical practitioner) to examine in any public elementary school the person and clothing of any child attending the school, and, in certain conditions of uncleanness or disease, the education authority may give an order on the parent or other responsible person properly to cleanse such child, within twenty-four hours or (if the child is suffering from a contagious disease)

\* Amended by Act No. 26 of 1921, which empowers the Government to make grants for destitute children "mother and child pensions".

within a reasonable time fixed by the authority. The Minister may cause any institution for the reception of poor children to be visited.

(vi) *Protection of Infant Life*.—An infant is defined as a person under the age of seven years. Any person retaining or receiving an infant for the purpose of nursing or maintaining such infant apart from its parents for a longer period than three days is required within forty-eight hours (if within a municipal area) or otherwise within a week to give notice to the Magistrate or Field Cornet (for transmission to the Magistrate). The Magistrate is then given certain duties in respect of infants protected by this law, and may order the removal of any such infant if he is satisfied that it is not in the best interests of the child that it should remain with the persons having charge of it. No insurance may be effected on the life of a protected infant.

(vii) *Government Industrial Schools*.—The establishment of Government industrial schools is authorized, full provisions as to the control and management of which are set out. Any child found destitute or in certain undesirable conditions of life defined in the Act may be sent to an industrial school until such child reaches the age of eighteen years. Power is given to exercise supervision of children after the expiration of any period of detention.

(viii) *Miscellaneous Provisions*.—The sale of tobacco to children is prohibited, also the sale or supply of liquor. Special provisions apply to places of entertainment for children or at which children form the majority of persons likely to attend. Children under the age of twelve years may not take part in any public entertainment except under licence issued by a Magistrate. Cases under this Act may be heard *in camera*.

3. *Other Legislation*.—The provisions of the *Factories Act*, No. 28 of 1918, protect children employed in factories in a variety of ways (*vide* chapter XVIII, § 5). No child under 12 years of age may be employed in any factory; children under 14 years of age only under licence of a factory inspector; and children under 16 years of age only when certified physically fit for work. Hours and conditions of employment are also regulated.

The *Juveniles Act*, 1921, which is associated with the work of various Juvenile Advisory Boards in the Union, is administered by the Department of Mines and Industries, and provides for the "after-care" of children who have reached the school-leaving stage (*vide* chapter VII, § 6).

#### § 4. Liquor Laws.

1. *General*.—The liquor laws of the Union, in so far as they affect the European population, are based on English law and custom. It will be observed from the tables in the concluding paragraph that on the average there are in the Union twenty retail liquor licences and three bottle store licences in existence for every ten thousand of the European population.

The laws governing the supply of intoxicating liquor to coloured persons are framed in each Province to suit the conditions peculiar to each. These conditions vary so considerably and are based upon such divergent practice that there are formidable obstacles to the construction of a uniform law on this subject for the Union.

In the *Cape Province* for many years that portion of the coloured population which is brought into closest contact with Europeans has been accustomed to consume the wine and spirits manufactured by wine farmers and others. Until the product of the vine was brought up to the present standard, which enables it to compare favourably with similar products in Europe, by far the larger portion of the wine and brandy produced was consumed by the coloured population. At the present day in certain parts of the Province the practice still exists of issuing a ration of wine or spirits in part payment of wages due. Every registered Parliamentary voter is entitled to purchase intoxicating liquors without restriction. This provision does not, however, apply to the Transkeian Territories, which include the areas of East Griqualand, Tembuland, Pondoland, and the Transkei. Into these areas no liquor can be imported except under a permit from the magistrate of a district. No liquor can in these areas be supplied to a native except under permit.

In *Natal* there is total prohibition in the case of the coloured population, but licences are granted by the Provincial authorities to brew and sell kaffir-beer. There are thirty-six such licences in force.

In the *Transvaal* licences to manufacture and sell kaffir-beer are granted by the Governor-General to large employers of native labour. Natives living in urban areas distant twelve miles from a town, a mine, or public digging are allowed to brew beer for their own consumption.

In the *Orange Free State* a considerable revenue accrues through the issue of licences to hold beer gatherings. In arranging beer gatherings natives first obtain permission from the landowner and also secure the consent of the magistrate of the district. The issue of a permit is notified to the police. Little restriction is placed upon the issue of such licences, as the police make a point of attending such gatherings and making an inspection of passes, tax receipts, etc.

In the industrial areas of the Transvaal there is in existence a considerable illicit liquor traffic. In 1921, 250 Europeans and 776 coloured persons were committed to prison

under sentence for illicit liquor selling in the Union, and of these, 177 Europeans and 446 coloured persons were sentenced in the Transvaal, in spite of the fact that in this Province the minimum sentence is six months' imprisonment with hard labour for a first offence, and for repeated offences the penalty may range up to four years' imprisonment. It is a recognized fact that large numbers of residents in the Transvaal trade illicitly in liquor as a means of livelihood, and the problem of dealing with the question has provided almost insuperable difficulties. A proposal has been made in Parliament to facilitate the sale to natives in the Transvaal of light Cape wines, in the hope that by this means the illicit traffic evil may be abated. The sale of kaffir-beer has also been urged as a comparatively innocuous liquor, rarely containing more than 3 per cent. of alcohol. This beer forms the natural beverage of the Bantu race, and is prepared from kaffir-corn, a species of millet.

The following table gives figures of liquor and bottle store licences issued in the various Provinces of the Union over a series of years (for Natal in 1921 only). Particulars of convictions for drunkenness are also included; details as to other offences under the liquor laws are given in chapter X.

### LIQUOR TRAFFIC, 1915-21.

Year.	Retail Liquor Licences.	*Europeans per Licence.	Bottle Stores.	*Europeans per Licence.	Convictions: Drunkenness.			
					White.	Per 1,000 of Population over 15 Years.	Coloured and Bantu.	Per 1,000 of Population over 15 Years.
<i>Cape of Good Hope.</i>								
1915...	1,050	624	201	3,260	1,543	5.03	10,089	8.08
1916...	973	680	207	3,198	1,372	3.43	9,489	7.60
1917...	962	695	198	3,378	1,374	3.67	10,029	7.84
1918...	942	717	196	3,447	1,214	3.21	8,792	7.57
1919...	909	739	191	3,518	1,073	2.80	8,236	6.58
1920...	971	699	201	3,376	1,063	2.75	6,482	5.12
1921...	938	731	200	3,427	977	2.50	6,047	4.72
<i>Natal.</i>								
1915...	†	—	†	—	287	4.10	992	1.40
1916...	†	—	†	—	350	4.94	1,073	1.48
1917...	†	—	†	—	286	3.91	971	1.32
1918...	†	—	†	—	239	3.16	900	1.20
1919...	†	—	†	—	258	3.31	741	0.99
1920...	†	—	†	—	348	4.34	693	0.91
1921...	247	334	47	1,755	347	4.21	712	0.92
<i>Transvaal.</i>								
1915...	686	415	203	1,404	1,246	4.37	5,883	7.04
1916...	721	406	193	1,517	1,188	4.06	5,999	7.02
1917...	726	414	183	1,643	1,269	4.22	5,491	6.22
1918...	736	419	186	1,641	1,186	3.84	5,656	6.35
1919...	705	449	185	1,710	1,296	4.10	7,657	8.59
1920...	754	430	193	1,660	1,139	3.51	4,668	5.15
1921...	644	516	298	1,596	1,058	3.19	4,797	5.17
<i>Orange Free State.</i>								
1915...	121	882	55	1,963	207	1.92	667	2.83
1916...	125	869	53	2,060	188	1.78	552	2.29
1917...	123	868	55	1,968	99	0.91	425	1.72
1918...	120	917	55	2,001	148	1.35	371	1.47
1919...	125	886	58	1,909	154	1.39	445	1.76
1920...	124	898	57	1,954	173	1.55	419	1.62
1921...	107	10,481	53	2,115	102	0.91	359	1.36
<i>Union.</i>								
1915...	—	—	—	—	3,583	4.33	17,580	5.80
1916...	—	—	—	—	2,998	3.56	17,113	5.58
1917...	—	—	—	—	3,028	3.53	16,916	5.40
1918...	—	—	—	—	2,787	3.19	16,719	5.25
1919...	—	—	—	—	2,783	3.05	17,081	5.43
1920...	—	—	—	—	2,723	3.02	12,282	3.84
1921...	1,936	626	508	2,386	2,484	2.71	11,915	3.67

\* Includes coloured persons in the Cape Province only.

† Not available.

## § 5. Divorces.

1. **Return of Divorces.**—Particulars are given in tables (i) and (ii) of the number of divorces, judicial separations, and decrees of nullity of marriage in respect of Europeans over a number of years, and in tables (iii), (iv), (v), (vi), (vii), and (viii) more detailed information regarding divorces petitioned for during a series of years.

(i) **DECREES OF DIVORCE, JUDICIAL SEPARATION, AND NULLITY OF MARRIAGE GRANTED (WHITE PERSONS ONLY), FROM 1914.**

Year.	Divorces.	Judicial Separation.	Decree of Nullity.	Total.	Cape.	Natal.	Transvaal.	Orange Free State.
1914..	203	8	—	211	103	4	70	34
1915..	133	15	1	149	69	16	53	11
1916..	510	22	4	536	109	37	374	16
1917..	468	21	5	494	107	58	298	31
1918..	479	8	10	492	131	40	299	22
1919..	672	5	33	710	185	53	452	40
1920..	794	20	1	805	198	89	493	25
1921..	787	26	3	816	219	90	475	32

(ii) **PETITIONS FOR DIVORCE, JUDICIAL SEPARATION, AND NULLITY OF MARRIAGE, 1921, CLASSIFIED ACCORDING TO SEX OF PETITIONER (UNION).**

PROVINCE.	DIVORCE.		JUDICIAL SEPARATION.		NULLITY.		TOTAL.		GRAND TOTAL.
	Husband.	Wife.	Husband.	Wife.	Husband.	Wife.	Husband.	Wife.	
Cape.....	131	114	1	18	1	1	133	133	266
Natal.....	46	48	—	2	—	1	48	51	97
Transvaal.....	224	267	2	9	2	—	228	276	504
Orange Free State.....	16	23	—	2	—	—	16	25	41
UNION.....	417	452	3	31	3	2	423	485	908

(iii) **GROUND ON WHICH DIVORCES, ETC., WERE SOUGHT, 1921 (UNION).**

HEADING.	EUROPEAN.		NATIVE.		ASIATIC.		COLOURED.		ALL RACES.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Desertion.....	298	353	15	8	—	—	3	2	316	363	679
Adultery.....	86	75	8	9	1	—	9	9	104	93	197
Incompatibility of Temper.....	—	16	—	—	—	2	—	1	—	19	19
Bigamous Marriage..	—	—	—	—	—	—	—	—	3	10	13
Other Grounds.....	3	10	—	—	—	—	—	—	—	—	—
TOTAL.....	387	454	23	17	1	2	12	12	423	485	908



## (iv) DEGREES OF DIVORCE, JUDICIAL SEPARATION, AND NULLITY OF MARRIAGE, 1921, CLASSIFIED ACCORDING TO RACE AND SEX OF PETITIONER (UNION).

HEADING.	EUROPEAN.		NATIVE.		ASIATIC.		COLOURED.		ALL RACES.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	
Divorce.....	369	418	22	17	1	—	11	11	401	446	849
Judicial separation....	3	24	—	—	—	2	—	1	3	26	29
Nullity.....	2	1	—	—	—	—	1	—	3	1	4
<b>TOTAL.....</b>	<b>374</b>	<b>442</b>	<b>22</b>	<b>17</b>	<b>1</b>	<b>2</b>	<b>12</b>	<b>12</b>	<b>409</b>	<b>473</b>	<b>882</b>

## (v) DIVORCE CASES CLASSIFIED AS TO NUMBER OF CHILDREN OF PETITIONERS, FROM 1918.

YEAR.	NUMBER OF CHILDREN.					NUMBER OF PETITIONERS.
	None.	One.	Two.	Three.	Four or More.	
1918.....	198	186	92	63	64	553
1919.....	233	178	141	83	94	779
1920.....	288	206	165	94	81	833*
1921.....	340	233	152	87	81	908†

\* Information not available in 59 cases.

† Information not available in 15 cases.

## (vi) DURATION OF MARRIAGE IN DIVORCE CASES, FROM 1918.

YEAR.	DURATION OF MARRIAGE.					NUMBER OF MARRIAGES.
	Under 5 Years.	5-9 Years.	10-14 Years.	15-19 Years.	20 Years and over.	
1918.....	114	153	139	73	74	553
1919.....	154	250	169	102	104	779
1920.....	164	261	212	133	122	892
1921.....	222	233	164	146	141	908

## (vii) AGES OF PETITIONERS IN DIVORCE CASES, FROM 1918.

YEAR.	AGES OF PETITIONERS.						NUMBER OF PETITIONERS.
	Under 21 Years.	21-29 Years.	30-39 Years.	40-49 Years.	50 Years and over.	Un-specified.	
1918.....	14	100	217	94	128	—	553
1919.....	3	100	282	132	49	123	779
1920.....	4	209	311	177	52	139	892
1921.....	16	220	252	169	75	176	908

## CHAPTER X.

### ADMINISTRATION OF JUSTICE.

#### § 1. Criminal Jurisdiction—Lower Courts.

**1. Magistrates' Courts.**—The Union *Magistrates' Courts Act* (No. 32 of 1917) lays down the following limits of punishments which may be imposed by a magistrate's court in any part of the Union:—

*Ordinary summary jurisdiction:—*

Fine not exceeding £50.

Imprisonment with or without hard labour not exceeding six months.

Whipping not exceeding fifteen strokes.

*Increased jurisdiction by reason of remittal:—*

Twice the above limits in case of fine or imprisonment.

The present *Criminal Procedure and Evidence Act* (No. 31 of 1917), which also came into operation on the 1st January, 1918, and which, in connection with the administration of criminal justice, must mainly be looked to, provides that boys under *sixteen* may receive a moderate correction by whipping in lieu of other punishments. This same Act provides also for other forms of punishment, such as in the case of adults detention in farm colonies or inebriate reformatories, and in the case of juveniles or juvenile adults, detention in a juvenile or juvenile adult reformatory, apprenticeship, binding over in recognizances, postponement or suspension of sentences, orders for compensation, caution, and reprimand.

Mention may also be made of the fact that in Natal, previous to the constitution of Union, "occasional courts or branch courts" and in the Cape, Transvaal, and Orange Free State "periodical courts" were held in each district at places some distance away from the seat of magistracy, for the convenience of the public. These courts possessed the same jurisdiction in all respects as those held at the seat of magistracy. This practice is recognized under the new Act (No. 32 of 1917), and all such branch courts are known as "periodical courts," and possess the same criminal jurisdiction as those courts which are held at the seat of magistracy.

**2. Courts of Special Justice of the Peace.**—The Union Act, No. 2 of 1918, consolidates the law relating to the appointment and jurisdiction of special justices of the peace.

In the first place jurisdiction is given by section 3 and the First Schedule to the Act over all statutory offences for which the *maximum* penalty does not exceed a £25 fine, or three months' imprisonment, or both. Such offences are usually of a petty nature. Also, this section and Schedule in effect re-enact, in a briefer form, much of the existing legislation upon the subject. In the Orange Free State alone jurisdiction is given in respect of more than twenty statutes or fractions of statutes which are at present separately enumerated in the body or schedule of several Acts extending the jurisdiction of special justices of the peace [First Schedule (1) of Act].

Secondly, jurisdiction is given in respect of those common law offences such as petty thefts and assaults, which were originally subjects of trial by a special justice of the peace. This presents no difficulty, as the jurisdiction in this respect is practically the same in all the three Provinces which have special justices of the peace [First Schedule (2) (3) (4)].

Thirdly, jurisdiction is given in certain classes of offence which may be roughly classified as rural, e.g. offences in respect of pounds, preservation of game, etc., upon the assumption that the function of a special justice of the peace is mainly to provide for the comparatively simple wants of the countryside. A complete list of these classes of offence is contained in sub-division (8) of the First Schedule to the Bill. Jurisdiction is also given in respect of contraventions of by-laws [First Schedule (6)].

Fourthly, jurisdiction is given in respect of contraventions of regulations made under the Native Labour Regulations Act, No. 15 of 1911, section 23 (1), paragraphs (i), (j) and (k), First Schedule (7).

Finally, in master and servant cases, special justices of the peace are given without restriction the full jurisdiction of a magistrate. This does not increase the punishment which a special justice of the peace may impose, except in the single case of forging a false certificate of character. There are many provisions in the *Master and Servant Acts* as to matters other than the imposition of fine and imprisonment, e.g. the making of orders for the payment of wages (section 3).

Besides this increase in master and servant jurisdiction, the plan adopted has resulted in an incidental increase in some other matters. For example, in the Transvaal special justices of the peace have jurisdiction over all contraventions of Act No. 23 of 1907 (Registration and Control of Dogs), except contraventions of section 7 (3) of that Act, which deals with forgery of dog badges and provides a penalty of two years' imprisonment. The language employed in the Act covers the whole of this statute, including section 7 (3) of that Act. This extension is, however, more apparent than real, since by the proviso to section 3 (1) of the Act a special justice of the peace cannot inflict a greater punishment than a fine of £10 or one month's imprisonment. Any risk that a serious offender might escape with an inadequate punishment by being prosecuted before a special justice of the peace for a serious offence is obviated by section 5 of the Act, which empowers the special justice of the peace, if he discovers the offence to be beyond his jurisdiction, or, though within his jurisdiction, of such a nature as not to be suitable for trial by him, to transmit the proceedings to the magistrate to be dealt with according to law, i.e. to be commenced afresh under the *Criminal Procedure Act*.

By section 3 (2) of the Act, special justices of the peace have been given the same jurisdiction as has been given to magistrates to sentence to whipping male offenders under sixteen years of age.

The Act gives a special justice of the peace jurisdiction to make an order for costs against an offender or complainant, in addition to the fine or imprisonment imposed in the case of an offender (see also s. 23 of the *Criminal Procedure and Evidence Act, 1917*, as to private prosecutions). The Act also authorizes a special justice of the peace to order an offender to make compensation and restitution (see also Ch. XIX of *Criminal Procedure and Evidence Act, 1917*).

Section 3 (1) of the Act is so drawn as to prevent any special jurisdiction being exercised under existing laws in the case of special justice of the peace courts.

As regards the appointment of special justices of the peace and therefore the circumstances which give rise to the constitution of such courts, the Act (s. 1) sets the limit at twenty miles from the seat of magistracy of a district or sub-district.

Magistrates' courts possess either appellate or review jurisdiction in respect of the criminal proceedings held before courts of special justice of the peace. Under the new *Special Justice of the Peace Act*, records of all criminal proceedings before a special justice of the peace will be transmitted to the local magistrate for review. He will possess on such review like powers to those possessed by a provincial division of the Supreme Court in the review of a decision of a magistrates' court. The Act also provides for an appeal to the magistrate's court against a conviction or sentence by a special justice of the peace, with a further appeal to the provincial or local division of the Supreme Court having jurisdiction.

**3. Courts of Native Commissioners and Sub-Commissioners.**—The courts of native commissioners and sub-commissioners exist only in the Transvaal. They were constituted by Ordinance No. 3 of 1902, immediately after the termination of the South African war. No limitation is placed upon the number of such officials who may be appointed, but in practice, where the appointment of a native commissioner is considered advisable in any district, the magistrate acts as such, while sub-commissioners are officers of the Department of Native Affairs, and only exist in districts where it is deemed advisable for the magistrate to act as native commissioner.

The jurisdiction of a native commissioner and of a sub-commissioner is as follows:—

(i) The jurisdiction conferred by Law No. 4 of 1885 in connection with civil disputes in which white persons are involved with tribal natives (Ordinance No. 3 of 1902, s. 2). Further reference is made to this under the heading "Civil Jurisdiction"—§ 3 (3) of this Chapter.

(ii) The summary jurisdiction (but in respect only of offences committed by natives within the commissioner's area of jurisdiction) which a magistrate's court possesses in respect of any offence under the Magistrates' Courts Law and the convictions and sentences of a court of native commissioner or sub-commissioner are subject to the same law as to review and appeal as the law governing reviews of and appeals from a decision of a magistrate's court in a criminal case.

(iii) As indicated above, the native commissioner and sub-commissioner is *ex officio* a resident justice of the peace within the district for which he is appointed, exclusive of an area of twenty miles from the seat of magistracy. As such, therefore, he has the criminal jurisdiction of a resident justice of the peace.

## § 2. Criminal Jurisdiction—Superior Courts.

1. **Divisions of the Supreme Court.**—Part VI of the *South Africa Act* (s. 95 to s. 112) left the superior courts of the Union in precisely the same position as regards criminal jurisdiction as before the establishment of the Union. All that was changed was the nomenclature. A Supreme Court of South Africa was constituted in name, and an Appellate Division thereof was created (s. 96); but to that division appeals only lay after special leave to appeal to it had been given (s. 103 and s. 105). The three Supreme Courts of the Cape of Good Hope, Natal, and the Transvaal became provincial divisions of the new Supreme Court of South Africa; the High Court of the Orange River Colony became the Provincial Division of the Orange Free State; the Eastern Districts Court of the Cape became the Eastern Districts Local Division; the High Court of Griqualand became the Griqualand West Local Division; and the Witwatersrand High Court became the Witwatersrand Local Division. Circuit Courts in every Province also became local divisions of the Union Supreme Court.

2. **Jurisdiction.**—(i) *Provincial and Local Divisions.*—The several Supreme Courts, High Courts, and Circuit Courts have continued after the establishment of the Union to possess as provincial or local divisions (as the case may be) the same criminal jurisdiction which they had previously possessed. In other words, presided over by a judge, and with a jury to determine questions of fact, such a superior court had before the establishment of the Union, and has now, practically unlimited criminal jurisdiction within the area for which it was constituted. This jurisdiction, except in very special cases, comes into operation on presentation to the court of an indictment by the Attorney-General of the Province, or in the case of the Eastern Districts Court, an indictment by the Solicitor-General; and such indictment is presented after the accused has been committed for trial by a magistrate holding in a semi-judicial and semi-administrative capacity an inquiry called a preparatory examination.

The existing jurisdiction of these superior courts has been indirectly confirmed by the Union Parliament in section 4 of the *Criminal Procedure and Evidence Act, 1917*, which lays down that the jurisdiction of the several superior courts in respect of the trial of persons accused of any offence, is prescribed in the laws severally relating to the constitution and jurisdiction of those courts. The same Act recognizes two other classes of superior court for the trial of criminal cases, (a) the Native High Court of Natal as a permanent court, and (b) a special criminal court constituted by the Government *ad hoc* on the request of the Attorney-General for the trial of certain classes of cases where there is ground to believe that the ends of justice may be defeated by a trial before a jury.

(ii) *Native High Court.*—The Native High Court as at present constituted derives its jurisdiction from Act No. 49 of 1898 of Natal (s. 29 to s. 31), as amended by Act No. 47 of 1901 (s. 5 and s. 6), and as further amended by Act No. 30 of 1910 (Natal, s. 1 to s. 2). The court consists of three judges, and tries serious criminal cases where the accused are natives. By the amending legislation its jurisdiction in such cases was extended so as to exclude that of other courts, and to include jurisdiction in capital cases also against natives.

(iii) *Special Court.*—The special criminal court originated in a provision of Act No. 27 of 1914, whereby in the circumstances above described charges of treason, sedition, public violence, and certain offences arising out of industrial disputes, might be dealt with by two or three judges without the aid of a jury. That provision was utilized in 1915 for the trial of numerous charges of treason and sedition arising out of the rebellion of 1914, as well as several charges of public violence arising out of the anti-German riots. In re-enacting the provision in Chapter XII of the *Criminal Procedure and Evidence Act, 1917*, the legislature added to these classes of offences contraventions of laws for the prevention of illicit dealing in and possession of precious metals, precious stones, and of the supply of intoxicating liquor to natives or coloured persons.

The statutes conferring criminal jurisdiction on the provincial and local divisions described above are as follows:—*Cape*: The Charter of Justice, sections 30 and 39. Ordinance No. 40 of 1828, sections 1, 2, and 3. Act No. 35 of 1896, section 13 as to the Eastern Districts. Act No. 39 of 1877, section 10 as to the Griqualand local division. *Natal*: Act No. 39 of 1896, sections 6, 7, and 8. *Transvaal*: Ordinance No. 10 of 1903, sections 1 and 6. *Orange Free State*: Ordinance No. 4 of 1902, sections 3 and 21.

3. **Jurisdiction under Act No. 31 of 1917.**—Under the *Criminal Procedure and Evidence Act, No. 31 of 1917*, the superior courts continue the practice of trying indictments presented by the Attorney-General, or (in the Eastern Districts of the Cape) by the Solicitor-General. A superior court also tries an indictment presented—but presented only rarely—by one of that limited class of persons who are empowered to institute private prosecutions after the Attorney-General (or Solicitor-General) has certified that he declines to prosecute. The indictments are presented after consideration of preparatory examinations and the committal of the accused for trial by a magistrate. Except in the case of the Native High

Court and the Special Criminal Court in the circumstances above described—and with one further exception (see below)—the trial is conducted before a jury of nine men, of whom seven at least must be unanimous as to the verdict returned. This limitation on absolute unanimity is a modification of the law in the Cape and the Orange Free State. After a verdict, the court is limited as to the punishment by the provisions of the common law as to the offence, or in case of a statutory offence, by the terms of the statute creating the offence. But subject to the common law or the statute, the court *must* impose the death sentence on convictions for murder except where the accused is a woman convicted of the murder of her newly-born child or is a person under sixteen years of age, and it *may* impose the death sentence on a conviction for treason or for rape. In other cases the court may, subject to the common law or the particular statute concerned, impose fine or imprisonment or whipping or all such punishments, and may also impose those special classes of detention and punishment which are described above in connection with magistrates' courts. On a third conviction for certain scheduled offences, a superior court may declare the offender to be an habitual criminal, and impose upon him an indeterminate sentence.

The other exception to trial before a superior court without a jury is contained in section 216 of the *Criminal Procedure and Evidence Act*, whereby a judge must on notice and application by the accused try him without a jury, and may in his discretion call to his assistance as assessors on fact two persons being magistrates, native commissioners or sub-commissioners, or justices of the peace.

**4. Appellate Jurisdiction.**—The decisions of superior courts in the trial of criminal cases are, under section 368 of the *Criminal Procedure and Evidence Act*, 1917, subject to the appellate jurisdiction of the Appellate Division of the Supreme Court constituted under section 96 of the *South Africa Act*. In the case of the Natal Native High Court, this jurisdiction may be on both fact and law, though on points of law the provincial division of Natal exercises an intermediate jurisdiction on questions specially reserved. In the cases of the provincial and local divisions, the jurisdiction of the Appellate Division in criminal cases is limited in practice to decisions on points of law. Such jurisdiction may be exercised on application for (a) arrest of judgment on the ground that the indictment discloses no offence; or (b) on the consideration of a special entry on the record made on the application of the accused or his counsel, in which an allegation of irregularity or illegality in the proceedings is made, the nature of which is indicated; or (c) on questions of law reserved at the trial for the consideration of the Appellate Division by the presiding judge either on his own motion or at the request of the prosecution or of the defence. The Appellate Court may either confirm the judgment of the trial court, or set it aside, or remit the case to the court below for judgment to be given, if it has not already been given, or itself give such judgment as ought to have been given, or make such other order as justice may require (s. 374).

As regards the decisions of magistrates' and other inferior courts in criminal cases, appeals against which are heard and determined, as described below, by the provincial and local divisions, the Appellate Division only exercises jurisdiction when special leave to appeal has been given by it from the judgment on appeal of the provincial or local division (*South Africa Act*, s. 105). One exception must be made to this statement. Under section 5 of Act No. 1 of 1911 the Appellate Division, if both the prosecutor and accused agree in writing, has jurisdiction to hear and determine a criminal appeal without any intermediate appeal being heard by a provincial division.

As above indicated, every decision involving a conviction in a criminal case by a magistrate's court, whether on law or fact and whether against the conviction or against the sentence passed, is subject to an appeal by the convicted person to the provincial division within the area of jurisdiction covering the magistrate's court, or if the court sat within the area of jurisdiction of the Griqualand West Local Division, is subject to appeal to that division, or, if it sat within the area of jurisdiction of the Eastern Districts Local Division, is subject to appeal to that division. The court to which such an appeal lies may affirm, alter, or reverse the conviction, or may affirm, reduce, or vary the sentence imposed, or may set aside or correct the proceedings of the magistrate's court, or remit the case to that court with such instructions relative to the taking of further evidence and generally as to any further proceedings to be taken as the Appellate Court may think fit to give. [S. 100 as read with section 95 (2) of Act No. 32 of 1917.]

In addition to the appeal jurisdiction of the provincial and local divisions, Chapter XIV of Act No. 32 of 1917 confers upon them a special jurisdiction to review the proceedings of any magistrate's court whenever a sentence of (a) imprisonment or other form of detention exceeding three months is imposed, or (b) a fine exceeding £25 is inflicted, or (c) whipping is ordered as a punishment except in the case of boys under sixteen years. The records are sent by the magistrate to the registrar of the provincial or local division concerned and submitted by the latter for consideration of a judge in chambers, who, if satisfied that the proceedings are in accordance with real and substantial justice, gives his certificate to that effect. Otherwise the case is dealt with in open court, which possesses the same powers as

it possesses on appeal, and may direct the case to be argued. (S. 93 to a. 95 of Act No. 32 of 1917.)

The only appeal by the Crown in any criminal case in a magistrate's court is when a criminal summons or charge is dismissed on exception or on the ground that it is bad in law or that it discloses no offence. In such case the Attorney-General may appeal against such dismissal [s. 100 (2) of Act No. 32 of 1917]. The Attorney-General may also under section 106 of the same Act bring the decision of a magistrate's court in a criminal case in review before the provincial division. The provincial division's ruling on such review does not affect the decision in the particular case, but serves for future guidance of magistrates' courts.

As indicated in § 1 (3) above, the decisions in criminal cases of native commissioners and sub-commissioners in the Transvaal are subject to appeal to or review by the provincial division, just as those of a magistrate's court; and the provincial division may make like orders on any such appeal.

In addition, every provincial division under the statute under which it may have been constituted prior to the constitution of the Union, has jurisdiction to review the proceedings of any inferior court on the ground that such inferior court has exceeded its jurisdiction or has been guilty of gross irregularity or has admitted illegal or incompetent evidence or rejected legal and competent evidence or has shown malice or corruption.

5. **Advocates, Attorneys, etc.**—The following table gives the number of advocates, attorneys, notaries, and conveyancers admitted into the several divisions of the Supreme Court during 1921, and the total number on the roll at the 31st December of that year:—

**ADMISSIONS OF ADVOCATES, ATTORNEYS, ETC., INTO DIVISIONS OF SUPREME COURT, 1921.**

DIVISION.	ADVOCATES.		ATTORNEYS.		NOTARIES.		CONVEYANCERS.	
	Admitted, 1921.	Total on Roll, Dec., 1921.	Admitted, 1921.	Total on Roll, Dec., 1921.	Admitted, 1921.	Total on Roll, Dec., 1921.	Admitted, 1921.	Total on Roll, Dec., 1921.
Cape.....	4	388	23	1,094	20	1,467	2	830
Eastern Districts.....	2	110	10	236	—	—	—	—
Griqualand West.....	3	77	3	115	2	65	4	59
Natal.....	1	50	1	137	2	111	8	82
Transvaal.....	12	222	34	1,024	25	646	15	514
Orange Free State.....	4	72	10	337	9	229	9	206
UNION.....	26	928	81	3,543	58	2,518	38	1,231

**§ 3. Civil Jurisdiction—Lower Courts.**

1. **Magistrates' Courts.**—Up to the 1st January, 1918, the civil jurisdiction of magistrates' courts rested upon and was determined by the provisions of that considerable number of statutes to which reference has been made in describing the criminal jurisdiction of these courts. On the 1st January, 1918, the new consolidating and amending *Magistrates' Courts Act* (No. 32 of 1917) came into operation, and imposed uniformity in the jurisdiction of these courts throughout the Union.

The Act confers upon a magistrate's court jurisdiction (s. 29)—

- (a) in actions in which is claimed the delivery or transfer of any property movable or immovable not exceeding £200 in value;
- (b) in actions of ejectment against the occupier of land or premises within the district if the right of occupation does not exceed £200 in clear value to the occupier;
- (c) in other actions (except those specifically excluded) where the claim or value of the matter in dispute does not exceed £200.

The following classes of actions, however, are specifically excluded from the jurisdiction of the magistrate's court, however little may be the amount at stake, viz., actions for or concerning—

- (a) divorce and judicial separation;
- (b) the validity and interpretation of wills and testamentary documents;
- (c) status of persons in respect of mental capacity;
- (d) specific performance of acts without alternative of damages, except as to rendering of accounts or delivery of property not exceeding £200;
- (e) decree of perpetual silence;
- (f) provisional sentence.

Except as to these specially excluded actions, a magistrate's court may acquire jurisdiction by the written consent of both parties, whatever may be the amount or value in dispute.

Incidental to all this jurisdiction in civil matters a magistrate's court may issue orders of personal arrest of persons suspected of absconding, attachment of property, interdicts prohibiting the removal of furniture which is subject to the landlord's hypothec for rent, and may enforce its payments not only by execution against movables primarily and afterwards against immovable property which is not subject to prior charges, but also by civil imprisonment, garnisheeing or attachment of debts due from third persons, and by order for payment in instalments.

Appeals lie to the provincial division of the Supreme Court from final judgments, or orders having the effect of finality, and from decisions over-ruling exceptions; the Griqualand West and the Eastern Districts Local Divisions having concurrent jurisdiction with the Cape Provincial Division in respect of decisions of courts within the respective areas of jurisdiction. The parties, may, however, agree in writing before the hearing that there shall be no appeal, and that the judgment of the magistrate's court shall be final. Formerly appeal lay from a magistrate's court to a circuit court, except in the Transvaal. This is no longer possible under the present Act.

**2. Courts of Special Justice of the Peace.**—These courts have possessed no civil jurisdiction in any Province under their respective laws. The *Special Justices of the Peace Act*, No. 2 of 1918, gives these courts, when sitting more than twenty-five miles from any place where a magistrate's court is held (whether as a periodical court or at the seat of magistracy), jurisdiction to try a civil action in which is claimed a liquidated sum not exceeding £25; but if the sum claimed exceeds £5 the defendant can insist on having the action removed to the magistrate's court. Appeals in civil matters from a court of special justice of the peace lie as in criminal matters to the magistrate's court, with a further appeal to the provincial division of the Supreme Court.

**3. Courts of Native Commissioners.**—The courts of Native Commissioners or Sub-Commissioners in the Transvaal have certain civil jurisdiction by virtue of Ordinance No. 3 of 1902 and Law No. 4 of 1885 (a. 4), to decide civil disputes between native and native belonging to tribes in the neighbourhood or at the suit of a European against a native of such a tribe. An appeal lies to the Transvaal Provincial Division against the decision of the native commissioner or sub-commissioner as if it were a decision of a magistrate's court.

**4. Record of Civil Cases, Inferior Courts.**—The collection of statistics under this head was suspended for financial reasons on the 31st December, 1921. The data for their preparation were received for 1921, but tabulation was not proceeded with. Full particulars for 1920 will be found in the fourth issue of this Year Book.

## § 4. Civil Jurisdiction—Superior Courts.

**1. Provincial and Local Divisions.**—The manner in which the several superior courts, viz., the Appellate Division, the Provincial Divisions, and the Local Divisions (including circuit courts) came into being at the establishment of the Union, by virtue of Part VI of the *South Africa Act*, is described above (§ 2). The provincial division in each Province has unlimited jurisdiction throughout the Province in respect of all causes or matters arising within that area; while each local division has jurisdiction (slightly restricted in some respects) in regard to causes arising and persons residing within its defined area. For example, the Witwatersrand Local Division, while it has concurrent jurisdiction with the provincial division so long as the cause or matter arises within its defined limits, is expressly excluded from exercising any appellate jurisdiction or from reviewing the proceedings of inferior courts (Proclamation No. 14 of 1902, s. 27), and in regard to insolvency and certain other matters its jurisdiction is that of a circuit court only. The Eastern Districts Local Division has certain appellate and review jurisdiction (see § 2 above), but in regard to insolvency, registration of title, administration of estates, and certain other matters, its jurisdiction is limited to that of a circuit court only (Act No. 35 of 1896, s. 25). The limitations placed upon the Griqualand West Local Division are the same as those placed on the Eastern Districts Local Division (Act No. 39 of 1877, s. 10, and Act No. 35 of 1896, s. 18).

The provincial divisions sit at Cape Town, Pietermaritzburg, Pretoria, and Bloemfontein respectively, the Cape of Good Hope Division consisting of five judges, the Natal Division of four judges, the Transvaal Division of seven judges, and the Orange Free State of three judges. The Eastern Districts Local Division consists of three judges; the Griqualand West Local Division of one judge; and one judge of the Provincial Division may preside over any sitting of the Witwatersrand Local Division.

In all the Cape divisions, the court may sit with one judge only as a divisional court, and under Act No. 10 of 1917 as many divisional courts as there are judges available to preside may sit at the same time for the dispatch of civil business. In the Transvaal Provincial Division (except in vacation time, when one judge constitutes a quorum) the quorum of the court is two, except in motions, applications, and trial cases where the defendant is in default, when one judge sitting in chambers constitutes the court. By Ordinance No. 31 of 1904 (s. 1), however, a divisional court of one judge may exercise the civil jurisdiction of the court in any trial action if both parties consent, or if the action is remitted to such a divisional court for trial by order of the full court. A like provision exists as regards the Natal Provincial Division [Act No. 39 of 1896 (Natal), s. 9]. In Natal also, one judge sitting in chambers, or the like, may exercise all the powers of the full court except in arguments on exceptions to pleadings, applications for new trials, objections to accounts in insolvency, and in the administration of estates, rehabilitations in insolvency, and in trials not falling within section 9 of the Act. In those cases the full court is necessary.

In the Orange Free State Provincial Division the quorum in civil proceedings is as in the Transvaal, both as to term, time, and vacation (Ordinance No. 13 of 1904, s. 4 and a. 5).

Further provisions as to jurisdiction, transfers of suits, etc., are as follows:—

- (a) By section 112 of the *South Africa Act*, the judgment or order of any one division of the Supreme Court may be enforced outside the area of jurisdiction of such division, by lodging with the registrar of the provincial division having jurisdiction in the place where it is desired to enforce the judgment an authenticated copy of the judgment or order. The registrar, on proof that the judgment or order is still unsatisfied, will issue process for the execution thereof, and such process will be executed as if it had been issued originally from that division.
- (b) Any provincial or local division may, under section 113 of the *South Africa Act*, transfer a civil suit to another division when it is satisfied that it can be more conveniently or fitly heard or determined in that other division, and that this division will proceed with the suit as if it had originally been commenced therein.
- (c) By section 3 of Act No. 27 of 1912, a civil process for commencing civil proceedings may, subject to compliance with certain forms, be served throughout the Union upon any defendant who resides or is for the time being in the Union, and is subject also to the jurisdiction of the Court.
- (d) When a defendant resides in the Union, it is provided by section 5 of Act No. 27 of 1912 that no attachment of his person or property to found jurisdiction is to be ordered, and if service of a summons can be effected in any other way, no service of a civil summons on a defendant by way of edictal citation is to be authorized.
- (e) A writ of arrest of the person, issued out of any superior court in connection with civil proceedings, may be executed throughout the Union by transmitting the writ to the proper officer at the place where the person to be arrested resides or is for the time being.

**2. Appellate Division.**—In addition to the provincial and local divisions, there exists as indicated above, in § 2 (4), the Appellate Division of the Supreme Court, the work of which is mainly that of finally determining civil causes and matters. This division was created by section 96 of the *South Africa Act*, and consists of the Chief Justice of South Africa, two ordinary judges of appeal (i.e. two judges appointed to the Appellate Division only), and two additional judges of appeal, these additional judges being members of one or other of the other divisions. Appeals which before the establishment of the Union lay to the Supreme or High Courts of the late Colony go direct to the Appellate Division, except in the case of appeals against interlocutory orders of a single judge, orders on application, motions or petitions, judgments on summonses for provisional sentence, and judgments as to costs only. Those excepted matters are still subject to appeal, first to the provincial division, unless, under section 5 of Act No. 1 of 1911, the parties have agreed to go direct to the Appellate Division and dispense with an intermediate appeal. Where before the establishment of the Union an appeal lay to the Privy Council the appeal now only lies to the Appellate Division, whose decision is final, unless the Privy Council itself grants special leave to appeal to it from the Appellate Division's decision (s. 104 and s. 105 of the *South Africa Act*). But while before the establishment of the Union there must have been a certain amount at stake to enable any person to appeal as of right to the Privy Council, the substituted right of appeal to the Appellate Division is not limited by reason of the amount or value in dispute. Appeals to provincial or local divisions on judgments of inferior courts cannot be taken further to the Appellate Division unless the latter gives special leave.

The quorum of the Appellate Division is five when the appeal is from a court of two or more judges, and three when the appeal is from the decision of one judge (*South Africa*



Act, s. 110). In vacation time one judge of the Appellate Division may hear and determine applications for special leave to appeal or for leave to proceed *in forma pauperis*, or for any interlocutory order (Act No. 1 of 1911, s. 6).

The process of the Appellate Division runs throughout the Union. As all its judgments have full effect in every Province, it naturally follows that they must be executed as if they were original judgments or orders of a provincial division (*South Africa Act, s. 111*).

The Chief Justice and judges of the Appellate Division, as judges of the Supreme Court of South Africa, collaborate with the judges of the other divisions in framing rules of court for the conduct of the proceedings in any provincial or local division.

**3. Record of Civil Cases, Superior Courts.**—The following table indicates the volume of civil business transacted in the Supreme Courts of the Union from the year 1918 :—

**NUMBER OF CASES, JUDGMENTS, ETC., 1918 TO 1921.**

Year.	Cases, including Interdicts and Counterclaims.		Judgment for Plaintiff.		Judgment for Defendant.	Cases Withdrawn.	Defended Cases.	Undeferred Cases.	Interdicts (Final).	
	No.	Amount.	No.	Amount.					Granted.	Refused or Withdrawn.
1918.	1,198	909,408	625	857,087	112	265	201	536	157	39
1919.	1,367	1,258,178	610	1,097,598	123	409	202	531	174	51
1920.	1,913	1,733,451	635	997,062	83	650	244	474	181	64
1921.	3,720	2,196,999	1,147	961,373	109	609	1,000	2,720	68	11

**§ 5. Source, Development, and Nature of the Law of South Africa.**

**1. The Roman-Dutch Law.**—The foundation of the law of South Africa is that system, known as the *Roman-Dutch Law*, which existed in the Provinces of Holland during the time of the Republic of the United Netherlands. This system was derived from Germanic custom and Roman law, and may be said to have consisted of Roman law modified and adapted to the requirements of Holland by well established custom and by statute. The States of Holland in a Resolution of the 25th May, 1735, enacted that the Court of Holland, as all other tribunals in the Provinces of Holland and West Friesland, must do justice according to the laws and ordinances of the land and also according to the privileges and old-established customs and usages, and, on failure of these, according to the written (i.e. the Roman) law. The Dutch jurist Van der Linden (1756-1835), one of the latest expounders of the Roman-Dutch system before its supersession in Holland in 1809 by the *Code Napoleon*, wrote (*Koopmans-Handboek*, I.1.4) that to discover what was the law in any particular case, it must first be inquired whether there was any particular law of the land on the matter, or any local ordinance or regulation having the force of law, or any established custom; and that on failure of these, the Roman law, as a model of wisdom and justice, should be called in to supply the *casus omissus*.

**2. Introduction of Roman-Dutch Law by Dutch Pioneers.**—The principles of this system were carried by the early Dutch pioneers into their foreign settlements. In this manner it was, at Van Riebeeck's occupation on behalf of the Dutch East India Company in 1652, introduced into the Cape of Good Hope. Subsequent to the occupation, amendments or additions found requisite to adapt the law of the mother country to the requirements of the settlement were provided first by the laws or rules issued by the Directorate of the East India Company in Holland or by the Company through its Governor-General in Batavia, secondly by the enactments of the local Governor, and thirdly, by *Placaats* of the States-General and the States of Holland. This last-mentioned method, however, was but little resorted to in view of the legislative powers which had been delegated to the Company. How far, if at all, any legislation of the parent country passed since the date of the occupation and not expressly applied to the settlement became part of the law of the Cape is an interesting question upon which legal opinion is not unanimous.

**3. Retention of Roman-Dutch Law at Cession of Cape to British.**—At its final cession to the British in 1814 the settlement retained its own laws, the basis of which, as already shown, was the *Roman-Dutch* system. The presumption is that every one of the laws existing at that date is still in force where not expressly repealed by a competent legislature. The *Roman-Dutch* law, however, with its reverence for immemorial custom and ancient

usage, permits of the abrogation of law not only by long continued adverse custom, but even in some circumstances by mere desuetude. But while both the Roman law and Dutch practice recognized that even a statute might be repealed, not only by express legislative enactment, but by the tacit disuse of a whole community, a distinction would probably be drawn by South African Courts in this respect between statutes in force before 1806 and those passed at a later date. "I should have great difficulty," said Chief Justice De Villiers in the case of *Seaville versus Colley* (9 Cape Supreme Court Reports at page 44), referring to statutes of the latter class, "in holding that disuse for any length of time would be sufficient to abrogate them. They were promulgated at the time when they were enacted and have all been published in authentic form. If such a statute is no longer required, the Legislature, which must be presumed to be acquainted with the body of its own statute laws, is at hand to enact the repeal."

The laws and regulations issued by the Dutch East India Company and the Batavian Government having in general been of ephemeral interest, and the legislative authority of the States-General having been but little invoked on behalf of the settlement, the law as it existed in 1806 is for the most part to be found in the expositions of *Roman-Dutch* law at that time in existence and considered as authoritative. Amongst these the publications of Grotius, Vinnius, Matthaëus, Groenewegen, Van Leeuwen, U. Huber, Z. Huber, P. Voet, J. Voet, Bynkershoek, Van der Keessel, and Van der Linden have been regarded in South African legal practice as of great authority.

**4. Extension of Roman-Dutch Law.—Natal.**—In 1844 the District of Natal became a dependency of the Cape Colony with a Lieutenant-Governor and Executive Council, in whom, however, no legislative authority was vested. Ordinance No. 12 of 1845 of the Cape of Good Hope, in the legislative authority of which the power to make laws for the dependency resided until 1848, enacted that "the system, code, or body of law commonly called the *Roman-Dutch Law* as the same has been and is accepted by the tribunals of the Colony of the Cape of Good Hope shall be and the same is hereby established as the law for the time being of the District of Natal." In 1856 Natal was created a separate Colony with its own Legislative Authority, but the *Roman-Dutch* system has remained the common law. *Transvaal.*—In the Transvaal it was provided in 1859 by an annexure to the Grondwet that the law book of Van der Linden should remain, so far as it was not in conflict with the Grondwet and other laws or Volksraad resolution, the law book of the State; and that, whenever that book did not treat any matter with sufficient clearness or omitted any subject, then the law book of Simon van Leeuwen and the introduction of Hugo de Groot should be binding. Subsequent to the British annexation it was enacted by Section 17 of Proclamation No. 14 of 1902 that the *Roman-Dutch Law*, except so far as modified by legislative enactments, should be the law of the Transvaal Colony. *Orange Free State.*—The Constitution of the Republic of the Orange Free State adopted the *Roman-Dutch Law* as the fundamental law of the State. This, it was later explained, was to be taken to mean the *Roman-Dutch Law* only in so far as it was found in force in the Cape Colony at the time of the appointment of the English Judges in the place of the previously existing Council of Justice, and was not to be taken to include any new laws and institutions, local or general, which may have been introduced into Holland and which are not based upon, or are in conflict with, the old *Roman-Dutch Law* as expounded in the text-books of Voet, Van Leeuwen, Grotius, De Papegaai, Morula, Lybrecht, Van der Linden, Van der Keessel and the authorities cited by them. The Ordinance No. 3 of 1902 enacted in Section 1 that the *Roman-Dutch Law* shall be the common law of the Colony in so far as it has been introduced into and is applicable to South Africa. *Rhodesia.*—By the Southern Rhodesia Order-in-Council of the 20th October, 1898, the law in force in the Cape Colony on the 10th June, 1891, except in so far as that law had been modified by any Order-in-Council, Proclamation, Regulation or Ordinance in force at the date of commencement, was declared to be the law of Southern Rhodesia.

**5. Modification of Roman-Dutch Law.**—The adaptability of *Roman-Dutch Law* to the conditions of present day civilization has been well exemplified in South Africa by the history of its development and by its present vigorous vitality. Nevertheless, with the advance of civilization, new situations, not within the contemplation of the lawgiver of a century ago, frequently arise, and public opinion in matters affecting human conduct is constantly undergoing change. Alterations or adaptations of law to meet new conditions and the additional requirements of society in the matter of rules of human conduct are in the main met by the enactments of Legislatures and by the adaptation by judges of established principles to new situations and conditions. By these means the *Roman-Dutch Law*, like every other system of law operative in a progressive community, is constantly undergoing development and change.

**6. Legislatures.**—By the *South Africa Act*, 1909, the Legislatures of the Colonies of the Cape of Good Hope, Natal, the Transvaal, and the Orange Free State were abolished, and a Parliament was constituted for the Union, consisting of the King, the Senate and

the House of Assembly. In addition a legislative body was created for each of the four Provinces of the Union, styled a *Provincial Council*, with power to pass Ordinances on matters within its jurisdiction. Section 135 of the *South Africa Act* provided for the continuation of all laws existing in the respective Provinces of the Union until repealed or amended by Parliament, or, in respect of matters within their jurisdiction, by the Provincial Councils. The work of the Union Parliament has already resulted in the codification on various important subjects of the differing statutory laws of the various Provinces.

The Imperial Parliament, as the supreme legislating body for the British Dominions, retains the power of legislating for the Union of South Africa in common with other parts of the British Dominions. This power, however, is not in practice exercised in respect of any matter properly coming within the scope of the functions of the legislative authority of a self-governing dominion.

**7. Influence of English Law.**—The law of South Africa has been widely influenced, and its more recent developments to meet the requirements of modern society largely moulded, by the law of England. The result of this influence is to be seen both in the statutes of the local legislature and in the body of precedent formed by judicial decisions and frequently but inaccurately known as judge-made law. With the supersession of the Roman-Dutch system in the Netherlands by the adoption of the *Code Napoleon* in 1809, the further development of that system had ceased and colonial legislators and jurists could no longer look to the mother country for guidance in the matter of the expansion and extension of the law necessary to adapt it to the requirements of an advancing community. Consequently when a precedent for some alteration or expansion of the law was required, legislators and jurists, seeing no advantage in resorting to Holland where an alien system now obtained, had recourse to the law of England for assistance. This process found no inconsiderable encouragement from the fact that many of the earlier judges and practitioners were trained under the English system and not unnaturally resorted with greater freedom to that system than to one which, by reason of its uncodified condition and of its being written in a foreign language, was not easy of ascertainment. The introduction of the English Jury system and the general adoption of the English rules of evidence and procedure, the conforming of the usages of commerce to that obtaining in the United Kingdom, the rise of corporations of a character unknown to the earlier jurisprudence, the recognition of the essential justice of the British system of criminology, and the existence of the Privy Council as the ultimate resort of an aggrieved litigant have largely been instrumental in aiding the assimilation into the body of the common law of South Africa of rules and methods of the law of England.

**8. Present Condition of Common Law.**—Nevertheless, apart from statute, the law of South Africa as it exists to-day is essentially the *Roman-Dutch* system. The exposition and development of that system, influenced by English law and local usage, has resulted in a symmetrical and lucid body of law, on the one hand, by virtue of its reverence for local usage, largely freed of those provisions which the general consensus of a more enlightened age has disapproved, and on the other hand showing a singular absence of those subtleties which not uncommonly accrue in the course of their development to systems of more recent origin. The gradual decadence of *Roman-Dutch Law* in other settlements into which it was introduced, which in 1916 led in British Guiana to legislation almost completely displacing it, has found no counterpart in South Africa where, under the impetus given by the creation of one Appeal Court for the whole Union, it may confidently be expected to continue to provide a system pre-eminently suited to the conditions of the country.

## § 6. Union Department of Justice.

**1. Constitution of Department.**—A Ministry of Justice was created at the establishment of the Union, in substitution for the practice previously in force in each of the Colonies under which the Attorney-General had been a member of the Ministry, and had also assumed ministerial responsibility for the Law Department of the Colony. The system in force in the Union is that set out in section 139 of the *South Africa Act*, which is as follows:—

The administration of justice throughout the Union shall be under the control of the Minister of State, in whom shall be vested all powers, authorities, and functions, which shall at the establishment of the Union be vested in the Attorney-General of the Colonies, save and except all powers, authorities, and functions relating to the prosecution of crimes and offences, which shall in each Province be vested in an officer to be appointed by the Governor-General-in-Council, and styled the Attorney-General of the province, who shall also discharge such other duties as may be assigned to him by the Governor-General-in-Council: Provided that in the province

of the Cape of Good Hope the Solicitor-General for the Eastern Districts and the Crown Prosecutor for Griqualand West shall respectively continue to exercise the powers and duties by law vested in them at the time of the establishment of the Union.

This section was amended by section 2 of Act No. 14 of 1914, so as to substitute Attorney-General for Minister as *curator ad litem* of lunatics.

Particulars as to the functions of the Union Department of Justice are given in Chapter II, and particulars as to the cost of the administration are given in Chapter XXIII (B).

The permanent head of the Department is the Secretary for Justice.

**2. Statistical Service.**—The new system of collecting criminal statistics which was inaugurated on 1st January, 1921, has proved a complete success, and statistics relating to persons brought to trial in the Union and South-West Africa are now furnished by the Statistics Office to the Commissioner of Police for administrative purposes within fifteen days of the close of each month, and a consolidated annual return is available within one month of the close of the year. The figures are also published in the *Monthly Bulletin of Union Statistics*.

The system involves the completion of a form setting forth the race, sex, age, nationality, birthplace, occupation, offence and result of trial of every person arrested, summoned or warned, and the gist of the information obtained is set out in § 7 below.

Owing to financial stringency the Government decided to discontinue the collection of Penological Statistics. Figures relating to crime as affected by environment, antecedents, drink, etc., are therefore not available; but from other sources it has been found possible to differentiate between serious crime committed in industrial and rural areas. For the same reason the collection of data respecting civil actions has also been suspended, as stated in § 3, paragraph 4, above.

**3. Judges and Staff of the Supreme Court.**—The names of the Judges and Registrars of the several divisions of the Supreme Court of the Union are given below —

#### SUPERIOR COURTS AND JUDICIARY OF THE UNION.

##### Appellate Court:—

Chief Justice.....	Sir J. Rose-Innes, P.C., K.C.M.G.
Judge of Appeal.....	Sir W. H. Solomon, K.C.S.I., K.C.M.G.
Judges of Appeal.....	Sir J. G. Kotzé, Kt., Hon. J. de Villiers, Sir H. H. Juta, Kt.

##### Supreme Court, Provincial and Local Divisions:—

Judge-President (Cape of Good Hope).....	Hon. M. W. Searle.
"    (Transvaal).....	Sir J. W. Wessels, Kt.
"    (Natal).....	Sir J. C. Dove-Wilson, Kt.
"    (Orange Free State).....	Hon. J. E. R. de Villiers.
"    (Eastern Districts).....	Sir T. L. Graham, Kt.
Puisne Judge (Cape of Good Hope).....	Hon. E. F. Watermeyer.
"    ".....	Hon. F. G. Gardiner.
"    ".....	Hon. L. E. Benjamin.
"    ".....	Hon. H. S. van Zyl.
"    (Griqualand West).....	Sir J. H. Lange, Kt.
"    (Eastern Districts).....	Hon. F. A. Hutton.
"    ".....	Hon. V. Sampson.
"    (Transvaal).....	Sir A. W. Mason.
"    ".....	Hon. J. S. Curlewis.
"    ".....	Hon. C. G. Ward.
"    ".....	Hon. B. Gregorowski.
"    ".....	Hon. D. de Waal.
"    ".....	Hon. J. Stratford.
"    (Natal).....	Hon. T. F. Carter.
"    ".....	Hon. K. H. Hathorn.
"    ".....	Hon. F. S. Tatham.
"    (Orange Free State).....	Hon. D. Ward.
"    ".....	Hon. A. J. McGregor.

##### Native High Court, Natal:—

Judge President.....	H. G. Boshoff.
Judge.....	J. C. C. Chadwick.
".....	A. W. Leslie.
".....	F. A. Farrar.

## REGISTRARS OF COURTS.

Appellate Court.....	I. G. Horak.
Cape of Good Hope:—	
Cape Town.....	R. G. Russouw.
Grahamstown (Eastern Districts).....	A. M. Black.
Kimberley (Griqualand West).....	T. O'Hagan (Assistant Registrar).
Transvaal:—	
Pretoria.....	F. L. C. B. Juta.
Johannesburg (Local Division).....	J. C. Hinsbeeck (Assistant Registrar).
Natal.....	K. W. McAlister.
Orange Free State.....	W. H. Fitchett.
Native High Court (Natal).....	W. H. D. Goss.

**4. Sheriffs.**—(i) *Appointment and Functions.*—In each of the Provinces of the Union there is a Sheriff, who is an officer of the Public Service, and whose duties are to execute, either by himself or by deputies appointed by him and duly authorized under his hand and seal, the sentences, decrees, judgments, writs, summonses, rules, orders, warrants, commands, and processes of any division of the Supreme Court within his Province. The Charter of Justice of the Colony of the Cape of Good Hope sets out in section 27 that “the Sheriff shall by himself or his sufficient deputies, to be by him appointed and duly authorized under his hand and seal, and for whom he shall be responsible during his continuance in such office, execute, and the said Sheriff, by himself and his said deputies, are hereby authorized to execute, all the sentences, decrees, judgments, writs, summonses, rules, orders, warrants, commands, and processes of the said Supreme Court of the Cape of Good Hope, or of the Circuit Courts of the said Colony hereafter mentioned, and shall make a return of the same, together with the manner of the execution thereof, to the Supreme Court of the Cape of Good Hope, or to the said Circuit Courts, as the case may be, and shall receive and detain in prison all such persons as shall be committed to the custody of such Sheriff by the Supreme Court of the Cape of Good Hope, or by the said Circuit Courts or by the Chief Justice, or by any other Judge of the said Courts.”

This provision was closely followed in the other Provinces (see in Natal 86 of the *Supreme Court Act*, No. 39 of 1896, in the Transvaal 4 of Proclamation No. 17 of 1902, and in the Orange Free State 3 of Ordinance No. 9 of 1902).

(ii) *Laws Defining Powers and Duties.*—The powers and duties of the Sheriff are set out in the rules of the various divisions of the Supreme Court and in the Cape Province, in Ordinance No. 37 of 1828, in the Transvaal in Ordinance No. 9 of 1902, and the Orange Free State in Proclamation No. 17 of 1902. In criminal matters the powers of the Sheriffs throughout the Union are also dealt with in the *Criminal Procedure and Evidence Act*, No. 31 of 1917.

(iii) *Special Powers and Duties in Criminal Matters.*—Section 341 of the Criminal Procedure and Evidence Act, No. 31 of 1917, enacts that as soon as it is practicable after a sentence of death is passed, the Judge who passed the sentence or any other Judge of the Court shall issue his warrant to the Sheriff or his deputy for the execution of the sentence, but that the warrant shall not be executed until the Minister of Justice has, in writing signed by himself, given notice to the Sheriff or his deputy that the Governor-General has decided not to exercise in the case the Royal prerogative of mercy. As soon after the receipt of such notice by the Sheriff or his deputy as fitting arrangements for the execution of the sentence can be made, the warrant must be executed by the Sheriff or his deputy.

The process of the Court for summoning an accused person to answer any indictment or to subpoena witnesses is by writ or warrant directed to the Sheriff or his deputy in the prescribed form (see 3 of the Fifth Schedule and form 16 of the Fifth Schedule to Act No. 31, 1917).

The Sheriff receives the jury lists in criminal cases and keeps the jurors book. He, or his deputy, in manner provided in section 186 of Act No. 31 of 1917, draws the names of the jurors to be summoned for the criminal sessions, and summonses the person whose names are so drawn (see Chapter 11 of Act No. 31 of 1917).

5. **King's Counsel.**—Below are given the names of King's Counsel in the Union:—

**KING'S COUNSEL IN THE UNION.**

**CAPE OF GOOD HOPE.**

Alexander, Morris.  
 Beyers, Fredrik William.  
 Bigby, William Scott.  
 Bisset, Murray.  
 Buchanan, Douglas Mudie.  
 Buchanan, William Porter.  
 Burke, Henry Lardner.  
 Burton, the Hon. Henry.  
 Close, Ralph William.  
 Douglass, Edward Wingfield.  
 Gane, Percival Carleton.  
 Giddy, Richard William Shepstone.  
 Hodge, Donald Grant.  
 Jones, Howel.  
 Kitchin, Shepherd Braithwaite.  
 Lewis, Henry Godfrey.  
 Louwrens, Hilligard Muller.  
 Molteno, the Hon. Sir James Tennant, Kt.  
 Schaeppers, Jacobus Johannes.  
 Sutton, George Gerhard.  
 Upington, Beauclerk.  
 Van der Riet, Frederick John Wernsdley.

Mackeurtan, Harold Grayham.  
 Wylie, James Scott.

**TRANSVAAL.**

De Villiers, Charles William.  
 De Wet, the Hon. Nicolaas Jacobus.  
 Feetham, Richard.  
 Jeppe, Carl.  
 Krause, Frederick Edward Traugott.  
 Matthews, Ernest Lewis.  
 Morice, George Thomas.  
 Nathan, Manfred.  
 Nightingale, Lucy Gamaliel.  
 Papenfus, Herbert Boshof.  
 Pierson, Joseph Waldie.  
 Smuts, General the Right Hon. Jan  
 Christiana, C.H.  
 Solomon, Saul.  
 Stallard, Charles Frampton.  
 Stratford, James.  
 Taylor, Stanley Shelbourne.  
 Tindall, Benjamin Arthur.  
 Van Hoytema, Johan Pieter Renaud.

**NATAL.**

Burns, William.  
 Greene, Col. Edward Mackenzie, C.M.G.  
 Laughton, Frederick Augustus.  
 Lloyd, John Barelay.

**ORANGE FREE STATE.**

Blaine, Herbert Francis.  
 Botha, Christiaan Lourens.  
 De Jager, Samuel Jacobus.

**§ 7. Statistics of Crime.**

1. **General.**—It will be observed from the table below that no full particulars of crime are available before 1913, when the *Police Act* (Act No. 14 of 1912) came into operation. Prior to this date the Union was policed by a number of forces under separate control, and it was found impracticable to consolidate the figures of the different systems then in use. In 1913 the system of collecting criminal statistics then in use in the Transvaal Province was adopted throughout the Union. Reference is made in § 6 above to the new method of collecting criminal statistics which was introduced on 1st January, 1921.

The following tables (i) and (iii) show the total number of prosecutions, convictions, etc., for all offences during a series of years. Particulars of serious crimes in the Union are given in the following paragraph. Throughout this section, in the 1921 figures for persons charged, *no account is taken of persons awaiting trial.*

**(i) NUMBER OF PERSONS CHARGED BEFORE COURTS, 1912\* TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.	Per 1,000 of Population.
1912.....	†	†	†	†	280,115	46
1913.....	82,140	59,748	113,402	23,084	270,274	45
1914.....	84,438	57,817	106,824	21,918	270,997	42
1915.....	83,234	55,267	121,712	23,287	283,520	44
1916.....	85,666	60,833	131,767	26,328	304,794	47
1917.....	83,401	59,162	126,630	26,039	294,232	44
1918.....	78,035	54,767	112,939	22,858	268,599	40
1919.....	83,085	59,329	134,514	25,364	303,192	45
1920.....	87,854	64,752	137,959	29,346	319,911	47
1921 <sup>‡</sup> .....	85,039	70,397	160,213	29,002	337,637	49

\* Complete figures for Union not available before 1912. † Figures not available.  
 ‡ Includes 2,336 persons charged before the Courts of S.W.A., July-December, 1921.  
 § Excluding persons awaiting trial.

(II) NUMBER OF PERSONS CONVICTED, ACQUITTED, ETC., BY COURTS,  
1913 TO 1921.

Year, and Police Division.	Convicted.		Acquitted or Discharged.	Ball Estreated.	Cases With- drawn.	Died or Absconded.	Committed to Asylum.	Total.
	Male.	Female.						
UNION, 1913-21.								
1913.....	190,415	21,118	25,348	23,581	12,777	1,100	145	274,484
1914.....	182,052	21,253	23,759	25,288	13,828	520	127	287,727
1915.....	191,582	21,578	22,173	31,044	13,136	831	100	279,042
1916.....	201,285	23,168	23,347	38,932	14,178	974	126	301,410
1917.....	192,374	23,369	21,524	40,815	12,516	512	92	291,202
1918.....	178,739	20,965	21,173	31,683	11,433	821	137	264,451
1919.....	210,131	21,400	23,466	30,727	13,017	401	140	290,282
1920.....	215,549	22,135	25,235	37,606	14,056	315	139	315,035
1921.....	225,366	25,747	27,330	42,987	15,851	209	147	337,637

## POLICE DIVISIONS, 1921.

Cape Eastern.....	18,919	4,083	3,272	594	1,122	33	25	28,048
Cape Western.....	22,528	3,501	2,878	1,355	1,714	23	17	32,016
Kimberley.....	4,890	532	700	293	453	2	4	6,874
Transkei.....	12,074	1,395	2,393	921	1,301	53	9	18,146
Natal.....	43,763	3,847	6,936	11,734	4,037	34	46	70,397
Transvaal.....	77,274	6,493	6,026	14,013	4,369	36	17	108,225
Johannesburg.....	23,602	2,815	2,427	11,846	1,280	3	17	41,990
Orange Free State	20,622	2,922	2,482	2,213	1,332	19	12	29,602
*South-West Africa.....	1,694	159	216	18	243	6	—	2,336
<b>TOTAL.....</b>	<b>225,366</b>	<b>25,747</b>	<b>27,330</b>	<b>42,987</b>	<b>15,851</b>	<b>209</b>	<b>147</b>	<b>337,637</b>

\* July to December only.

(III) CONVICTIONS FOR VARIOUS CLASSES OF OFFENCES IN UNION,  
1913 TO 1921.

YEAR.	OFFENCES AGAINST						Statutory Offences.	Revenue and Municipal Offences.	Total Con- victions.
	The State.	The Adminis- tration of Justice.	Public Peace.	Public Order.	The Person.	Pro- perty.			
1913 ...	265	2,305	13,514	5,787	19,474	22,119	110,577	37,492	211,533
1914 ...	2,310	2,311	13,067	6,296	19,280	22,806	102,493	35,696	204,259
1915.....	1,173	2,313	11,846	6,400	18,197	24,271	107,362	41,596	218,158
1916.....	360	2,503	10,966	7,068	18,379	27,291	114,133	43,753	224,463
1917 ...	522	2,533	9,947	6,956	18,161	26,952	112,329	38,343	215,748
1918 ...	504	2,855	9,207	6,446	18,077	26,250	103,487	33,078	199,704
1919 ...	339	3,298	9,574	7,161	21,204	29,491	115,629	44,835	231,531
1920 ...	312	3,339	10,047	8,281	20,895	34,202	115,146	45,462	237,684
1921* ..	438	3,624	12,784	9,014	21,492	31,891	120,567	51,305	251,118

\* Includes South-West Africa for period July to December, 1921.

2. **Serious Crime.**—Over 60 per cent. of the persons brought before the courts of the Union each year are charged with petty offences, chiefly contravention of statutes, common assault and common theft. For the most part the option of a fine is given in such cases. About one-third of the total charges before the courts relates to what may be properly designated as serious crime. Statistics of such cases are contained in the tables hereunder, which show the results of serious criminal charges during a period of years, details of such charges for two years, and particulars of murder cases, stock thefts and offences under the liquor laws from 1913. A detailed review of criminal statistics during 1921, with some comparative figures for the previous year, is given in the next paragraph.

(i) RESULTS OF CRIMINAL CHARGES IN SERIOUS CASES, UNION, 1913 TO 1921.

Year.	Cases Reported.	Un-detected Cases.	Cases Found False.	Persons Convicted.	Race of Persons Convicted.		Per 10,000 of Population	
					White.	Coloured.	White.	Coloured.
1913....	37,517	12,744	5,040	14,413	1,603	12,810	12	26
1914....	46,226	14,313	5,366	21,600	1,910	19,690	14	40
1915....	49,816	15,246	5,182	23,030	1,906	21,124	14	42
1916....	53,435	16,906	6,038	25,338	1,737	23,601	12	40
1917....	55,562	16,649	5,941	24,553	1,620	22,933	11	44
1918....	53,649	16,906	5,454	24,606	1,566	23,040	10	43
1919....	61,797	19,719	6,993	27,952	2,081	25,871	14	49
1920....	72,286	25,326	6,535	32,345	2,499	30,346	16	57
1921....	67,148	22,908	6,667	29,814	2,401	27,413	16	51

(ii) COMPARATIVE STATEMENT OF SERIOUS CRIME REPORTED\*, 1920 AND 1921.

OFFENCE.	1920.			1921.		
	Cases Reported.	Undetected Cases.	Cases Found False.	Cases Reported.	Undetected Cases.	Cases Found False.
Coining law.....	15	4	2	10	1	1
Concealment of birth.....	99	15	10	70	18	12
Sedition.....	1	—	—	—	—	—
Treason.....	—	—	—	1	—	—
Abortion.....	9	1	8	16	1	5
Carnal knowledge of females under age of consent.....	498	16	20	289	7	23
Assault, indecent.....	280	6	25	442	23	20
Assault with intent.....	2,407	127	81	2,853	90	96
Assault on police.....	419	4	1	492	9	4
Bestiality.....	61	6	1	77	8	3
Culpable homicide.....	277	1	7	143	2	6
Infanticide.....	39	8	2	25	7	6
Incest.....	47	1	8	48	3	4
Murder.....	363	31	88	507	32	46
Murder, attempted.....	141	11	12	195	12	22
Rape.....	477	82	50	629	17	73
Rape, attempted.....	277	32	28	324	24	32
Sodomy.....	52	6	2	69	2	2
Arson.....	322	81	54	372	105	66
Extortion.....	105	—	8	93	2	13
Forgery.....	656	62	20	664	56	22
Theft, bicycle.....	5,152	1,595	773	2,830	1,372	848
Theft, common.....	41,175	15,221	3,897	37,981	13,717	3,891
Theft by conversion and embezzlement.....	964	118	111	1,087	128	181
Theft by fraud and false pretences.....	1,726	215	157	1,917	282	202
Theft by housebreaking by day.....	2,010	961	97	2,012	967	126
Theft by housebreaking by night.....	8,508	4,914	395	7,607	4,545	484
Theft by pocket-picking.....	169	22	21	149	19	17
Theft of produce and skins.....	195	48	17	68	11	6
Theft of stock.....	7,269	1,642	1,091	5,623	1,365	892
Theft by violence or robbery..	573	146	104	576	133	114
TOTAL.....	72,286	25,326	6,535	67,148	22,908	6,667

\* For particulars of convictions under the above heads see paragraph 3 below.

(iii) PERSONS CHARGED WITH MURDER, 1913 TO 1921.

YEAR.	CONVICTED.			Dis-charged or With-drawn.	Died or Abo-conned.	Await-ing Trial at End of Year.	Total Number Charged.
	White.	Coloured.	Total.				
1913.....	1	47	48	242	15	150	455
1914.....	2	55	57	251	4	107	419
1915.....	2	77	79	191	3	143	416
1916.....	2	47	49	252	4	163	458
1917.....	1	65	66	233	6	141	446
1918.....	2	45	47	250	8	220	525
1919.....	2	100	102	226	10	237	575
1920.....	7	101	108	350	1	294	758
1921.....	3	141	144	281	6	*	431

\* Returns not obtained.



## (iv) STOCK THEFTS IN UNION, 1913 TO 1921.

Year.	Number of Persons Prosecuted.	Number of Persons Convicted.			Description of Stock Stolen.		
		White.	Coloured.	Total.	Horses.	Large Stock.	Small Stock.
1913....	4,059	138	2,574	2,712	•	•	•
1914....	4,815	104	3,148	3,252	•	•	•
1915....	5,739	168	3,844	4,002	•	•	•
1916....	6,828	130	4,557	4,687	224	369	4,094
1917....	5,253	84	3,532	3,616	249	314	3,053
1918....	4,445	80	2,939	3,019	206	282	2,531
1919....	5,457	105	3,528	3,631	283	405	2,943
1920....	6,863	118	4,508	4,626	319	564	3,748
1921....	5,067	128	3,429	3,557	322	427	2,808

\* Not available in detail.

## (v) OFFENCES AGAINST LIQUOR LAWS (EXCLUDING DRUNKENNESS),\* UNION, 1913 TO 1921.

Year.	Breach of Licence.	Conveying without Permt.	Distilling.	Possession of Kaffir Beer.	Possession of Other Liquor.	Sales without Licence.
1913†.....	—	—	—	—	—	—
1914†.....	—	—	—	—	—	—
1915†.....	—	—	—	—	—	—
1916.....	109	70	—	5,427	4,456	100
1917.....	162	43	1	6,552	3,329	318
1918.....	96	16	—	6,414	3,335	189
1919.....	112	14	1	7,043	3,340	210
1920.....	108	11	—	7,571	4,569	180
1921.....	50	13	—	10,722	2,249	231

Year.	Supplying Black-listed Persons.	Coloured Selling to Coloured.	Whites Selling to Coloured.	Other Offences.	Race of Persons Convicted.	
					White.	Coloured.
1913†.....	—	—	—	—	1,182	8,778
1914†.....	—	—	—	—	995	10,881
1915†.....	—	—	—	—	1,056	11,521
1916.....	58	909	736	64	953	10,976
1917.....	63	752	695	185	907	10,083
1918.....	92	666	459	128	634	10,768
1919.....	60	660	434	162	633	11,409
1920.....	55	759	404	154	1,061	12,750
1921.....	59	795	374	207	546	14,144

\* See Chapter IX, § 4.

† Not available in detail.

## 3. Analysis of Statistics of Crime, 1921.—(i) Persons Arrested, Summoned or Warned.—

The number of persons arrested, summoned or warned during 1920 and 1921 was as follows:—

1920..... 319,011; percentage to population.... 4.68  
 1921\*..... 337,637; percentage to population.... 4.87

The race and sex of the persons concerned in 1921 were as follows:—

Race.	Male.	Female.	Total.	Per 1,000 of Population.	
				Male.	Female.
White.....	45,392	2,246	47,638	58	3
Coloured.....	258,112	31,887	289,999	94	12

The predominant offences in the Union in 1921 (including South-West Africa in the latter half of that year) were as follows: Municipal Offences, 39,674; Native Pass Law, 34,900; Common Assault, 23,373; Masters and Servants Act, 22,058; Drunkenness, 20,388; Native Taxes, 20,312; Common Theft, 20,215; Possession of Kaffir Beer, 14,395; Diseases of Stock, 13,372.

\* Includes 2,335 persons sent for trial in South-West Africa during latter half of 1921, and excludes persons awaiting trial.

Amongst Europeans the predominant offences were: Municipal Offences, 9,605; Drunkenness, 5,147; Common Assault, 3,804; Motor Ordinances, 3,789; Stock Diseases, 2,915; Common Theft, 1,673.

(ii) *Serious Crime*.—Serious offences were alleged against 39,426 persons, representing 12 per cent. of the persons brought before the Courts. Of these, 3,747 were Europeans, 28,437 natives, 1,132 Asiatics and 6,110 other coloured persons. The number of Europeans tried for serious offences was equivalent to 8 per cent. of all persons of that race brought before the courts. The corresponding percentages in the case of the other races were: Natives, 11; Asiatics, 12; and other coloured persons, 20.

(iii) *Disposal of Cases*.—The percentage of convictions, acquittals, etc., to the total number of persons brought before the Courts in 1921 was:—

Heading.	Convicted.	Ball Estreated.	Discharged.	Escaped.	Insane.	Died.	Case Withdrawn.
All cases..	74·37	12·74	8·10	0·03	0·04	0·03	4·09
Serious crime...	75·61	0·43	17·55	0·10	0·14	0·09	6·08

(iv) *Locality of Serious Crime*.—The table hereunder indicates the distribution of serious crime according to locality and race. The figures relate to police divisions and to certain selected industrial areas within those divisions.

**SERIOUS CRIME IN POLICE DIVISIONS AND CERTAIN INDUSTRIAL AREAS,  
ACCORDING TO RACE AND POPULATION, 1921.**

Police Divisions (and Industrial Areas).	White Persons.				Coloured Persons. [Industrial Areas].	
	Percentage of Total Number of Cases.		Cases per 10,000 of Population.		Percentage of Total Number of Cases.	Cases per 10,000 of Population.
	Police Divisions.	Industrial Areas.	Police Divisions.	Industrial Areas.		
<i>Transvaal</i> ..... [Pretoria, Cullinan, Middelburg, Witbank, Vereeniging, Boksburg, Benoni, Springs, Brakpan, Germiston, Krugersdorp, Florida, Roodepoort—Maraisburg, Ramfontein, Breyton]	28·1	12·5	27	39	10·0	193
<i>Johannesburg</i> ..... [The whole magisterial district]	18·0	18·6	46	46	10·1	255
<i>Natal</i> ..... [Pietermaritzburg, Durban, Pinetown, Isipingo, Queen's Bridge, Umzinto, Dundee, Hattingspruit, Vryheid, Newcastle]	10·0	7·5	27	40	10·1	491
<i>Cape Western</i> ..... [Cape magisterial district, Wynberg, Simonstown, Somerset West]	10·9	9·4	18	31	8·2	227
<i>Cape Eastern</i> ..... [East London, Port Elizabeth]	9·4	2·4	16	22	2·3	326
<i>Orange Free State</i> ..... [Bloemfontein, Jagersfontein, Koffyfontein, Viljoen's Drift]	10·7	2·6	22	42	1·7	240
<i>Kimberley</i> ..... [Kimberley, Beaconsfield]	3·2	1·1	22	24	1·3	213
<i>Transkei</i> ..... [None]	1·1	—	27	—	—	—
<i>South-West Africa</i> ..... [None]	2·0	—	39	—	—	—
TOTAL.....	100·0	54·1	25	38	12·6	259

(v) *Convictions for Serious Crime.*—The following table shows the convictions for various classes of serious offences during 1920 and 1921, according to race of the persons convicted:—

**COMPARATIVE STATEMENT OF CONVICTIONS FOR SERIOUS OFFENCES,  
SHOWING RACE OF PERSONS CONVICTED, 1920 AND 1921.**

Offence.	1920.			1921.				
	White.	Coloured.	Total.	White.	Native.	Asiatic.	Coloured.	Total.
Coining Law....	2	4	6	2	1	—	—	3
Concealment of birth.....	5	41	46	1	27	—	9	37
Sedition.....	—	—	—	—	132	—	—	132
Treason.....	2	—	2	—	—	—	—	—
Abortion.....	—	—	—	—	1	—	—	2
Defilement of girls.....	10	311	320	18	50	7	89	123
Indecent assault.	15	114	129	24	240	7	24	304
Assault with intent	86	1,076	2,062	105	1,912	44	257	2,318
Assault on police	45	309	354	25	409	4	27	465
Bestiality.....	3	40	43	5	47	—	4	56
Culpable homicide	17	405	422	9	446	1	15	471
Infanticide.....	—	14	14	—	4	—	1	5
Incest.....	10	14	24	7	5	—	0	21
Murder.....	7	101	108	3	130	2	9	144
Murder, attempted	7	49	56	6	66	1	8	81
Rape.....	7	156	163	8	165	4	16	193
Rape, attempted	1	86	87	6	71	2	22	101
Sodomy.....	2	39	41	1	44	3	14	62
Arson.....	1	106	107	3	71	—	4	79
Extortion.....	11	13	24	8	15	1	2	25
Forgery.....	72	342	414	84	338	7	26	455
Theft, bicycle...	155	425	580	83	233	7	59	382
Theft, common.	1,254	16,800	18,054	1,154	11,011	462	2,006	16,133
Theft, by conversion and embezzlement.	126	268	394	150	213	10	85	458
Theft, by fraud and false pretences.	188	455	643	256	298	26	111	691
Housebreaking by day.....	83	680	763	100	536	9	200	854
Housebreaking by night.....	230	2,610	2,840	181	1,359	55	610	2,205
Pocket-picking...	7	90	97	13	100	3	3	119
Theft of produce	13	121	134	5	55	1	4	65
Stock theft.....	118	4,510	4,628	128	2,973	12	444	3,557
Robbery.....	13	267	280	16	178	14	65	273
<b>TOTAL.....</b>	<b>2,499</b>	<b>30,346</b>	<b>32,845</b>	<b>2,401</b>	<b>21,748</b>	<b>684</b>	<b>4,981</b>	<b>29,814</b>

(vi) *Stock Thefts.*—The convictions for stock theft amounted to 12 per cent. of the total convictions for serious crime. The thefts of small stock (sheep, goats and pigs) accounted for 79 per cent. of the total convictions for this class of offence. Of the persons convicted for stock theft, 4 per cent. were Europeans.

(vii) *Liquor Law.*—The convictions for offences under this head (29,128) amounted to 12 per cent. of the total convictions. The various offences under liquor laws were distributed in the following percentage proportions of the total convictions under that head:—

Offence.	White.	Coloured.
Drunkenness.....	8.0	41.0
Possession of kaffir beer.....	—	30.8
Possession of other liquor.....	—	7.7
Whites selling to natives.....	1.3	—
Coloured selling to coloured.....	—	2.7
Other offences (Liquor Laws).....	0.6	1.3

It is of interest to note that 2,513 white and 3,075 coloured persons estreated bail for drunkenness, and 3,765 coloured persons estreated bail for possession of kaffir beer and other liquors.

(viii) *Immorality Laws*.—The convictions for offences under these laws (498) represented 0·19 per cent. of the total. The convictions were under the following heads:—

Offence.	White.	Coloured.
Keeping a brothel.....	18	22
Living on proceeds.....	6	6
Procuring.....	—	2
Soliciting.....	66	312
Other offences.....	29	37

(ix) *Nationality and Birthplaces of Europeans Charged*.—85 per cent. of Europeans charged with various offences in 1921 were British born, 4 per cent. were naturalized British subjects, 3 per cent. were Russians, and 1 per cent. Germans. Of the total number of Europeans charged, 28 per cent. were born in the Cape, 7 per cent. in Natal, 21 per cent. in Transvaal, 8 per cent. in the Orange Free State, 18 per cent. in the British Isles, and 6 per cent. in Russia.

(x) *Occupation of Offenders*.—The occupations of offenders in 1921 are shown hereunder:

Occupation—	Per cent.
Professional.....	3·7
Domestic.....	5·4
Commercial.....	18·6
Transport and Communication.....	7·8
Industry.....	17·9
Primary Producers, Agriculture.....	25·3
Primary Producers, Mining.....	9·4
Independent.....	4·5
Dependent.....	2·3
Unspecified.....	5·1

(xi) *Juvenile Crime*.—European juveniles, aged 16 years and under, were prosecuted for 65 different kinds of offence during the year, to the number of 1,216. The following were the predominant offences involved:—

Nature of Offence—	Per cent.
Municipal Offences.....	25·2
Theft (common).....	23·9
Assault (common).....	6·4
Housebreaking by Night.....	4·6
Housebreaking by Day.....	4·1
Police Offences.....	6·2
Railway and Harbours Act.....	3·6
Malicious Injury to Property.....	3·1
Motor Ordinances.....	3·0

Small numbers were charged with serious offences, as follows:—Murder, 1; Indecent Assault, 4; Bestiality, 2; Crimina Injuria, 1; Defilement of Girls, 2; Forgery, 7; Bicycle Theft, 17; Theft by Conversion, 2; Theft by Fraud, 9; Pocket-picking, 4; Stock Theft, 5; Robbery, 1; Selling Liquor, 5.

The percentage of juveniles convicted was 71, and discharged 12. In 7 per cent. of the cases bail was estreated, and 10 per cent. of the cases were withdrawn. The sentences imposed are shown by the following percentages of the total convictions:—Imprisonment with option of a fine, 12; cautioned or reprimanded and discharged, 27; corporal punishment, 23; bound over, 10; sent to reformatory or industrial school, 7; fined only, 15; other order of court, 2; suspended sentences, 4.

(xii) *Suspended Sentences (European)*.—The number of suspended sentences imposed during the year 1921 was as follows:—

Up to and including 6 months.....	959
Over 6 months and up to and including 12 months.....	36
Over 12 months.....	11

### § 8. Prisons.

**1. Prison System.**—The guiding principles of the Union penal system are to rescue the child from criminal environment and prevent it from becoming a criminal; to build up and supplement in the criminal the elements necessary to prevent a recurrence of crime; and, if all else fails, by means of the indeterminate sentence to remove the habitual criminal from society and prevent his remaining a menace to it; but even then to allow him an opportunity of self-redemption. It seeks to attain these objects through the instrumentality of Government industrial schools for waif and stray children, of reformatories for children who have committed crime, and of various penal institutions for adults and by classification and division within such institutions. The factors making for reformation operating in the prison are religious and moral influences, schooling, drill and discipline, the training of the hand and the eye, and sound literature. A simple system of marks records the progress or retrogression of the prisoner. The Prison Visitors' Boards, on which the judicial, the medical, and the prison administrations are represented in addition to the body of citizens, determine the period when the prisoner may with safety be allowed back into the ranks of society by keeping in constant touch with him personally and by following his conduct reports. They commend him when he improves and exhort him when he lapses. The South African Prisoners' Aid Association [see Chapter IX] also keeps in touch particularly with the European prisoner, preserves the bond with his family, prepares the way for his return to society and stands by him in the difficult days after his discharge from prison when after long restraint he regains his liberty. To make the release not too sudden the Prison Farm has been introduced, where gradually the prisoner gets back to the conditions of outside life. Among preventive influences there is the suspended sentence, and there is also the Probation Officer, who stands by the sentenced man and helps him to redeem the promises made by him to the Courts. Again as regards the native the Road Camp has been created, so that for venial offences against the Pass Law, the Tax Law, or the Masters and Servants Law he goes direct from Court to camp and never actually enters a gaol. Gradually the features and methods of penal systems of the past are being abandoned. Single cells are coming more and more to the fore. The detention of Europeans and natives in the same wards is now forbidden. The guarding of European prisoners by coloured warders has been discontinued. The indiscriminate locking up of witnesses for months in gaol lest they might disappear is no longer resorted to. The practice of restraining lunatics in prison has been resolutely discountenanced, and under Section 14 of the *Prisons Act* lunatics now go to proper hospitals, while the pauper sick are dealt with similarly. The treadmills and stocks of the old system have become a thing of the past. Night schools for adults, popular science books in place of unedifying literature, and an occasional lecture on an elevating subject have now found a permanent place in the prison system.

**2. Prison Labour.**—Profitless labour such as oakum picking is now unknown, and its place has been taken by creative arts and trades. At the prisons excellent mats are now made from the discarded sheath leaf of the malicob, replacing the coir mats imported from India. Manilla rope of sisal fibre grown on the prison farms has been turned out by the thousand yards. Prison building on a large scale is being undertaken. Blankets are woven from South African wool. Buttons are turned by machinery out of discarded bone and the remnants ground into bone dust fertilizer by the prisoners. Baskets and basket chairs are made from prison-grown osier and prison rush. Uniforms and boots are made in large quantities, and all brushes and brooms required by Government departments in the Union are produced by the prisoners, including the carpet broom made from broom corn grown on the prison farms. Prison labour also is responsible for furniture of South African hardwood for Government offices, and for polished desks for the reformatory schools.

**3. Penal Legislation.**—These measures have been made possible by the *Prisons Act*, No. 13 of 1911, which incorporated the chief features of the *Transvaal laws* and especially of Act No. 38 of 1909, which was the first legislation to break ground on modern penological lines. With the *Prisons Act* must be read the *Indeterminate Sentence Law*—Act No. 9 of 1911, the Act to keep people out of the gaol, Law No. 40 of 1914, and the *Children's Protection Act*, No. 25 of 1913 (the administration of which has now been passed to the Union Education Department). Act No. 46 of 1920 gives Government recognition and assistance to certified hostels for the reception of lads who would otherwise be committed to penal institutions.

Prominent provisions of the Act designed to keep people out of gaol are that no one may be sentenced to less than four days' imprisonment, and no witness may be detained in gaol except on the express application of the Attorney-General. For a trifling offence the accused can deposit the maximum fine with the police, from which, if he is found guilty, his fine is deducted, any balance of his deposit being refunded. In a serious matter the Court may, if it finds him guilty, reprimand him or postpone the passing of sentence,

suspend the operation of the sentence, obtain the fine out of the offender's wages, allow him to pay by instalments, or permit him to give sureties.

4. **Training and Instruction.**—In prison life the position of a warder is an important one, and a warders' training school has been established at the Central Prison at which the main principles of the proper treatment of prisoners are taught.

Instruction is given in matters of drill and discipline, and there is a thorough grounding in prison practice and regulations. The Prison Medical Officer deals with self-aid in accidents and with thrift, and an advocate of the Supreme Court teaches the elementary doctrines of criminal and penal law.

5. **Statistics.**—The subjoined tables give detailed statistics in regard to penal establishments in the Union, sentenced offenders, juvenile offenders, paupers, mental defectives, and debtors admitted to prisons or held in custody for a period of years, and an analysis of convictions obtained in 1921. The concluding table shows the average number of hard labour units employed daily during the year 1921 :—

## (i) PENAL ESTABLISHMENTS, FROM 1912.

Year.	Convict Prisons.	Goals.	Reformatories.	Road Camps.	Farm Colonies and Inebriate Reformatories.	Labour Out-stations.	Prison Farms.	Total.
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## (a) UNION, 1912-21.

1912.....	10	193	7	3	2	—	—	215
1913.....	9	191	6	4	2	4	—	216
1914.....	8	188	6	1	2	5	—	210
1915.....	8	188	6	3	2	11	3	221
1916.....	8	185	6	3	2	11	3	218
1917.....	9	185	7	3	2	8	2	216
1918.....	9	185	7	3	2	8	2	210
1919.....	9	185	7	3	2	6	2	214
1920.....	9	183	7	3	2	6	2	212
1921.....	9	183	7	3	2	8	2	214

## (b) PROVINCES, 1921.

Cape.....	5	94	3	—	1	5	—	108
Natal.....	1	39	2	—	—	—	—	42
Transvaal.....	3	27	2	3	1	3	1	40
Orange Free State.....	—	23	—	—	—	—	1	24
UNION.....	9	183	7	3	2	8	2	214

## (ii) SENTENCED OFFENDERS ADMITTED TO PRISONS,\* FROM 1912.

YEAR.	WHITE.		COLOURED.		ALL SENTENCED PRISONERS.		
	Male.	Female.	Male.	Female.	Male.	Female.	Total.
1912.....	5,463	339	80,376	9,644	85,839	9,983	95,822
1913.....	4,720	348	82,116	9,990	86,836	10,338	97,174
1914.....	4,486	345	75,247	9,455	79,733	9,800	89,533
1915.....	4,393	393	76,917	9,008	81,310	9,396	90,706
1916.....	3,796	445	81,923	9,763	85,719	10,208	95,927
1917.....	3,360	418	67,122	10,344	70,482	10,762	81,244
1918.....	3,182	323	66,161	9,178	69,343	9,501	78,844
1919.....	3,134	286	75,083	9,701	78,217	9,987	88,204
1920.....	3,266	277	72,175	9,990	75,441	10,267	85,708
1921.....	3,074	301	77,935	9,604	81,009	9,906	90,914

\* Excluding Lock-ups.

## (iii) DAILY AVERAGES OF PRISONERS,\* FROM 1911.

Year.	White.		Coloured.		All Races.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
1911.....	1,286.2	52.8	11,886.0	830.1	12,672.2	882.0	13,555.1
1912.....	1,429.6	79.9	11,408.4	915.5	12,833.0	995.4	13,828.4
1913.....	1,557.4	79.8	12,179.6	984.5	13,737.0	1,014.3	14,751.3
1914.....	2,072.1	73.2	12,023.1	898.9	14,095.2	972.1	15,067.3
1915.....	3,253.5	100.0	12,732.8	906.5	15,984.8	1,006.5	16,991.3
1916.....	1,325.4	105.3	13,945.2	980.5	15,270.6	1,085.8	16,356.4
1917.....	1,189.6	120.0	13,477.8	1,091.5	14,667.4	1,211.5	15,878.9
1918.....	1,079.1	96.0	12,871.2	1,021.3	13,950.3	1,117.3	15,067.6
1919.....	1,028.2	83.6	12,849.4	996.5	13,877.6	1,080.1	14,957.7
1920.....	1,135.6	78.0	13,943.3	1,151.8	15,078.9	1,224.8	16,303.7
1921.....	1,203.3	74.0	14,764.2	1,109.0	15,967.5	1,183.0	17,150.5

\* Includes awaiting trial prisoners, civil debtors, etc.

## (iv) OFFENDERS ADMITTED TO PRISONS, SHOWING SENTENCES, 1921.

Sentence.	White.		Coloured.		All Sentenced Prisoners.		Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Condemned to death.....	2	1	66	2	68	3	71
Life.....	—	—	1	—	1	—	1
Indeterminate sentence.....	8	—	126	—	134	—	134
Governor-General's pleasure.....	7	—	4	3	11	3	14
10 years and over.....	—	—	25	—	25	—	25
5 years and under 10 years.....	17	1	180	7	197	8	205
Over 2 years and under 5 years... 6 months and up to and including 2 years.....	100	4	690	17	790	21	811
3 months and under 6 months....	583	61	5,400	421	5,983	482	6,465
Over 1 month and under 3 months..	340	35	7,857	968	7,997	1,008	9,000
Corporal punishment only— (i) Cat..... (ii) Cane.....	311	15	11,210	1,379	11,521	1,394	12,915
7 days and up to and including 1 month.....	—	—	27	—	27	—	27
Under 7 days.....	14	—	683	—	697	—	697
1 month.....	1,588	170	49,495	6,870	51,078	6,840	57,918
Under 7 days.....	109	14	2,371	137	2,480	151	2,631
TOTAL.....	3,074	301	77,935	9,604	81,009	9,905	90,914

## (v) DEATHS AND EXECUTIONS IN PRISON, FROM 1911.

Year.	Total Number of Deaths.	‡ Execution.		Killed while Escaping.	Accidents.	Suicides.	Deaths from Assaults.	Deaths from Other and Natural Causes.
		White.	Coloured.					
1911...	240	1	56	—	5	1	—	186
1912...	214	—	24	1	4	3	2	180
1913...	196	—	24	1	3	1	1	166
1914...	178	3	20	2	4	—	—	149
1915...	195	—	29	1	6	1	2	156
1916...	253	1	85	1	3	2	—	211
1917...	286	2‡	21	2	4	3	1	203
1918...	988	—	23	1	3	1	1	959
1919...	288	1	31	2	4	—	2	243
1920...	297	3	16	1	6	2	—	269
1921...	325	2	23	—	5	1	—	294

‡ Male unless otherwise stated.

‡ One white female.

## (vi) FIRST AND SUBSEQUENT CONVICTIONS, 1921.

DESCRIPTION.	WHITE.		COLOURED.		ALL PERSONS.		TOTAL.
	Male.	Female.	Male.	Female.	Male.	Female.	
First Conviction....	2,082	183	63,238	7,146	65,315	7,329	72,644
Second Conviction..	356	89	6,368	845	6,724	885	7,609
Third Conviction....	196	17	3,162	485	3,358	502	3,860
Fourth Conviction..	122	12	1,901	270	2,023	282	2,305
Over Four Convictions.....	318	50	3,271	857	3,589	907	4,496
TOTAL.....	3,074	301	77,935	9,604	81,009	9,905	90,914

## (vii) JUVENILE OFFENDERS\* ADMITTED INTO PRISONS, FROM 1911.

Year.	Number under 21 Years of Age.	White.		Coloured.	
		Male.	Female.	Male.	Female.
1911.....	13,064	410	46	10,514	2,094
1912.....	14,061	386	37	11,935	1,708
1913.....	13,222	327	19	11,076	1,900
1914.....	13,338	1,017	30	10,409	1,882
1915.....	12,964	481	38	10,583	1,912
1916.....	13,664	282	41	11,455	1,886
1917.....	13,119	271	41	10,683	2,124
1918.....	11,425	219	42	9,571	1,593
1919.....	11,406	275	31	9,147	1,953
1920.....	13,672	455	24	11,033	2,160
1921.....	13,432	321	26	10,883	2,202

\* Excluding those confined in reformatories.

## (viii) PAUPERS DEALT WITH IN PRISON INSTITUTIONS, FROM 1911.

Year.	White.		Coloured.		Prisoners' Children.	Total.
	Male.	Female.	Male.	Female.		
1911.....	240	7	272	79	388	966
1912.....	75	1	178	42	392	688
1913.....	52	4	132	30	458	676
1914.....	50	1	140	25	402	618
1915.....	18	2	78	80	292	465
1916.....	22	—	58	23	418	521
1917.....	19	2	51	8	494	565
1918.....	6	—	64	1	463	534
1919.....	15	—	53	5	427	500
1920.....	8	1	29	4	565	607
1921.....	8	—	18	3	535	564

## (ix) MENTAL PATIENTS DEALT WITH IN PRISON INSTITUTIONS, FROM 1911.

Year.	White.		Coloured.		Total.
	Male.	Female.	Male.	Female.	
1911.....	170	22	479	110	781
1912.....	72	10	334	88	504
1913.....	41	7	251	75	374
1914.....	32	8	182	38	290
1915.....	35	13	154	49	251
1916.....	32	2	142	42	218
1917.....	22	3	100	34	159
1918.....	17	2	133	40	192
1919.....	25	2	118	45	190
1920.....	19	4	99	33	155
1921.....	8	4	96	37	145



## (x) CIVIL DEBTORS DEALT WITH IN PRISON INSTITUTIONS, FROM 1911.

Year.	White.		Coloured.		Total.
	Male.	Female.	Male.	Female.	
1911.....	288	7	448	8	751
1912.....	408	8	447	5	868
1913.....	363	1	496	4	866
1914.....	328	5	527	6	866
1915.....	208	3	443	6	660
1916.....	190	3	448	8	649
1917.....	191	2	385	4	582
1918.....	185	3	369	7	564
1919.....	243	2	436	9	690
1920.....	250	2	357	9	618
1921.....	341	5	493	14	1,053

## (xii) AVERAGE NUMBER OF PRISONS HARD LABOUR UNITS EMPLOYED DAILY, 1921.

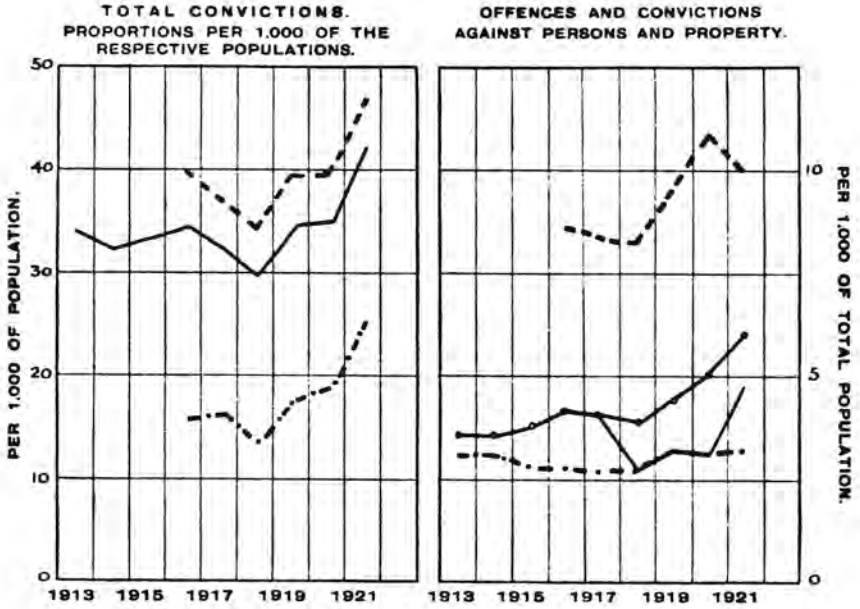
Heading.	Daily Average.	Heading.	Daily Average.
	No.		No.
Employed for Prisons Department	4,493	Employed for others—	
Employed for Government Departments—		Gratis.....	266
Gratis.....	1,668	For remuneration.....	2,765
For remuneration.....	1,756	* Not employed (ineffective).....	4,115

\* Owing to sickness, rain, Sundays, Public Holidays, etc.

NOTE.—The amount earned by prisons hard labour units during the year was £94,687.

6. Administration of Prisons.—The administration of the prisons of the Union is placed under the Director of Prisons in the Department of Justice. Particulars as to the cost of administration are contained in Chapter XXIII.

STATISTICS OF CRIME, 1913 TO 1921.

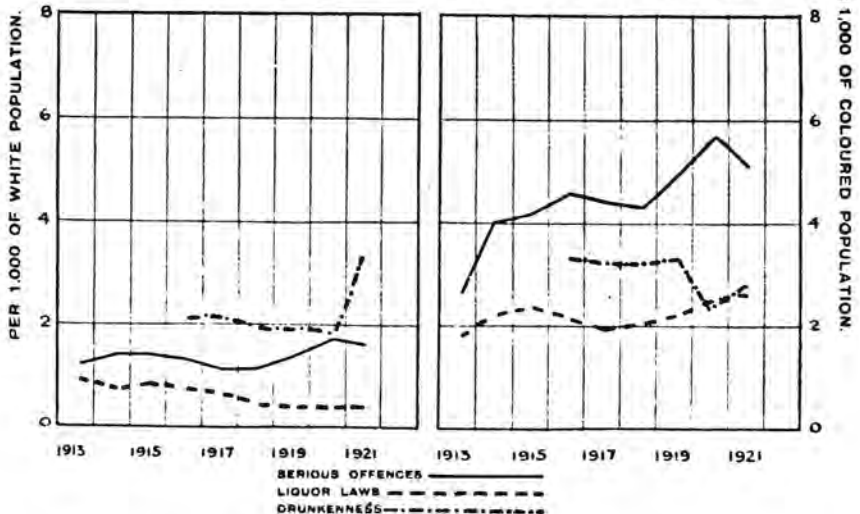


WHITE PERSONS PER 1,000 OF WHITE POPULATION | - - - - -  
 COLOURED PERSONS PER 1,000 OF COLOURED POPULATION | - - - - -  
 ALL RACES PER 1,000 OF TOTAL POPULATION | ————

AGAINST PERSONS | OFFENCES ————  
 | CONVICTIONS - - - - -  
 AGAINST PROPERTY | OFFENCES - - - - -  
 | CONVICTIONS ————

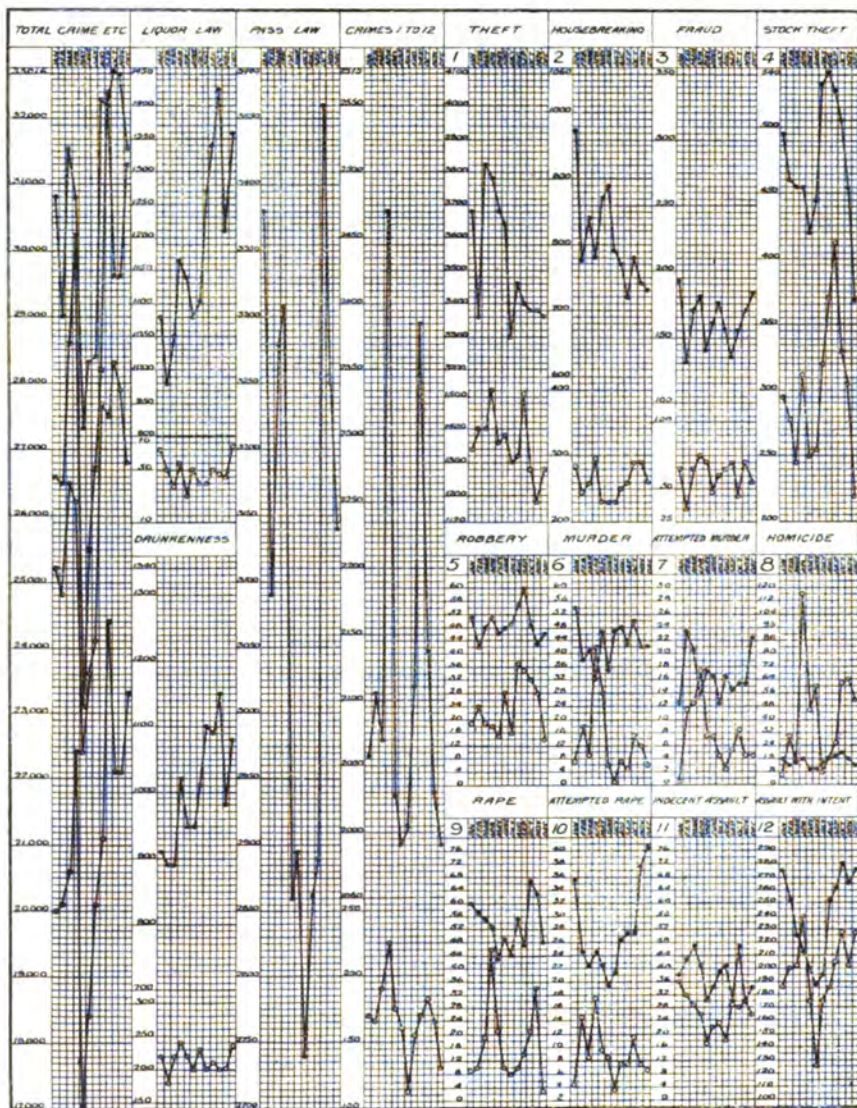
CONVICTIONS—WHITE PERSONS—FOR SERIOUS OFFENCES, DRUNKENNESS, AND AGAINST LIQUOR LAWS.

CONVICTIONS—COLOURED PERSONS—FOR SERIOUS OFFENCES, DRUNKENNESS, AND AGAINST LIQUOR LAWS.



SERIOUS OFFENCES ————  
 LIQUOR LAWS - - - - -  
 DRUNKENNESS - · - · - ·

SOUTH AFRICAN POLICE, UNION CRIME CHART, 1921.



● CASES REPORTED ● COLOURED CONVICTED ● CASES REPORTED ● COLOURED CONVICTED ● CASES REPORTED ● PERSONS CONVICTED  
 ○ CASES TO TRIAL ○ WHITES CONVICTED ○ WHITES CONVICTED ○ PERSONS CONVICTED  
 ▲ PERSONS TO TRIAL  
 ■ PERSONS CONVICTED

NOTE:- THE HEAVY HORIZONTAL LINE IN COLUMN TWO INDICATES A CHANGE IN THE SCALE.

## CHAPTER XI.

## POLICE AND PROTECTION.

## § 1. Development of the Union Police Organization.

1. **The Cape Mounted Riflemen**—The Cape Mounted Riflemen possess a history which may be traced back under a variety of aspects to the earlier days of the British occupation of the Cape. The name was first borne by the regiment of Hottentot auxiliaries which was formed not long after the occupation, and which fills a well-known place in the history of the Colony. In course of time it became virtually a European body, with a small contingent of coloured soldiers. As such it survived until 1870, when it was disbanded. This body was not the predecessor of the more modern organization, but it supplied the name by which the latter was called when created eight years later; and for that reason it possesses an historic importance in this connection.

The modern force of Cape Mounted Riflemen had its origin in the volunteer detachments of armed and mounted police organized about 1850 for the purpose of dealing effectively with the marauding bands of natives who perpetually disturbed the security of the eastern frontier of the Colony. The third Act of the first representative Parliament of the Cape (1855) consolidated the various loose bodies into an organization designated the *Frontier Armed and Mounted Police*, of which the first commandant was Captain (later Sir Walter) Currie. The corps had four inspectors and twelve sub-inspectors, and a strength of about 500 non-commissioned officers and men, who enlisted for three years. This body proved of great value in the difficult task of maintaining order in the unsettled border areas, and assisted not only in the creation of orderly administration in the Transkei, but also in realizing the Government policy towards the Griquas and Basutos—thus going far beyond its original object as the police force in the eastern districts of the Colony. Under the circumstances then prevailing, it was inevitable that the activities of the corps should be largely military; its military character was recognized by the Government in 1878, when, under Act No. 9 of that year, the *Frontier Armed and Mounted Police* were transformed into the *Cape Mounted Riflemen*, with a specific military organization, which made them, as stated in a later Act, "the Permanent Colonial Forces both for police and defence." This they remained until they were merged in the wider organization of the Union.

At first the corps was divided into two divisions under a separate lieutenant-colonel; but in 1883 the two wings were placed under one commanding officer, the latter being Colonel Z. S. Bayly. Enlistment was for terms of five years, and a large proportion of the recruits was at first derived from overseas. After the South African War sufficient recruits were available in the Colony itself. Commissions were awarded as the result of competitive examinations. The normal strength of the peace establishment of the regiment was about 750, and sometimes considerably less. In war time the number was raised to 1000 or over. Its functions were of a manifold and varied character, and it could be called upon to perform any and every duty bearing upon the maintenance of order either within or outside its special territory.

The Cape Mounted Riflemen did excellent service in connection with numerous native wars, including the fifth Basuto War of 1880–81, and disturbances in Pondoland and Bechuansland towards the end of the nineteenth century. During the South African War the regiment formed part of a colonial division under Brigadier-General Brabant. They saw some hard fighting, and behaved with conspicuous gallantry throughout the war. The name of the Cape Mounted Riflemen is connected with the siege of Wepener in 1900 and numerous operations in the Orange Free State, Transvaal, and the Cape Midlands. After the war they returned to police duties; but participated in 1906 in the operations against the Zulus and the marauder Ferreira.

At the date of the constitution of the Union the strength of the regiment totalled 550 rank and file.

2. **The Natal Police.**—The Mounted Police of Natal, as this force was originally called, were established in 1874 as the first regular police corps in that Colony. The organization of the corps, which was intended to comprise 50 Europeans and 150 natives, was entrusted to Major Dartnell, later Major-General Sir John Dartnell, K.C.B., C.M.G. The headquarters were at Pietermaritzburg. Great difficulties were at first encountered in maintaining the corps, owing to the lack of financial support from the Government and

the scarcity of suitable recruits, and the story of the Mounted Police in their early days is one of continual adversity, overcome by the indomitable spirit of the commander and his men. Their numbers gradually increased, and the conditions of service slowly improved. In 1879 the corps was involved in the Zulu War, and participated in the stand at Isandhlwana and the defence of Rorke's Drift. In the course of the years immediately following it also saw service against the Basutos and in the first Anglo-Boer War, being present at the battle of Laing's Nek. In consequence of the disturbed state of South Africa at that time, the duties which fell to the Mounted Police were more of a military than a police character, and in their dual capacity they proved exceedingly useful to the authorities.

In 1894 a complete reorganization of the Mounted Police was effected. Amalgamated with other smaller police bodies which had existed in Natal for some time, the corps was formed into a new force of 300 Europeans and 100 natives, called the Natal Police. Colonel Dartnell, as he was then, was appointed Chief Commissioner. The effect of this change was very noticeable in the increased efficiency of the corps, which was then for the first time able to deal adequately with the maintenance of order in the country, and the great variety of duties which that entailed. It was further strengthened by the addition in 1898 of the Zululand Native Police (a force founded in 1883 and possessed of a notable fighting record).

During the war of 1899-1902 detachments of the Natal Police were distributed to various sections of the forces, and they all served with distinction. A body of the Police was present at the siege of Ladysmith and the defence of Mahlabatini in 1901.

After the war the Natal Police resumed their duties in Natal. Major-General Sir J. G. Dartnell was succeeded as Chief Commissioner by Colonel Mansell, C.M.G. The Police played a conspicuous part during the Zulu Rebellion of 1906, which they were largely instrumental in suppressing. In 1906 Colonel Mansell was succeeded as Chief Commissioner by Colonel W. J. Clarke, who held that office at the final reorganization of the corps. At that date the Natal Police, though considerably under strength, were recognized to be a fine and efficient body of men.

**3. Organization of the Police Force in 1910.**—The subjoined table indicates the various police forces in existence at the establishment of the Union, and the numerical strength of each force according to the authorized establishment:—

**POLICE FORCES AT THE ESTABLISHMENT OF THE UNION (31st MAY, 1910).**

PROVINCE AND NAME OF FORCE.	AUTHORIZED ESTABLISHMENT.		
	Europeans.	Natives, Coloured, and Indians.	Total.
<b>CAPE OF GOOD HOPE—</b>			
Cape Mounted Police.....	515	178	693
Urban Police District, Cape Town.....	435	21	456
Urban Police District, Kimberley.....	136	3	139
Cape Urban, Rural, and District Mounted Police.....	968	168	1,136
<b>Transkei, King William's Town, and Komgha—</b>			
Cape Mounted Riflemen.....	579	147	726
Native Affairs Police.....	70	658	728
<b>TOTAL—CAPE OF GOOD HOPE.....</b>	<b>2,703</b>	<b>1,175</b>	<b>3,878</b>
<b>NATAL—</b>			
Natal Police.....	797	1,218	2,015
<b>TRANSVAAL—</b>			
Transvaal Police.....	2,282	1,321	3,603
<b>ORANGE FREE STATE—</b>			
Orange Free State Police.....	450	223	673
<b>GRAND TOTAL.....</b>	<b>6,232</b>	<b>3,937</b>	<b>10,169</b>

Each force possessed its own Commissioner, excepting the Rural and District Mounted Police Forces, Cape and Transkei, which were administered by the Secretary to the Law Department, Cape Town, and the Native Affairs Department of the Transkei, respectively, under the local control of the magistrate of the district in which the force operated.

At the establishment of the Union a Chief Commissioner was appointed for the Union with administrative headquarters at Pretoria. The Commissioner of each unit, however (excepting the Urban and District Mounted Police), retained administrative responsibility for his own force, but was directly responsible to the Chief Commissioner at Pretoria. The magistrates of Cape districts to which Rural Police were allotted thus dealt directly with the Chief Commissioner instead of with the Secretary to the Law Department of the Cape as theretofore. The centralization of administration was considered necessary so as to bring into line the various systems and methods obtaining prior to the establishment of the Union and as a preliminary to the impending amalgamation and consequent reorganization of the police force. Administration on a uniform basis was then made possible upon the actual incorporation of the various forces when the *Police Act* (No. 14 of 1912) came into effect on the 1st April, 1913.

Simultaneously with the formation of the South African Police, the Permanent Force (South African Mounted Riflemen) under the Defence Act was formed. This force took over for police purposes the Transkeian Native Territories and the districts bordering on them in the eastern portion of the Cape Province, namely, King William's Town, Komgha, Barkly East, Herschel, Aliwal North, and Glen Grey; the north-western districts of the Cape Province; the whole of Natal and Zululand (excepting the Criminal Investigation Department and Water Police at Durban); a small portion of the Orange Free State, and the northern districts of the Transvaal.

For the better control of the force the South African Police was divided into five distinct divisions, namely, the Cape Western Division, with local headquarters at Cape Town; the Cape Eastern Division, with local headquarters at Grahamstown; the Kimberley Division; the Orange Free State Division, with local headquarters at Bloemfontein; and the Transvaal Division, with local headquarters at Pretoria. In addition a district was constituted in Natal, comprising the Criminal Investigation Department of the Province and the Water Police at Durban.

The Criminal Investigation Department throughout the Union was organized on uniform lines, and a branch of the department was allotted to each division.

Particulars as to expenditure in connection with the upkeep of the Police Force are contained in Chapter XXIII.

**4. Organization of the Police Force after 1910.**—On the amalgamation of the Police Forces of the Union and the formation of the Permanent Force (South African Mounted Rifles) on 1st April, 1913, the latter force was made responsible for the policing of the Northern Transvaal, the Natal Province (with the exception of the Durban Water Police patrol area), the districts in the Orange Free State on the Basutoland border, the Transkeian native territories with the districts of King William's Town, Komgha, Aliwal North, Barkly East, and Herschel, and the north-western portion of the Cape Province; the remainder of the Union being administered by the South African Police. When War broke out in August, 1914, the South African Mounted Rifles were mobilized for active service, and the policing of the areas assigned to that force devolved on the South African Police, by whom it was continued until peace was proclaimed. The South African Mounted Rifles then took over their normal work and districts, with the exception of those in the Northern Transvaal, Orange Free State, and the Transkei, including King William's Town, Komgha, Aliwal North, Barkly East, and Herschel, which remained under South African Police administration. The fact that during peace time the work performed by both Forces is identical, led the Government to determine that from the point of view of both economy and efficiency, it would be better to convert the two Forces into one Police Force and thus do away with dual administration. This, it was considered, would result in more uniform organization. Accordingly, on 1st April, 1920, the Permanent Force (South African Mounted Rifles) was absorbed and attached to the South African Police, who again assumed responsibility for the policing of the whole of the Union. In order that adequate police protection should be afforded to the areas formerly patrolled by the South African Mounted Rifles, as many members of that Force as possible were accepted for service in the South African Police, and, twenty-six officers, 196 non-commissioned officers, 1022 constables, and 2287 native police have been so absorbed.

**5. Number of Police in Provinces and Divisions.**—The allocation of police to the various Provinces is indicated in the subjoined table (i), and in table (ii) is given an analysis of the European section of the South African Police Force on the 31st December, 1921. Table (iii) shows the strength of the South African Police Force on the 31st December in each year after 1911:—

## (i) SOUTH AFRICAN POLICE—STRENGTH ON 31st DECEMBER, 1921.

Province.	European.	Native, Coloured, and Indian.	Total.
Cape of Good Hope.....	2,765	859	3,624
Natal.....	601	1,225	1,826
Transvaal.....	2,200	1,374	3,574
Orange Free State.....	534	296	830
*Headquarters, Pretoria.....	182	36	218
†Finger Print Bureaus.....	58	1	57
<b>TOTAL.....</b>	<b>6,338</b>	<b>3,791</b>	<b>10,129</b>

\* Including Staff of Training Depot.

† Including the staffs of the Provincial bureaus at Cape Town, Pietermaritzburg, Bloemfontein, and Grahamstown.

## (ii) SOUTH AFRICAN POLICE—EUROPEAN STRENGTH ON 31st DECEMBER, 1921.

Province and Division.	Officers.	Head Constables.	1st Class Sergeants.	2nd Class Sergeants.	Con- stables.	Detectives.	Total.
Cape of Good Hope—							
Western Division.....	23	24	94	49	845	90	1,125
Eastern Division.....	23	15	59	61	791	47	996
Transkei Division.....	8	5	29	13	187	20	262
Kimberley Division.....	12	5	24	23	288	30	382
<b>Total—Cape of Good   Hope.....</b>	<b>66</b>	<b>49</b>	<b>206</b>	<b>146</b>	<b>2,111</b>	<b>187</b>	<b>2,765</b>
Orange Free State.....	15	9	35	45	400	30	534
Natal.....	18	6	44	40	445	48	601
Transvaal (except Witwaters- rand).....	19	13	53	77	746	43	951
Witwatersrand.....	17	22	97	45	859	209	1,249
*Headquarters, Pretoria...	12	9	33	23	99	6	182
†Finger Print Bureaus....	1	—	—	—	6	49	56
<b>GRAND TOTAL.....</b>	<b>148</b>	<b>108</b>	<b>468</b>	<b>376</b>	<b>4,666</b>	<b>572</b>	<b>6,338</b>

\* Including staff of Training Depot.

## (iii) SOUTH AFRICAN POLICE—TOTAL STRENGTH ON 31st DECEMBER, 1911 TO 1921.

Year.	European.	Native, Coloured, and Indian.	Total.	Year.	European.	Native, Coloured, and Indian.	Total.
1911.....	5,507	2,871	8,378	1917....	5,543	2,359	7,902
1912.....	5,617	2,807	8,424	1918....	5,284	2,298	7,582
1913*....	4,473	1,465	5,938	1919....	5,112	2,417	7,529
1914.....	4,776	1,329	6,105	1920....	6,352	3,678	10,030†
1915.....	4,998	1,573	6,571	1921....	6,338	3,791	10,129†
1916.....	5,328	2,244	7,572				

\* A portion of the Union was allotted to the South African Mounted Riflemen for policing as from 1st March, 1913.

† Including South African Mounted Riflemen.

6. **Duties of the Police.**—In addition to the duties ordinarily appertaining to a police force, the South African Police are constantly required to undertake inquiries on behalf of various Government Departments, including inquiries in respect of missing persons, the naturalization of aliens, and prohibited immigration. Its members undertake criminal prosecutions (as public prosecutors) in almost all of the rural areas of the Union. They act as messengers of the court, excise officers, immigration officers, gaolers and lock-up keepers, revenue officers, polling officers, assist in the compilation of voters' rolls, the registration of births and deaths, serve as lay (health) inspectors, inspectors of vehicles, inspectors of licences, assizers of weights and measures, post agents, pass issuers, hut and other tax collectors, health officers, compilers of jury lists, escorts for lunatics, lepers, etc., meteorological observers, enumerators of statistics, and perform various other duties which are extraneous to police duty proper.

7. **Recruiting and Losses.**—The subjoined table gives particulars as to recruiting for the police force and as to losses from the force :—

**RECRUITING AND LOSSES OF POLICE FORCE FROM 1913-14  
(EUROPEANS).**

Financial Year.	Recruiting.	Losses.
1913-14.....	801	461
1914-15.....	650	504
1915-16.....	834	796*
1916-17.....	640	360
1917-18.....	492	397
1918-19.....	353	576
1919-20.....	421	386
1920-21.....	604	473
TOTAL.....	4,795	3,953

\* The larger number during this year was due to members taking their discharge either by purchase or as time-expired in order to proceed on active service: 183 officers, non-commissioned officers, and men actually left in this manner.

### § 2. Defence System of the Union.†

1. **General.**—The Defence system of the Union is provided by the *Defence Act* (No. 13) of 1912. Under this Act every citizen of European descent is liable between his seventeenth and his sixtieth year (both included) to render in time of war personal service in defence of the country in any part of South Africa within or without the Union. Further, every citizen of sound physique between his seventeenth and his twenty-fifth year (both included) is liable to undergo a course of peace training for four years. All employers are bound by law to afford their employees facilities for training without in any way prejudicing their employment. A minimum of 50 per cent. of those liable for peace training is required annually; others being required in their twenty-first year to enrol as members of rifle associations for the same period of four consecutive years. As an alternative, citizens may enter for service in the South African Division of the Royal Naval Volunteer Reserve. Every other citizen liable to render war service is also allowed to engage as a member of a rifle association if he elects to do so. The liability of non-Europeans to service may be determined by Parliament.

2. **Administration.**—A Council of Defence, a headquarters staff, and instructional and administrative staffs for the fifteen military districts of the Union have been constituted.

3. **The Permanent Force.**—This force consists of three batteries of Field Artillery, one regiment of Mounted Riflemen, two companies of permanent Garrison Artillery with a section of Fortress Engineers, Signal Corps, and Supply and Transport details.

A training depot for recruits is established at Roberts Heights in connection with the South African Military School.

† As from the 1st December, 1921, the Union Government assumed full responsibility for the land defences of the Union, and took over all Imperial War Department lands and buildings and certain Admiralty lands for defence purposes (Act No. 33 of 1922).



**4. The South African Military School.**—This school was organized in 1912 for the training and instruction of officers and other ranks of the Permanent Force, Citizen Force, and Cadets. It was originally stationed at Tempe, but was transferred in recent years to Roberts Heights.

The school consists of three branches—the General Branch, Musketry and Signalling Branches.

**5. The Coast Garrison Force.**—This force consists of the South African Garrison Artillery and Coast Defence Corps. Divisions of the Garrison Artillery are established at Cape Town and Durban, and men below the age of thirty are eligible for enrolment, and receive liberal payment for attending drills. Citizens liable for peace training may serve their time in this force. The Coast Defence consists of men specially trained in harbour work, engineering, signalling, and telegraphy.

**6. The Citizen Force.**—This force consists of all persons liable to render personal service in time of war (other than members of the other forces mentioned) and comprises three divisions, viz., the Active Citizen Force, the Citizen Force Reserve, and the National Reserve.

**7. Registration.**—All youths in the Union between the ages of seventeen and twenty-one years must register themselves under the Defence Act. They are required to furnish their names and addresses to the registering officer of their district in the month of January of the year in which they attain the age of seventeen years. Special provisions apply to those outside the Union at this specified time and to those between the ages of seventeen and twenty-one years who become citizens of the Union subsequent to the month of January in their seventeenth year. Failure to register in every case constitutes an offence punishable by law. To every citizen who registers is handed a *Record Book* in which full information as to his service and training is entered. Any change of address must be notified to the District Staff Officer. The compulsory registration of citizens for training is at present held in abeyance.

**8. The Active Citizen Force.**—This force consists of men who undergo peace training for four years between their seventeenth and twenty-fifth years. All youths between the ages of seventeen and twenty-one years may volunteer for peace training. If sufficient volunteers are not forthcoming recourse may be had to the ballot to make up the required numbers. All young men who do not volunteer for peace training are required to become members of Defence rifle associations. As explained hereinbefore, a minimum of about 50 per cent. of the citizens liable to peace training is required annually. The first registration took place in January, 1913, and a splendid response followed, so that up to the present recourse to the ballot has not been necessary.

**9. Military Districts.**—The Union is divided into fifteen military districts with headquarters of the District Staff Officers at the places named:—

No. 1 Military District, Cape Town.	No. 9 Military District, Pretoria.
No. 2 " " Port Elizabeth.	No. 10 " " Kroonstad.
No. 3 " " East London.	No. 11 " " Bloemfontein.
No. 4 " " Pietermaritzburg.	No. 12 " " Calvinia.
No. 5 " " Durban.	No. 13 " " Kimberley.
No. 6 " " Standerton.	No. 14 " " Worcester.
No. 7 " " Potchefstroom.	No. 15 " " Graaff-Reinet.
No. 8 " " Johannesburg.	

**10. South African Air Force.**—(i) *Inauguration.*—The South African Air Force was inaugurated almost entirely with the gift from the Imperial Government of 100 aeroplanes together with spares and equipment to maintain them for a year under active service conditions.

(ii) *Proposed Organization.*—The proposed organization is as follows:—

(a) *Headquarters*, comprising Staff, Photographic, Armament, Wireless, and Kite Balloon (Meteorological) Sections.

(b) *Aircraft Depot*, comprising Administrative and Stores Sections, and Aeroplane, Aero-engine and Mechanical Transport Workshops.

(c) *Two Squadrons*, each consisting of one Headquarters (Administrative) Flight and three Aeroplane Flights. Each Aeroplane Flight is organized so as to be able to expand readily into a Squadron as follows:—

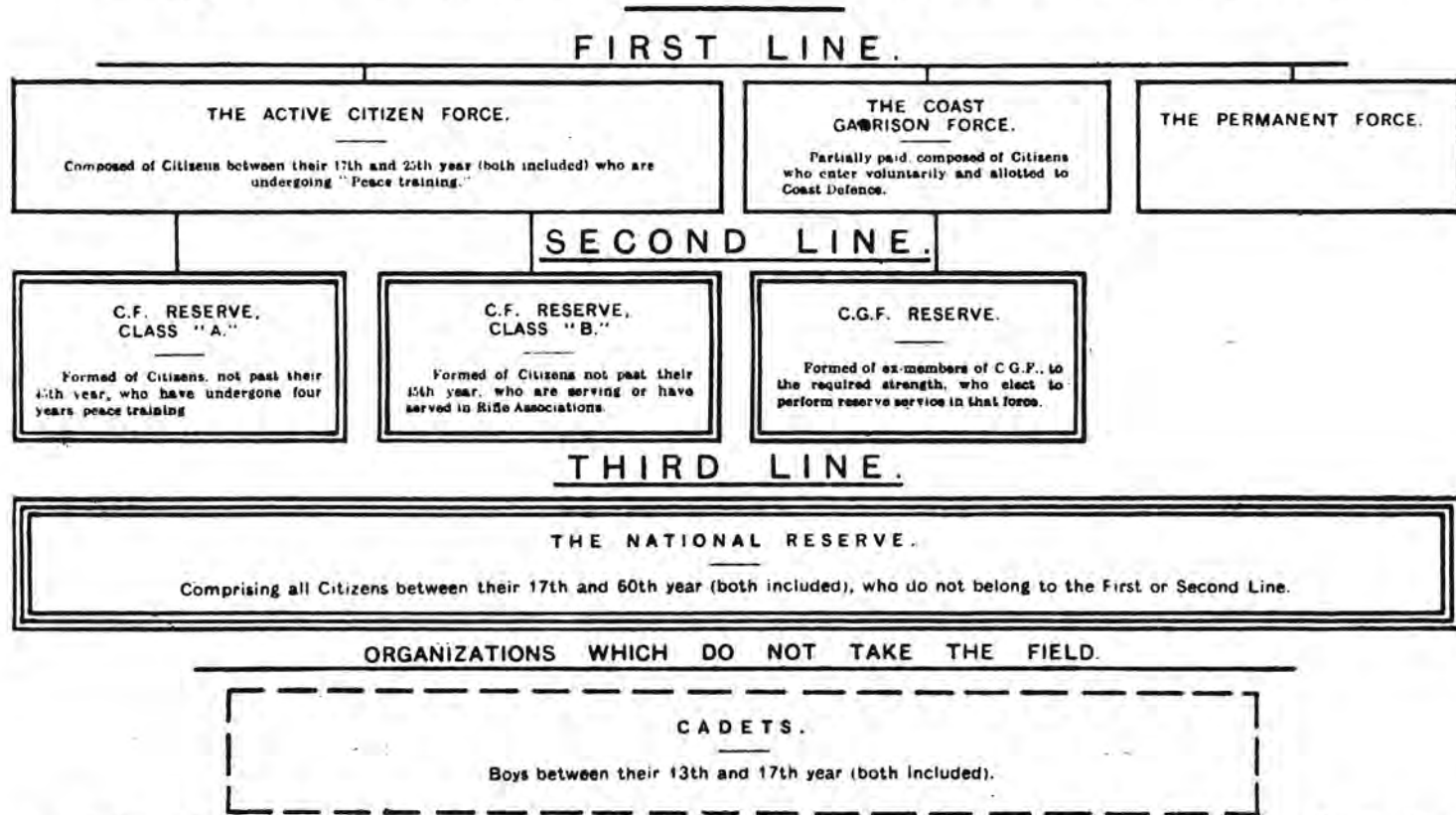
*S.E.5 Flight.*—Cadre of a fighting and ground strafing squadron.

*Aero Flight.*—Cadre of a training and artillery co-operation squadron.

*D.H.9 and D.H.4 Flights.*—Cadres of long distance photographic, bombing, and reconnaissance squadrons.

(d) *Special Reserve of Flying Officers*, to enable the expansion referred to under heading (c) to be effected.

# Diagram illustrating the System of Military Defence of the Union.



**NOTE.**—The Royal Naval Volunteer Reserve, being designed to aid with Naval Service, is not included above.

**ABBREVIATIONS**—C.G.F.: Coast Garrison Force. C.F.: Citizen Force.

(iii) *Development*.—During the financial year 1921–22 the following were established:—Headquarters and depot as already described and two Aeroplane Flights (Avro and D.H.9 and D.H.4).

Future developments are projected in the direction of establishing various aerodromes situated at strategical points throughout South Africa and the training of the Reserve of Officers.

At the end of the financial year 1921–22 the personnel of the South African Air Force consisted of 23 officers and 250 non-commissioned officers and other ranks.

**11. The Citizen Force Reserve.**—This force is divided into two classes. Class A consists of men who have undergone peace training in the Coast Garrison or Active Citizen Forces and are not over forty-five years of age. Class B consists of members or past members of Defence Rifle Associations.

**12. The National Reserve.**—This embraces all citizens between the ages of seventeen and sixty years who are not serving in any other portion of the Defence Forces. After the whole of the Active Citizen Force and the Citizen Force Reserve have been mobilized in time of war, the National Reserve may be called out in three classes according to age.

**13. South African Naval Service.**—The South African Naval Service consists of the following units:—

(i) South African Division, R.N.V.R., which embraces citizens liable for peace training who elect to perform naval service. Companies are established as follows:—A and B Companies based at Cape Town (headquarters, The Castle); C Company at Durban (headquarters, Esplanade, Durban); D Company at Port Elizabeth; E Company at East London.

(ii) two mine-sweeping trawlers, "Foyle" and "Eden."

(iii) one surveying sloop, "Crozier."

These units are administered under the orders of the Commander-in-Chief, Africa Station, by the Commander, S.A. Division, whose headquarters are at Simonstown.

**14. Rifle Associations.**—All citizens who are required to register themselves but who do not undergo peace training are required to serve for four years in a rifle association. Every such citizen will be enrolled as a member of a rifle association on the 1st July, in his twenty-first year. Any other citizen liable to render personal service in time of war, not being a member of the Permanent Force, the Coast Garrison Force, or the Active Citizen Force, may become a member of a rifle association on prescribed conditions; also boys between the ages of thirteen and seventeen residing in areas where no facilities for cadet training exist. Rifles are provided for members of these associations free of charge on a percentage basis, or members may purchase Government rifles at cost price. A free issue of ammunition is made to all members annually.

#### NUMBER AND MEMBERSHIP OF DEFENCE ASSOCIATIONS, BY PROVINCES, 1920–21.

Province.	Number of Associations.	Membership.		
		Officers.	Other Ranks.	Total.
Cape of Good Hope.....	371	802	41,609	42,471
Natal.....	52	79	4,304	4,383
Transvaal.....	210	341	24,717	25,058
Orange Free State.....	382	1,274	48,087	49,961
<b>UNION.....</b>	<b>1,015</b>	<b>2,496</b>	<b>110,377</b>	<b>121,373</b>
At 30th June, 1920.....	885	2,750	95,972	98,722

**15. Cadets.**—In addition to the various forces enumerated, boys between the ages of thirteen and seventeen in all parts of the Union where facilities for proper training can be arranged are required, unless their parents or guardians object, to become cadets. A cadet who has served efficiently for three years is entitled to a certificate which has the effect of securing a diminution of the subsequent training in the Citizen Force. All arms and equipment for cadet training are issued, and the cost of training is provided, at the public expense.

The following statement shows the number of officers and cadets in each of the four Provinces at 30th June, 1913, 1920, and 1921:—

Provinces.	1913.		1920.		1921.	
	Officers.	Cadets.	Officers.	Cadets.	Officers.	Cadets.
Cape.....	177	3,943	414	13,000	411	15,433
Transvaal.....	135	3,173	355	10,657	379	12,956
Natal.....	32	3,858	83	3,539	94	3,929
Orange Free State.....	—	—	81	2,806	80	2,819
<b>TOTAL.....</b>	<b>344</b>	<b>10,974</b>	<b>933</b>	<b>30,602</b>	<b>973</b>	<b>35,137</b>

### § 3. South Africa and the European War.

**1. Outbreak of War.**—On the outbreak of the European war in August, 1914, the first step that had to be considered was the defence of the Union against invasion or other attacks of the enemy. Within a few days of the declaration of war, the Imperial Government asked the Government of the Union to undertake the entire duty of protecting the borders and coasts of the Union in order to release the Imperial garrison, and while not protecting the coasts from the sea, for which the squadron of the Royal Naval Volunteer Reserve was placed at the King's disposal for service at sea. The next step was to organize and dispatch forces to the boundaries of the Union as a protective measure and this became urgent because hostile acts by the enemy in German South-West Africa commenced very shortly after the declaration of war. At the request of the Imperial Government and as a necessary measure of precaution, enemy subjects of military age were placed in internment camps. To prevent trading with the enemy and as a further necessary precaution, a measure of control of import and export of certain commodities had to be instituted. The usual cable, postal, and, to a limited extent, Press censorship were instituted. It was also necessary to put into force strong restrictions on trade in arms and ammunition throughout the period of the war. All arms and ammunition were collected from enemy subjects at the beginning of the war.

**2. German South-West African Campaign and Rebellion.**—Before the war had been in progress a month the Imperial Government asked the Union Government to undertake military action against German South-West Africa. Provisional steps were immediately taken to prepare for this undertaking, and in September, 1914, the Parliament of the Union sanctioned it. Forces were rapidly organized and dispatched.

Early in October a portion of the forces detailed to protect the Union on the border contiguous to German South-West Africa went over to the enemy with its commander at their head. Within a fortnight, rebellion broke out in various portions of the northern Provinces, and by the end of the month rebel forces had been organized and were encamped at several points. Martial law was proclaimed and a considerable force, consisting of portions of the Defence Forces and burgher commandos which were rapidly organized, was quickly in motion to put down the rebellion. Within a few weeks the chief resistance of the rebels was broken, although the latter were assisted on the German South-West African border by German troops, equipped with artillery; and by the middle of December the rising was wholly suppressed. Meanwhile, military action in German South-West Africa was in abeyance. In January, 1915, a reorganization of the expeditionary force against that territory was effected and it very quickly took the field. The country was attacked by sea and land, and considering the great natural obstacles that had to be overcome, the Union Forces succeeded in breaking the resistance of the enemy in an incredibly short time. By the middle of July the whole of the enemy forces had surrendered. The demobilization of the expeditionary forces, which consisted of 3,516 officers and 63,721 men, was effected by the end of August.

Statistics of the South-West Africa campaign and the Rebellion, chiefly of a medical character, were published in Official Year Book No. 3.

3. **Overseas Forces.**—Immediately after the close of this campaign steps were taken to organize forces for service overseas. A vigorous recruiting campaign was successfully conducted throughout the Union, and an expeditionary force, consisting of a Heavy Artillery Brigade, an Infantry Brigade, Medical units, and a Signalling unit, was rapidly organized, trained, and dispatched to Europe. This force, which was maintained throughout the war on the European western front, performed heroic services, and its name is especially associated with the battle of Delville Wood, fought in July, 1916.

4. **German East Africa.**—In October, 1915, the Union Government was asked to organize a large force for service in German East Africa. An expeditionary force, consisting of two mounted brigades and two mounted regiments, two infantry brigades and two rifle regiments, field artillery, and departmental units of every service, was trained and dispatched within five months. The back of the enemy's resistance in East Africa was broken by the end of 1916, when the bulk of the Union troops returned from East Africa and were speedily demobilized. Small bodies of Union troops remained in East Africa to the end and were maintained with reinforcements as required.

5. **Other Theatres.**—The South African Field Artillery and the Cape Corps (composed of coloured persons recruited mainly in the Cape Province) served with distinction in Egypt and Palestine, after participating for a time in the East African campaign.

6. **Equipment and Supplies.**—During the period of the East African campaign great quantities of supplies of all kinds, medical requirements, transport, and remounts were purchased in or supplied by the Union on behalf of the Imperial Government and shipped to East Africa. Batteries of artillery used in the German South-West African campaign were refitted and re-equipped, and also dispatched for service in German East Africa, and subsequently in Egypt and Palestine.

Particulars of the work of the Quartermaster-General's section during the war were given in Official Year Book No. 4.

7. **Demobilization.**—On the signing of the Armistice in November, 1918, the first steps were immediately taken for the speedy demobilization of the overseas expeditionary forces on their return to the Union and the setting up of machinery to place soldiers in employment as soon as demobilized. Union troops returned in large batches as quickly as the Imperial Government could embark them and demobilization was expeditiously carried out. The troops from East Africa and Palestine were demobilized at Roberts Heights and Durban and those from Europe at Cape Town.

8. **Returned Soldiers.**—After demobilization every effort was made to find employment for returned soldiers, and a special branch of the Defence Department was constituted and local committees and advisory boards established throughout the Union to deal with all matters relating to returned soldiers and to help them and their wives and families in every direction in which it was possible. Over 32,000 applications for employment were received from returned soldiers, and employment was found for nearly 30,000. Farms for training returned soldiers in agriculture were established at six places, and special facilities were granted to enable returned soldiers to take full courses at the agricultural colleges. A scheme for placing returned soldiers with private farmers for training was successfully initiated. About 1,000 returned soldiers were settled on the land up to the middle of 1921. Assistance was given to returned soldiers who desired to be apprenticed to trades as well as to returned soldiers whose studies were interrupted in order to enable them to complete their education. In conjunction with the Governor-General's Fund vocational training was given to disabled soldiers.

9. **Pensions.**—Provision was made under the War Special Pensions Acts passed in 1916 and subsequent years, for the payment of pensions to disabled soldiers and the dependents of soldiers who lost their lives.

10. **Expenditure.**—The cost of the German South-West African campaign was £12,000,000, and of the Rebellion £5,000,000, and, in addition, Union funds bore an expenditure of £9,575,000 for excess pay (Union rates over Imperial rates) of members of Union contingents and other war expenditure. The total war expenditure of the Union was £26,675,000. The total expenditure by the Imperial Government within the Union on account of pay and allowances and purchases for East Africa, etc., amounted to £22,000,000. Of these totals about £5,750,000 was expended on purchases outside the Union, so that approximately £43,250,000 was expended in the Union.

11. **Special Legislation.**—During the war period various special measures were introduced in and passed by Parliament to meet the needs of the situation. The chief of these were the *Public Welfare and Moratorium Act, 1914*; the *Indemnity and Special Tribunals Act, 1915*; the *War Special Pensions Acts*; and the *Trading with the Enemy Act, 1916*. Further details of special war legislation will be found in previous issues of this Year Book.

**12. Custodian of Enemy Property.**—The Custodian of enemy property was appointed under the *Trading with the Enemy Act* (Act No. 39 of 1916), which came into force on the 22nd June, 1916. The principal functions of the Custodian were the following:—

- (a) To collect moneys, to liquidate businesses, and to control firms and businesses belonging to enemies or of enemy association.
- (b) To examine and prepare statistics required by the courts in connection with applications for vesting or of sale of property.
- (c) To enforce the prohibitions with regard to trading with enemies.
- (d) To administer the estates and property vested and to register claims by British subjects in the Union against enemy persons, firms, or companies.
- (e) To control sums of money sent overseas for the maintenance of certain persons in enemy territory.

The number of individual persons whose assets in the Union were controlled by the Custodian exceeded a total of 10,000, while the assets at 30th June, 1919, amounted to £12,603,463, the most important element being certain gold mining and other shares and debentures at a nominal value of £5,556,120. The assets of the German Missions, five in number, were vested in the Custodian, and a Controller was appointed in each case. The value of the trading rights and other property of the Missions in the Union was estimated at £875,000.

**13. Personnel and Casualties (War Contingents).**—The tables given hereunder contain particulars as to the personnel of the various contingents in the campaigns with which the Union Forces were associated, and also the number of casualties.

Two hundred and sixty vessels were utilized in transporting troops, animals, material, etc., to East Africa, and eighty-four vessels were similarly employed in respect of the South African Overseas Force.

**SOUTH AFRICAN FORCES ON WAR SERVICE.**

(a) PERSONNEL.

DESCRIPTION.	EUROPEAN.				COLOURED LABOUR UNIT.	NATIVE LABOUR CONTINGENTS.	TOTAL.
	Officers.	Other Ranks.	Total All Ranks.	Nurses.			
Overseas European Forces.....	471	30,248	30,719	131	1,925	25,111	57,886
Overseas Egyptian Forces.....					—	—	
East African Forces.	1,290	42,187	43,477	—	—	16,845	60,322
Central African Forces.....					—	—	
South-West African Forces.....	3,516	63,721	67,237	69	—	33,546	100,852
Union Establishments.....	—	—	5,082	182	—	7,267	12,531
<b>TOTAL.....</b>	<b>5,277</b>	<b>136,156</b>	<b>146,515</b>	<b>382</b>	<b>1,925</b>	<b>82,769</b>	<b>231,591</b>

(b) CASUALTIES.

Description.	Killed and Died of Wounds.	Died of Accident and Disease.	Total Deaths.	Wounded.	Prisoners of War.	Total Casualties.
Overseas European and Egyptian Forces.....	3,884	570	4,454	10,325	1,437	14,779
East and Central African Forces	502	1,109	1,611	1,151	181	2,762
South-West African Forces....	246	131	427	560	782	987
Union Establishments.....	—	114	114	—	—	114
<b>TOTAL.....</b>	<b>4,632</b>	<b>1,974</b>	<b>6,606</b>	<b>12,036</b>	<b>2,400</b>	<b>18,642</b>

**14. Military Decorations.**—The following list of military decorations and honours awarded in the Union, principally for service connected with the European War, is additional to lists previously published in the second and fourth issues of the Year Book. Owing to exigencies of space, these earlier lists have not been repeated:—

**MOST HONOURABLE ORDER OF THE BATH.**

*Companion of the Bath.*

Rank and Name.	Unit.
Tanner, Lt.-Col. (Temp. Brig.-Gen.) W. E. C., C.M.G., D.S.O.	South African Forces.

**ORDER OF SAINT MICHAEL AND SAINT GEORGE.**

*Companions.*

Rank and Name.	Unit.
Burne, Temp. Maj. (Actg. Lt.-Col.) N. H. M., D.S.O.....	Lt.-Col., S.A. Forces, 7th Bn., Shropshire Light Infantry.
Collett, Temp. Maj. (Actg. Lt.-Col.) E. J., D.S.O.....	Middlesex Regt., attd. London Regt.
De Havilland, Temp. Maj. (Temp. Lt.-Col.) T. L., D.S.O.	(S.A. Forces), Service Bn., Royal Scots Fus.
Jenkins, Temp. Lt.-Col. H. H., D.S.O.....	Royal Fusiliers.
Thomson, Temp. Lt.-Col. G. R.....	S.A. Medical Corps.

**MOST EXCELLENT ORDER OF THE BRITISH EMPIRE.**

*Knights Commanders.*

Rank and Name.	Unit.
Brand, Flight Lt. C. J. Q., D.S.O., M.C., D.C.F.....	Royal Air Force.
Van Ryneveld, Lt.-Col. H. A., D.S.O., M.C.....	S.A. Air Force.

*Commanders.*

Rank and Name.	Unit.
Anderson, Temp. Lt.-Col. J. D., D.S.O.....	C.A.H.T., attd. R.A.S.C.
Baker, Temp. Maj. and Brev. Lt.-Col. J. Mitchell, D.S.O.	Staff, S.A. Forces.
Burgess, Temp. Lt.-Col. C. R., D.S.O.....	Special List.
Duff, Capt. (Temp. Col.) C. de V.....	S.A. Forces.
Edwards, Maj. and Brev. Lt.-Col. R. R.....	Permanent Force (Staff).
Harris, Lt.-Col. H. S.....	Royal Fusiliers (attd. Gold Coast Regt.).
Nussey, Temp. Maj. and Brev. Lt.-Col. A. H. M., D.S.O.	Special List.
Stock, Col. P. G., C.B.....	S.A.A.M.C.
Ward, Lt.-Col. A. B., D.S.O.....	S.A. Medical Corps.

MOST EXCELLENT ORDER OF THE BRITISH EMPIRE—*continued.**Officers.*

Rank and Name.	Unit.
Andersson, Lt.-Col. C. L.	Reserve of Officers.
Averre, Temp. Maj. W. J.	S.A.A.S.C.
Bagenal, Maj. C. J.	Political Officer, East Africa.
Baker, Maj. H. C.	S.A.A.M.C.
Balfour, Temp. Maj. (Actg. Lt.-Col.) H. H.	S.A.A.M.C.
Bateman, Maj. J. C.	S.A. Pay Corps.
Bell, Capt. R. J., M.C.	S.A. Service Corps.
Bowles, Temp. Capt. E.	S.A. Expeditionary Force.
Bromflew, Temp. Maj. B. H.	S.A. Service Corps.
Browne, Temp. Maj. C. M., M.C.	S.A. Forces (General List).
Cameron, Capt. and Qr.Mr. C. S., M.C.	S.A. Labour Corps.
Chevans, Temp. Capt. (Actg. Lt.-Col.) H. G.	S.A. Forces (Reserve of Officers).
Clarke, Temp. Lt.-Col. W. J.	General List.
Collins, Lt. (Actg. Capt.) F. M.C.	S.A. Engineers.
Daniels, Temp. Maj. H. D.	S.A.A.S.C.
Davidson, Maj. O. G.	S.A. Native Labour Corps.
Deane, Maj. (Actg. Lt.-Col.) R.	S.A. Infantry.
Dickson, Maj. (Actg. Lt.-Col.) J.	S.A. Engineers.
Douglas, Paymtr. Lt.-Commander J.	R.N.V.R. (South Africa).
Dunbar, Maj. R. M., M.C.	S.A. Service Corps.
Duncan, Maj. F. M.	Defence Forces.
Emmett, Temp. Lt.-Col. J. J. C.	S.A. Native Labour Corps.
Fawcus, Temp. Lt.-Col. A.	S.A. Native Labour Corps.
Field, Maj. (Temp. Lt.-Col.) W. V.	S.A. Medical Corps.
Fincham, Capt. J. W. G.	Supernumery List, A.C.F.
Geddes, Temp. Capt. W. L.	S.A. Labour Corps.
Godfrey, Capt. M. v. S.	Royal Garrison Artillery.
Gordon, Capt. W. L.	S.A. Medical Corps.
Grinsell, Temp. Lt.-Col. J.	S.A. Medical Corps.
Guinness, Lt.-Col. E. W. N.	Railway Corps, S.A. Force.
Hamilton, Lt. (Actg. Capt.) W. V.	S.A.A.S.C.
Harris, Maj. J. J. F.	S.A. General List.
Hay, Commander the Hon. S. M. A. J.	R.N.V.R. (South Africa).
Hinde, Maj. (Actg. Lt.-Col.) A. B.	R.A.M.C. (Retired).
Hornby, Capt. H. E.	S.A. Veterinary Corps.
Horwich, Temp. Lt.-Col. D.	S.A.A.M.C.
Hoeken, Temp. Capt. (Actg. Maj.) C. C.	S.A. Service Corps.
Jacobsz, Temp. Lt.-Col. J.	S.A. Native Labour Corps.
Jenner, Temp. Maj. L. W.	C.A.H.T., attd. R.A.S.C.
Klerck, Maj. W. J.	4th Mounted Brigade.
Knight, Capt. (Actg. Maj.) R. C.	General List.
Lange, Capt. R. C.	Supernumery List, A.C.F.
Langebrink, Lt.-Col. (Hon. Col.) A.	Union Reserve of Officers.
Lane, Temp. Capt. W. H. C. A.	S.A. Signal Service.
Lennox, Rev. J.	Chaplain to Forces, S.A.N.L.C.
Long, Temp. Capt. W.	C.A.H.T., attd. R.A.S.C.
Lyle, Temp. Lt.-Col. J. C. V., D.S.O., M.C.	Labour Corps.
Macauley, Temp. Lt.-Col. D.	R.A.M.C.
MacDougall, Maj. I.	S.A. Infantry.
Manning, Maj. C. N.	S.A. Forces.
Marshall, Capt. H. E.	1st Cape Coloured Labour Battalion.
Maxwell, Temp. Lt.-Col. R.	S.A. Medical Corps.
Medlicott, Capt. (Actg. Maj.) R. F. C., M.C.	S.A. Infantry.
Menzies, Capt. D.	S.A.A.S.C. (M.T.).
Merritt, Hon. Lt.-Col. and Qr.Mr. G.	S.A. Medical Corps.
Milner-Smyth, Lt.-Col. R.	S.A. Medical Corps.
Mullins, Temp. Capt. (Actg. Maj.) H. R.	S.A. Medical Corps.
Napier, Maj. F.	S.A.A.M.C.
Nicholson, Maj. R. G.	3rd Mounted Brigade.
Orford, Temp. Lt.-Col. H. J.	S.A.A.M.C.
Parker, Capt. R. D.	S.A.A.M.C.
Peachey, Temp. Lt.-Col. W. E.	Labour Corps.
Pepper, Maj. A. L., M.C.	S.A. Reserve Brigade.
Porter, Temp. Lt.-Col. C.	S.A.A.M.C.
Rann, Maj. A. E., M.C.	S.A. Heavy Artillery.
Rizby, Maj. J. C. A.	S.A.A.M.C.
Robertson, Maj. G. W.	S.A. Medical Corps.
Ronald, Capt. G.	S.A. Service Corps.
Ross, Temp. Capt. F. McK., M.C.	S.A. Engineers.
Ryder, Matron-in-Chief E., R.R.C.	S.A. Military Nursing Service.
Sellick, Temp. Maj. A. J.	Supernumery List, A.C.F.
Shadwell, Lt. L. H. A.	R.N.V.R. (South Africa).
Sproule, Maj. H.	1st Cape Coloured Labour Battalion.
Struben, Lt. C. F. W.	R.N.V.R. (South Africa).
Thomas, Capt. (Actg. Maj.) W.	S.A. Medical Corps.
Trevett, Maj. O. G.	S.A.A.S.C. (M.T.) (Reserve of Officers).
Usmar, Lt.-Col. G. H.	S.A. Medical Corps.
Wakefield, Temp. Capt. (Temp. Maj.) H. S.	General List.
Wolff, Temp. Maj. (Actg. Lt.-Col.) H. P.	Labour Corps.
Wolmarans, Capt. M. J.	Permanent Force (Staff).



MOST EXCELLENT ORDER OF THE BRITISH EMPIRE—*continued.**Members.*

Rank and Name.	Unit.
Armstrong, Temp. Capt. H. W.	General List.
Bagshawe, Capt. F. J.	Assistant Political Officer, Mbulu, E. Africa.
Balfour, Lt.-Col. H. H.	B.A.M.C.
Bate, J. O. S.	Defence Department.
Beatty, Temp. Lieut. H. J.	General List.
Bowen, Temp. Capt. F. H.	S.A. Service Corps.
Brebner, Capt. I. W.	S.A. Medical Corps.
Clegg, Temp. Capt. R. E.	S.A. Service Corps.
Collett, Lt. A. W.	Hunt's Scouts.
Collins, Capt. E. R. K.	Labour Corps, East African Force.
Coney, Temp. Lt. C. F.	S.A. Native Labour Corps.
Croft, Lt. G. H. B.	S.A. Infantry.
Cumming, Temp. Capt. F.	Special List.
Davies, Temp. Capt. A. T.	S.A. Forces (A.S.C.).
De Lisle, Rev. H. F.	S.A. Chaplains' Dept.
Fourie, L., Esq., M.B., Ch.B.	
Gwatkin, Temp. Capt. R. D. S.	Royal Field Artillery (Lt., S.A. Forces; specially employed).
Hahn, C. H. L., Esq.	
Hamilton, Lt. (Actg. Capt.) W. V.	S.A. Service Corps.
Harris, Capt. H. B.	S.A. Infantry.
Heeley, Lt. H. N., M.C.	S.A. Infantry.
Henry, Temp. Capt. J. O.	S.A. Motor Cyclist Corps.
Holmes, Miss G. E.	S.A. Military Nursing Service.
Houghton, Temp. Lt. W. J.	S.A. Motor Cyclist Corps.
Johnston, Lt. (Actg. Capt.) W. J.	S.A. Signal Company.
Kimberley, No. 17409 Sergt.-Maj. H.	S.A. Medical Corps.
Lagerwell, Capt. F. A.	S.A. Infantry.
Lane, Temp. Capt. W. H. C. A.	S.A. Signal Service.
Manseth, Temp. Capt.	S.A. Service Corps.
McPherson, Capt. S. M.	S.A. Medical Corps.
Newell, 2nd Lt. W.	S.A. Defence Forces.
Oakeley, Capt. H. E. H.	S.A. Medical Corps.
Patterson, Temp. Lt. D. H.	S.A. Service Corps (M.T.).
Pattle, Temp. Capt. B. J. H.	S.A. Service Corps.
Smith, Lt. C. N.	Hunt's Scouts.
Thomson, Capt. A. M.	S.A. Infantry.
Tinley, Nursing Sister M. E., A.R.R.C.	S.A. Military Nursing Service, S.A. Hospital, Richmond.
Turner, Lt. F.	S.A. Water Supply Corps.
Van Collier, Capt. C. A. B.	S.A. Forces.
Watson, Temp. Capt. W.	S.A. Special Service Company.

THE GRAND PRIORY OF THE ORDER OF THE HOSPITAL OF ST. JOHN OF JERUSALEM  
IN ENGLAND.*Knight of Grace.*

Rank and Name.	Unit.
Hoy, Col. Sir W. W., C.B.	Railways and Harbours Brigade.

## DISTINGUISHED SERVICE ORDER.

Rank and Name.	Unit.
Beverley, Temp. Capt. R., M.C.	S.A. Infantry.
Bunce, Temp. Lieut. (Actg. Capt.) H.	4th Battalion, S.A. Infantry.
Carson, Temp. Maj. E. H., M.C.	Tank Corps.
Clerk, Maj. E. G.	S.A. Infantry.
Cornwall, Temp. Maj. C. E.	S.A. Forces (attd. Gordon Highlanders).
Currin, Temp. Capt. R. W.	Yorks and Lancs Regiment.
Goldberg, Temp. Capt. B.	6th Light Armoured Motor Battery, Machine-Gun Corps (Motor).
Jacobs, Temp. Capt. I. M.	2nd Battalion, S.A. Infantry.
Macfie, Capt. T. G., M.C.	4th Battalion, S.A. Infantry.
Ormiston, Temp. Maj. T.	1st Battalion, S.A. Infantry.
Rogers, Temp. Maj. (Actg. Lt.-Col.) H. P.	23rd Battalion, S.A. Infantry.
Stallard, Temp. Maj. C. F., M.C.	23rd Battalion Middlesex Regiment., attd. 15th Battalion, Hampshire Regiment.
Ward, Maj. C. P.	72nd Siege Battery (S.A. Heavy Artillery).

## BAR TO DISTINGUISHED SERVICE ORDER.

Rank and Name.	Unit.
Christian, Temp. Lt.-Col. E., D.S.O., M.C.....	S.A. Infantry.
Currin, Temp. Maj. (Actg. Lt.-Col.) R. W., D.S.O....	Yorks and Lancs Regiment, attd. Notts and Derby Regiment.
Dawson, Lt.-Col. (Temp. Brig.-Gen.) F. S., C.M.G., D.S.O.	S.A. Infantry.

## MILITARY CROSS.

Rank and Name.	Unit.
Bailey, Lt. H.....	72nd Siege Battery (S.A. Heavy Artillery).
Bayers, Temp. Capt. G. A.....	S.A. Medical Corps, attd. 1st Battalion, S.A. Infantry.
Botha, Capt. L.....	S.A. Defence Forces.
Bowden, Temp. Capt. G.....	S.A. Defence Forces (Middlesex Regiment).
Carter, Temp. 2nd Lt. E., M.M.....	S.A. Infantry.
Cawood, Temp. 2nd Lt. R. C.....	1st Battalion, S.A. Infantry.
Conquer, S.A.M.B./277 Battery Sergt.-Maj. E.....	S.A. Field Artillery.
Cragg, Temp. 2nd Lt. J. C.....	2nd Battalion, S.A. Infantry.
Crooks, Lt. A. S.....	1st Battalion, S.A. Infantry.
Curtis, Temp. 2nd Lt. E. C.....	S.A. Infantry.
Dryden, 2nd Lt. S. G.....	7th, attd. 2/23rd Battalion, London Regt.
Eltas, Lt. D. H.....	2nd Battalion, S.A. Infantry.
Faulda, Temp. Lt. W. F., V.C.....	S.A. Infantry.
Featherstone, Temp. Capt. C.....	General List.
Florance, Temp. Capt. M. W.....	S.A. Service Corps (M.T.), attd. Intell. Dept.
Garstang, Temp. 2nd Lt. T.....	S.A. Infantry.
Heeley, Temp. Lt. H. N.....	2nd Battalion, S.A. Infantry.
Hely-Hutchinson, Temp. Lt. (Temp. Capt.) C. D.....	Royal Artillery.
Hewat, Temp. 2nd Lt. R. D.....	2nd Battalion, S.A. Infantry.
Humphrey, Temp. Lt. (Actg. Capt.) J. T.....	2nd Battalion, S.A. Infantry.
Keith, No. 2300 Company Sergt.-Maj. (Actg. Regimental Sergt.-Maj.) F., D.C.M.	4th Battalion, S.A. Infantry.
Langebrink, Temp. Lt. E.....	S.A. Field Artillery.
Lardner-Burke, Temp. Capt. G. D.....	Intelligence Department (East Africa).
Lawrence, Temp. Capt. H. B.....	1st Field Ambulance, S.A. Medical Corps.
Longuet-Higgins, Rev. R. H. L.....	Temp. Chaplain to Forces, 4th Class, R.A. Chaplains Dept.
Maddison, Lt. E. A. J.....	75th Siege Battery (S.A. Heavy Artillery).
Marshall, Temp. Capt. R. B.....	4th Battalion, S.A. Infantry.
Martin, Temp. 2nd Lt. H. A.....	1st Battalion, S.A. Infantry.
Mellish, Temp. Lt. F. W.....	71st Siege Battery (S.A. Heavy Artillery).
Merrillith, No. 5755 Sergt.-Maj. G.....	1st Battalion, S.A. Infantry.
Middleton, Temp. Lt. E.....	4th Battalion, S.A. Infantry.
Molloy, Capt. A. J.....	5th S.A. Infantry.
Miller, Temp. 2nd Lieut. B. S.....	Royal Garrison Artillery (S.A. Heavy Arty.).
Pentz, Temp. 2nd Lt. H. F.....	1st Battalion, S.A. Infantry.
Perren, Temp. 2nd Lt. C. H.....	1st (Reserve) Battalion, S.A. Infantry.
Peters, Temp. 2nd Lt. J.....	S.A. Infantry.
Backstraw, Lt. E. J.....	1st Battalion, Cape Corps.
Roberts, Temp. 2nd Lt. C. W.....	2nd Battalion, S.A. Infantry.
Roberts, Rev. N.....	Temp. Chaplain to Forces, 4th Class, R.A. Chaplains Dept., attd. 1st Bn., S.A. Inf.
Rose-Innes, 2nd Lt. F. G.....	73rd Siege Battery (S.A. Heavy Artillery).
Rushforth, Temp. Lt. A. H.....	S.A. Heavy Artillery.
Unwin, Lt. (Actg. Capt.) H. W.....	74th Siege Battery (S.A. Heavy Artillery).

## BAR TO MILITARY CROSS.

Rank and Name.	Unit.
Barr, Temp. Lt. A. H. Q., M.C.....	9th S.A. Horse.
Boustead, 2nd Lt. (Actg. Capt.) H., M.C.....	S.A. Infantry.
Kinz, Temp. Capt. W. L., M.C., D.C.M.....	2nd Battalion, S.A. Infantry.
Neulle, Lt. P. C., M.C.....	4th Battalion, S.A. Infantry.

## BAR TO DISTINGUISHED FLYING CROSS.

Rank and Name.	Unit.
Amm, Lt. E. C.....	Royal Air Force.

## AIR FORCE CROSS.

Rank and Name.	Unit.
Brown, Capt. L. O., D.S.O.....	Royal Air Force; S.A. Artillery.
Careilton, Capt. C. W.....	S.A. Forces.
Meintjes, Capt. H., M.C.....	S.A. Forces.
Meredith, Lt. C. W.....	S.A. Engineers.
Van Eyssen, Lt. (Actg. Capt.) L. M.....	Royal Air Force.

## ROYAL RED CROSS.

*First Class.*

Rank and Name.	Unit.
Maxwell, Asst. Matron M.....	S.A. Military Hospital, Richmond.
Wood, Sister K. F.....	Q.A.I.M.N.S.R., S.A. Mil. Hospl., Richmond.

*Second Class.*

Rank and Name.	Unit.
Allen, Nursing Sister P. M.....	Q.A.I.M.N.S.R.
Bishop, Staff Nurse D. L.....	S.A. Military Nursing Service.
Campbell, Nursing Sister M. H. C.....	S.A. Military Nursing Service.
Conyngnam, Nursing Sister A. B.....	S.A. Military Nursing Service.
Goulden, Sister K.....	S.A. Military Hospital, Richmond.
Loosemore, Sister H. M.....	S.A. Military Hospital, Richmond.
Lough, Nursing Sister A. M.....	S.A. Military Nursing Service.
Lowe, Nursing Sister A. E. A.....	S.A. Military Nursing Service.
Moloney-Bishop, Staff Nurse D.....	S.A. Military Nursing Service.
Philpott, Nursing Sister K. A.....	S.A. Military Nursing Service.
Priestley, Sister G. J.....	Q.A.I.M.N.S.R., S.A. Mil. Hospl., Richmond.
Robbins, Sister T. A.....	Q.A.I.M.N.S.R., S.A. Mil. Hospl., Richmond.
Roberts, Nursing Sister M.....	S.A. Military Nursing Service.
Rose-Innes, Nursing Sister A.....	S.A. Military Nursing Service.
Ross, Nursing Sister K.....	S.A. Military Hospital, Richmond.
Wagstaff, Staff Nurse B.....	F.A.M.N.S., attd. Q.A.I.M.N.S.R.
Wallbrough, Nursing Sister F. A.....	S.A. Military Nursing Service.
Williams, Sister A. J.....	Q.A.I.M.N.S.R., S.A. Mil. Hospl., Richmond.

## DISTINGUISHED CONDUCT MEDAL.

No.	Rank and Name.	Unit.
2471	Alexander, Actg. Sergt. C. G.....	S.A. Infantry.
6016	Borland, Regimental Sergt.-Maj. J. C.....	S.A. Signal Company (R.E.).
5948	Buchanan, Sergt. C. O. M., M.M.....	9th S.A. Horse.
11310	Crosbie, Spr. R.....	S.A. Signal Company (R.E.).
38	Egan, Sergt. F.....	King's African Rifles (East Africa).
92	February, Sergt. M.....	1st Battalion, Cape Corps.
5664	Fisher, Lance-Sergt. M. H.....	S.A. Infantry.
11511	Hean, Actg. Cpl. D. McK.....	S.A. Infantry.
1067	Hendricks, Company Q.-M.-S. (Actg. Company Sergt.-Maj.) A. J.....	Cape Corps.
1010	Howells, Sergt. W. E.....	S.A. Heavy Artillery.
310	Hutcheson, Company Sergt.-Maj. K. G.....	Cape Corps.
2796	Hutchinson, Lance-Cpl. W.....	1st Battalion, Cape Corps.
1614	Janson, Sergt. S. D.....	1st Battalion, Cape Corps.
1	Johnson, Sergt.-Maj. E. J.....	S.A. Engineers.
4916	Keit, Company Sergt.-Maj. M. W.....	S.A. Infantry.
15543	Mack, Sergt. J. G.....	S.A. Infantry.
6748	Marais, Tpr. P. S., M.M.....	9th S.A. Horse.
9175	Mundy, Sergt. P.....	S.A. Infantry.
10907	Schroeder, Sergt. A. E.....	S.A. Infantry.
4	Spence, Sergt. F. H.....	S.A. Sharpshooters.
910	Thomson, Sergt. A. H.....	S.A. Signal Company (K.A. Rifles).
5241	Townes, Pte. L. A.....	S.A. Infantry.
1516	Watson, Cpl. (Actg. Sergt.) J.....	S.A. Heavy Artillery.
633	Wellensky, Pte. B.....	4th Battalion, S.A. Infantry.
3637	Wilkie, Company Sergt.-Maj. F.....	2nd Battalion, S.A. Infantry.

## MILITARY MEDAL.

Rank and Name.	Unit.
Anderson, Bombdr. H. N.	S.A. Heavy Artillery.
Arnold, Pte. C. M.	4th Battalion, S.A. Infantry.
Aupias, Pte. F. G.	1st Battalion, S.A. Infantry.
Baker, Tpr. E. E.	9th S.A. Horse.
Bekker, Pte. L. D.	1st Battalion, S.A. Infantry.
Bertram, Cpl. F. S.	2nd Battalion, S.A. Infantry.
Bester, Pte. C.	1st Battalion, S.A. Infantry.
Bettison, Gnr. (Actg. Bombdr.) C. M.	S.A. Heavy Artillery.
Bibl, Cpl. G. C.	S.A. Field Artillery.
Borchers, Pte. (Lance-Cpl.) O.	1st Battalion, S.A. Infantry.
Botha, Pte. (Lance-Cpl.) C.	4th Battalion, S.A. Infantry.
Bowen, Cpl. E. J.	2nd Battalion, S.A. Infantry.
Bowley, Cpl. D. D. H.	1st Battalion, S.A. Infantry.
Burgess, Gnr. S.	S.A. Heavy Artillery.
Butler, Sergt. J. D. A.	1st Battalion, S.A. Infantry.
Charles, Pte. E.	S.A. Infantry.
Coetzee, Pte. A. J. P.	1st Battalion, S.A. Infantry.
Coetzee, Lance-Cpl. J. D.	2nd Battalion, S.A. Infantry.
Conradie, Pte. J. A.	S.A. Medical Corps.
Cragg, Pte. (Lance-Cpl.) J. B.	4th Battalion, S.A. Infantry.
Cunningham, Cpl. (Lance-Sergt.) I. I.	1st Battalion, S.A. Infantry.
Dawson, Sergt. J. E.	1st Battalion, S.A. Infantry.
Dey, Pte. H.	2nd Battalion, S.A. Infantry.
Dicks, Pte. O. B.	S.A. Infantry.
Ellis, Pte. G. W. J.	2nd Battalion, S.A. Infantry.
Erlank, Pte. G.	1st Battalion, S.A. Infantry.
Evans, Sergt. J. A.	2nd Battalion, S.A. Infantry.
Farmer, Pte. E. F. C.	2nd Battalion, S.A. Infantry.
Gardener, Pte. E. H.	4th Battalion, S.A. Infantry.
Gaskon, Cpl. A. H.	2nd Battalion, S.A. Infantry.
Gibson, Pte. P. A.	1st Battalion, S.A. Infantry.
Giles, Gnr. E. H.	74th Siege Battery (S.A. Heavy Artillery).
Greener, Pte. C. W.	S.A. Infantry.
Haubert, Bombdr. B. A.	S.A. Field Artillery.
Hamilton, Pte. B. B.	1st Battalion, S.A. Infantry.
Hansen, Sergt. W.	Signal Company, S.A. Engineers.
Hendry, Sergt. A.	74th Siege Battery (S.A. Heavy Artillery).
Henning, Cpl. J. A.	1st Battalion, S.A. Infantry.
Heunis, Sergt. C. M.	2nd Battalion, S.A. Infantry.
Hincks, Sergt. H. T.	S.A. Heavy Artillery.
Hinwood, Sergt. S. J.	2nd Battalion, S.A. Infantry.
Hipwell, Pte. (Actg. Cpl.) H. H.	S.A. Infantry.
Hopkins, Gnr. D. A. G.	75th Siege Battery (S.A. Heavy Artillery).
Hosking, Pte. J. F.	1st Battalion, S.A. Infantry.
Hurd, Pte. H. K.	1st Battalion, S.A. Infantry.
Hurley, Cpl. E. J.	S.A. Infantry.
Hurly, Tpr. E. W.	2nd Mounted Brigade Scouts, S.A. Forces.
Inzlis, Pte. (Lance-Cpl.) W. B.	4th Battalion, S.A. Infantry.
Judd, Sergt. A. W.	4th Battalion, S.A. Infantry.
Kerwin, Pte. A. T. E.	1st Battalion, S.A. Infantry.
Kirkillus, Gnr. T. M.	74th Siege Battery (S.A. Heavy Artillery).
Kriel, Sergt. J.	1st Battalion, S.A. Infantry.
Kruger, Pte. P. S.	1st Battalion, S.A. Infantry.
Lee, Pte. (Lance-Cpl.) F. E.	1st Battalion, S.A. Infantry.
Lerche, Pte. H. F.	2nd Battalion, S.A. Infantry.
Lowings, Pte. (Lance-Cpl.) B. A.	S.A. Sharpshooters.
Lubbe, Pte. G. J. J.	4th Battalion, S.A. Infantry.
Mauzie, Pte. A. J.	2nd Battalion, S.A. Infantry.
Marshall, Cpl. C. E.	Signal Company, S.A. Engineers.
McDonnell, Gnr. J. S.	72nd Siege Battery (S.A. Heavy Artillery).
McElnea, Sergt. (now Temp. Lt.) H. J.	S.A. Forces (Royal Munster Fusiliers).
McKenzie, Pte. A. C.	2nd Battalion, S.A. Infantry.
McLean, Cpl. (Lance-Sergt.) D.	2nd Battalion, S.A. Infantry.
Meegy, Pte. (Lance-Cpl.) R. S.	1st Battalion, S.A. Infantry.
Messum, Gnr. G. G.	74th Siege Battery (S.A. Heavy Artillery).
Milella, Sergt. O. A.	4th Battalion, S.A. Infantry.
Nicholls, Sergt. H.	4th Battalion, S.A. Infantry.
Nicholson, Pte. L.	1st Battalion, S.A. Infantry.
O'Boyle, Gnr. L.	S.A. Heavy Artillery.
Oliver, Cpl. S.	4th Battalion, S.A. Infantry.
Orsmond, Pte. (Lance-Cpl.) S.	4th Battalion, S.A. Infantry.
Owen, Cpl. A. E.	1st Battalion, S.A. Infantry.
Paddock, Pte. J. R.	4th Battalion, S.A. Infantry.
Parker, Sergt. E. H.	72nd Siege Battery (S.A. Heavy Artillery).
Paterson, Cpl. G.	S.A. Medical Corps.
Paton, Gnr. (Lance-Bombdr.) R.	72nd Siege Battery (S.A. Heavy Artillery).
Perritt, Sergt. W. J.	72nd Siege Battery (S.A. Heavy Artillery).
Preston, Lance-Cpl. S.	1st Battalion, S.A. Infantry.
Prier, Cpl. S.	72nd Siege Battery (S.A. Heavy Artillery).
Pritchard, Pte. E. E.	4th Battalion, S.A. Infantry.
Raats, Pte. P. J.	1st Battalion, S.A. Infantry.
Reynolds, Sergt. C. P.	S.A. Field Artillery.
Reynolds, Sergt. G. J.	1st Battalion, S.A. Infantry.

## MILITARY MEDAL—continued.

Rank and Name.	Unit.
Rhodia, Pte. W. H.	2nd Battalion, S.A. Infantry.
Richardson, Lance-Cpl. J.	2nd Battalion, S.A. Infantry.
Bowley, Sergt. E.	2nd Battalion, S.A. Infantry.
Eitlers, Cpl. J.	Cape Corps.
Selts, Pte. C. T.	S.A. Infantry.
Slade, Bombr. A. M.	74th Siege Battery (S.A. Heavy Artillery).
Smith, Sergt. H. C.	2nd Battalion, S.A. Infantry.
Snibbe, Sergt. M. J.	1st Battalion, S.A. Infantry.
Somerville, Cpl. W.	4th Battalion, S.A. Infantry.
Stober, Pte. (Lance-Cpl.) F.	S.A. Sharpshooters.
Sutherland, Cpl. N.	1st Battalion, S.A. Infantry.
Taylor, Cpl. W.	4th Battalion, S.A. Infantry.
Tennant, Sergt. J. E.	2nd Battalion, S.A. Infantry.
Thomson, Pte. A.	4th Battalion, S.A. Infantry.
Tregonning, Gnr. W. J.	72nd Siege Battery (S.A. Heavy Artillery).
Twynham, Pte. (Lance-Cpl.) W. C.	1st Battalion, S.A. Infantry.
Van Heerden, Pte. (Lance-Cpl.) I. L.	1st Battalion, S.A. Infantry.
Vipond, Lance-Cpl. J.	S.A. Infantry.
Wattrus, Bombr. C. E.	S.A. Heavy Artillery.
Williams, Pte. A. R.	2nd Battalion, S.A. Infantry.
Williams, Bombr. O.	75th Siege Battery (S.A. Heavy Artillery).
Williams, Staff-Sergt. W.	75th Siege Battery (S.A. Heavy Artillery).
Wright, Cpl. A. J.	1st Battalion, S.A. Infantry.
Wright, Pte. G. F.	4th Battalion, S.A. Infantry.

## BAR TO THE MILITARY MEDAL.

Rank and Name.	Unit.
Black, Sergt. A. J., M.M.	4th Battalion, S.A. Infantry.
Buchanan, Sergt. C. O. M., M.M.	9th S.A. Horse.
Edgar, Sergt. C. W., M.M.	1st Field Ambulance, S.A. Medical Corps.
Evans, Cpl. S. D., M.M.	S.A. Sharpshooters.
Flack, Cpl. C., M.M.	4th Battalion, S.A. Infantry.
Lang, Cpl. B. G., M.M.	2nd Battalion, S.A. Infantry.
MacLachlan, Cpl. G. H., M.M.	4th Battalion, S.A. Infantry.
St. George, Pte. (Lance-Cpl.) R. T., M.M.	2nd Battalion, S.A. Infantry.
Stober, Pte. (Lance-Cpl.) F., M.M.	S.A. Sharpshooters.
Van Rensburg, Pte. P., M.M.	S.A. Infantry.

## MERITORIOUS SERVICE MEDAL.

Rank and Name.	Unit.
Alton, Head Conductor H.	S.A. Service Corps.
Ambler, Chief Petty Officer G.	R.N.V.R. (South Africa).
Ash, Staff-Sergt. H. T.	Veteran Reserve.
Baard, Sergt. H. W.	S.A. Service Corps (M.T.).
Bainbridge, Sergt. G. S.	S.A. Water Supply Corps.
Bansemmer, Staff-Sergt.	S.A. Service Corps.
Baraganath, Sergt. T. V.	Hunt's Scouts; 5th Mounted Brigade.
Barrie, Staff-Sergt. J.	S.A. Medical Corps.
Bates, Pte. (Actg. Sergt.-Maj.) J. V.	2nd Battalion, S.A. Infantry.
Bayne, Company Q.-M.-S. W.	4th Battalion, S.A. Infantry.
Beavis, Cpl. E.	S.A. Service Corps (M.T.).
Blackmore, Cpl. W. A.	S.A. Medical Corps.
Booza, Pte. M. J.	S.A. Native Labour Corps.
Bothwell, Sergt.-Maj. H. J.	S.A. Pay Corps.
Brockett, Sergt.-Maj. H. C.	Veteran Reserve.
Bromehead, Q.-M.-S. E. C.	S.A. Infantry.
Clactworthy, Company Sergt.-Maj. W. M.	C.A.H.T. (attd. R.A.S.O.).
Clewes, Company Sergt.-Maj. J. C.	1st Cape Coloured Labour Regiment.
Cornalsh, Cpl. W. A.	S.A. Pioneer Battalion.
Corbett, Sergt.-Maj.	S.A. Service Corps (M.T.).
Corbett, Sergt.-Maj. J. F.	S.A. Medical Corps.
Dahinyebo, Sergt. D.	S.A. Native Labour Corps.
Dalton, Sergt. W. J.	R.E. (S.A. Signal Company).
Dambuza, Native Chaplain.	S.A. Native Labour Corps.
Davidson, Sergt. C.	S.A. Infantry.
Du Charme, Spr. D.	S.A. Water Supply Corps.
Duffy, Sergt.-Maj. L. A.	S.A.A.S.C.
Ferguson, Company Q.-M.-S. A.	1st Battalion, S.A. Infantry.
Finberg, Sergt. A.	S.A. Service Corps (M.T.).
Fitch, Conductor C. M.	S.A. Service Corps.

MERITORIOUS SERVICE MEDAL—*continued.*

Rank and Name.	Unit.
Plotman, P. J.	Cape Coloured Labour Battalion.
Germon, Company Sergt.-Maj. C.	S.A. Service Corps (M.T.).
Gilbert, Farrier Sergt. G.	2nd S.A. Engineer Corps.
Gonsalves, Company Q.-M.-S. M. A.	1st Battalion, S.A. Infantry.
Gracey, Dvr. (Actg. Sergt.) B.	S.A. Service Corps (M.T.).
Graham, Pte. A.	S.A. Medical Corps.
Greef, Sergt. J. P.	S.A. Motor Cycle Corps.
Greenwood, Pte. J. H.	2nd Battalion, S.A. Infantry.
Gregory, Sergt. A. C.	S.A. Medical Corps.
Guy, Gnr. (Actg. Sergt.) E. A.	S.A. Heavy Artillery.
Harris, Cpl. (Actg. Sergt.) F. J.	1st S.A. Engineer Corps.
Haskens, Sergt. W. E.	S.A. Service Corps (M.T.).
Hendry, Cpl. D. B.	S.A. Service Corps (M.T.).
Higgins, Company Sergt.-Maj. E. B.	S.A. Native Labour Corps.
Hitchcox, Head Conductor S. W.	S.A. Service Corps.
Hopley, Regimental Q.-M.-S. W. F. L.	S.A. Native Labour Corps.
Horridge, Sergt. (Actg. Sergt.-Maj.) J. D.	S.A. Forces.
Hoy, Regimental Sergt.-Maj. W.	S.A. Mounted Riflemen.
Ingleby, Pte. (Actg. Sergt.) S. G.	Hunt's Scouts; 5th Mounted Brigade.
Jackson, Staff Sergt. A.	S.A. Service Corps (M.T.).
Kenny, Staff Sergt. P.	2nd S.A. Infantry.
Kerr, Sergt. H.	S.A. Pioneer Battalion.
Kohler, Sergt.-Maj. A.	S.A. Topographical Section.
Kora, Sergt.	S.A. Native Labour Corps.
Lerotholi, 1st Class Induna M.	S.A. Native Labour Corps.
Lewis, Staff Sergt. E.	Special Service Company.
Lightfoot, Staff Sergt. R.	S.A. Medical Corps.
Lilley, Sergt.-Maj.-Instructor J.	S.A. Forces [Permanent Force (Staff)].
MacFarlane, Lance-Cpl. J.	S.A. Engineers.
Makamba, Sergt. H.	S.A. Native Labour Corps.
McCaullum, Sergt. J. A.	R.E. (S.A. Signal Company).
McDonnell, Company Q.-M.-S. C. F.	S.A. Native Labour Corps.
McDowell, Regimental Sergt.-Maj. A. H.	S.A. Native Labour Corps.
McNeillie, Staff Sergt. W.	Special Service Company.
Merrett, Sergt.-Maj.-Instructor S. G.	S.A. Forces [Permanent Force (Staff)].
Murray, Conductor A. A.	S.A.A.O. Dept.
Napier, Sergt. D. A.	S.A. Forces (C.A.H.T.).
Napper, Regimental Sergt.-Maj. C. F.	S.A.A.S.C.
Nehemiah, Headman.	Carrier Transport.
Peterson, Pte. (Actg. Company Sergt.-Maj.) W.	S.A. Horse.
Phillips, Cpl. L. D.	2nd Battalion, S.A. Infantry.
Pooley, Company Sergt.-Maj. E. E.	S.A. Medical Corps.
Rautenback, Staff Sergt. J. W.	S.A. Medical Corps.
Raymond, Mech. Staff Sergt. W. F.	S.A. Service Corps (M.T.).
Richardson, Arm. Staff Sergt. H.	Permanent Force (Staff).
Robinson, Staff Sergt. R. M.	S.A. Pay Corps.
Sayer, Col.-Sergt. A.	2nd Battalion, S.A. Infantry.
Schoeman, Cpl. F. R.	S.A. Signal Service.
Schoonfeldt, Sergt.-Maj.-Instructor S. G.	S.A. Forces [Perm. Force (Staff)].
Schoonvide, Pte. D. J.	S.A. Signal Service.
Scobell, Dvr. J.	S.A. Service Corps (M.T.).
Scott, Spr. T. C.	S.A. Engineers.
Scott, Sergt. W.	S.A. Service Corps (M.T.).
Sheard, Sergt. O. F.	R.E. (S.A. Signal Service).
Skinner, Sergt. (Actg. Battery Q.-M.-S.) R.	S.A. Heavy Artillery.
Smith, Pte. T. L. C.	S.A. Service Corps (M.T.).
Smithyman, Regimental Sergt.-Maj. F. M.	S.A. Service Corps (M.T.).
Stamp, Pte. T. H.	Hunt's Scouts; 5th Mounted Brigade.
Stanley, Col.-Sergt. A. E.	S.A. Native Labour Corps.
Starck, Pte. P. W.	S.A. Signal Service.
Stearns, Pte. E.	1st Battalion, S.A. Infantry.
Stenslow, Staff Sergt.-Maj. A. J.	S.A. Service Corps (M.T.).
Townsend, Pte. (Actg. Company Sergt.-Maj.) V. R.	S.A. Motor Cycle Corps.
Trimmer, Regimental Q.-M.-S. H. W.	1st Battalion, S.A. Infantry.
Tuffin, Sergt. N.	S.A. Signal Service.
Twynham, Staff Sergt. P. E.	S.A. Service Corps (M.T.).
Van Hoof, Company Q.-M.-S. A. C.	S.A. Engineers.
Walker, Sergt.-Maj. J. H.	2nd Battalion, S.A. Infantry.
White, Q.-M.-S. J. H.	S.A. Medical Corps.
Wicks, Battery Q.-M.-S. W.	S.A. Field Artillery.
Wilson, Sergt. L. J.	C.A.H.T., attd. R.A.S.C.
Windrum, Temp. Sergt.-Maj.-Instructor J. A.	S.A. Forces [Permanent Force (Staff)].

## A.D.C. TO THE KING.

Rank and Name.	Unit.
Van Deventer, Hon. Lt.-Gen. Sir J. L., K.C.B., C.M.G.	S.A. Defence Forces.

## FOREIGN DECORATIONS.

CONFERRED BY H.M. THE KING OF THE BELGIANS.

ORDRE DE LEOPOLD II.

*Chevalier.*

Rank and Name.	Unit.
Sutton, Staff-Sergt.-Maj. J.....	S.A. Forces.

## CROIX DE GUERRE (BELGIAN).

Rank and Name.	Unit.
Amm, Lt. E. O., D.F.C.....	29th Squadron, Royal Air Force.
Vernal, Temp. Lt. F.....	S.A. Infantry, attd. Royal Engineers.

## MEDAILLE DE LA REINE ELIZABETH.

Rank and Name.	Unit.
Delringer, Nursing Sister M.....	S.A. Military Nursing Service.
Evans, Nursing Sister G.....	S.A. Military Nursing Service.
Freshney, Nursing Sister F. H.....	S.A. Military Nursing Service.
May, Nursing Sister L.....	S.A. Military Nursing Service.
McLish, Nursing Sister J.....	S.A. Military Nursing Service.
Wiese, Nursing Sister H. H.....	S.A. Military Nursing Service.

## ORDER OF THE CROWN—CROSS OF OFFICER.

Rank and Name.	Unit.
Hewat, Col. Sir John.....	S.A. Medical Corps.

## MEDAILLE MILITAIRE (BELGIAN).

Rank and Name.	Unit.
Benkes, Lance-Cpl. E.....	Cape Corps.
Campbell, Company Sergt.-Maj. R. S.....	S.A. Service Corps (M.T.).
Clark, Pte. C. G.....	S.A. Motor Despatch Rider Corps.
Cullem, Sergt. W. J.....	S.A. Service Corps (M.T.).
Fuller, Head Conductor J. W.....	S.A. Service Corps.
Goss, Pte. J.....	S.A. Motor Despatch Rider Corps.
Gourlay, Sergt. J. H., M.M.....	S.A. Signal Company, S.A. Engineers.
Hullsworth, Dvr. W. A.....	S.A. Service Corps (M.T.).
Hindle, Cpl. E. J.....	S.A. Motor Despatch Rider Corps.
Joseph, Cpl. C. J.....	S.A. Medical Corps.
Kaschula, Sergt. E. F. M.....	S.A. Medical Corps.
Kekewich, Sergt. E. B.....	S.A. Medical Corps.
Kreig, Sergt. J. C.....	10th S.A. Horse.
Lenneberg, Sergt. A.....	S.A. Motor Despatch Rider Corps.
MacFarquhar, Sergt. D.....	S.A. Medical Corps.
Manuel, Cpl. P.....	Cape Corps.
Olendal, Pte. F. G.....	S.A. Medical Corps.
Pearce, Cpl. (Actg. Sergt.) O. W.....	S.A. Service Corps (M.T.).
Pettit, Dvr. S. J.....	S.A. Service Corps (M.T.).
Ponting, Dvr. (Actg. Sergt.) B. J.....	S.A. Service Corps (M.T.).
Read, Sergt. W. P.....	S.A. Service Corps (M.T.).
Salmon, Sergt. F. G.....	S.A. Service Corps (Supplies).
Schultz, Cpl. Mech. S. H. D.....	S.A. Service Corps (M.T.).
Schutte, Regimental Sergt.-Maj. J. F.....	10th S.A. Horse.
Tee, Staff Sergt. C. R.....	S.A. Medical Corps.
Van der Hoever, Cpl. J.....	S.A. Service Corps (M.T.).
Wahl, Lance-Cpl. H. J.....	S.A. Service Corps (Supplies).

FOREIGN DECORATIONS—*continued.*

CONFERRED BY THE PRESIDENT OF THE FRENCH REPUBLIC.

LEGIION D'HONNEUR.

*Commandeur.*

Rank and Name.	Unit.
Lukin, Temp. Maj.-Gen. Sir H. T., K.C.B., C.M.G., D.S.O.	S.A. Forces.

*Officers.*

Rank and Name.	Unit.
Harvey, Temp. Lt.-Col. F. G., C.B.E., D.S.O.....	S.A. Defence Forces.
Helbert, Temp. Lt.-Col. G. G., C.B.E.....	S.A. Defence Forces.

ORDRE DE L'ETOILE NOIRE.

*Officier.*

Rank and Name.	Unit.
Loxton, Temp. Capt. T. P. N.....	R.A.S.C.

CROIX DE GUERRE (FRENCH).

Rank and Name.	Unit.
Bamford, Temp. Lt.-Col. H. W. M., O.B.E., M.C.....	S.A. Infantry.
Botha, Temp. Capt. L., M.C.....	Special List.
Farrell, Temp. Capt. T.....	S.A. Infantry.
Fraser, Cpl. C. M.....	S.A. Signal Company (S.A. Engineers).
Greig, Temp. Maj. J. McG.....	West Yorkshire Regt., attd. London Reg.
Jenkins, Temp. Lt.-Col. H. H., D.S.O.....	S.A. Infantry, attd. Royal Fusiliers.
Lelsch, Temp. Maj. J. R., C.M.G.....	S.A. Forces.
Leitch, Company Sergt.-Maj. M.....	Cape Coloured Labour Corps.
Maasdorp, Temp. Maj. L. H.....	75th (Natal) Siege Battery, S.A. Artillery.
MacLeod, Temp. Lt.-Col. D. McL., D.S.O., M.C., D.C.M.	S.A. Infantry.
Roper, Temp. Maj. E. R., D.S.O., M.C.....	Royal Field Artillery.
Wilson, Temp. Lt. C. K.....	S.A. Engineers, attd. Signal Service.

CROIX DE GUERRE AVEC PALME (FRENCH).

Rank and Name.	Unit.
Albu, Lt. (Actg. Capt.) W. G.....	— (N. Russia).

MEDAILLE D'HONNEUR AVEC GLAIVES (EN VERMIL).

Rank and Name.	Unit.
Barlow, Temp. Maj. E.....	S.A. Infantry.
Style, Temp. Capt. S. W. E., M.C.....	S.A. Force (General List).



FOREIGN DECORATIONS—*continued.*

## MÉDAILLE D'HONNEUR AVEC GLAIVES (EN ARGENT).

Rank and Name.	Unit.
Hardwick, Col.-Sergt. (Actg. Regimental Q.-M.-S.) A. W.	S.A. Native Labour Corps.
Henrey, Sergt. C. J.....	S.A. Infantry.

## MÉDAILLE MILITAIRE (FRENCH).

Rank and Name.	Unit.
Brookman, Sergt. H. O.....	S.A. Infantry.
Forrester, Actg. Company Sergt.-Maj. H. O.....	S.A. Infantry.
Harrison, Company Sergt.-Maj. W. T.....	S.A. Infantry.
Howells, Sergt. W. K.....	S.A. Heavy Artillery, attd. R.G.A.
Loxton, Lance-Cpl. C.....	S.A. Infantry.
Mercier, Pte. H. J.....	S.A. Infantry.
Townes, Cpl. L. A.....	S.A. Infantry.
Windell, Pte. B. F.....	S.A. Infantry.

## CONFERRED BY H.M. THE KING OF ITALY.

## ORDER OF ST. MAURICE AND ST. LAZARUS.

Rank and Name.	Unit.
Bowland, Col. M. C., C.M.G.....	S.A. Defence Forces.

## SILVER MEDAL FOR MILITARY VALOUR (ITALIAN).

Rank and Name.	Unit.
Shenton, Temp. Capt. J. L., M.C.....	S.A. Forces (General List).

## CONFERRED BY H.M. THE KING OF SERBIA.

## ORDER OF ST. SAVA.

*Fifth Class.*

Rank and Name.	Unit.
Coghlan, Temp. Capt. G. S., M.B.E.....	S.A. Medical Corps.

## CONFERRED BY H.M. THE KING OF RUMANIA.

## MÉDAILLE BARBĂTIE ȘI CREDINȚĂ.

Rank and Name.	Unit.
Digby, Sergt. (now commissioned) C. R.....	S.A. Forces.

FOREIGN DECORATIONS—*continued.*

## ORDER OF THE CROWN OF RUMANIA.

*Chevalier.*

Rank and Name.	Unit.
Harvey, Lt. J. N.....	2nd Battalion, S.A. Infantry.

## CONFERRED BY H.H. THE SULTAN OF EGYPT.

## ORDER OF THE NILS.

Rank and Name.	Unit.
Alston, Temp. Maj. (Actg. Lt.-Col.) C. W.....	S.A. Heavy Artillery.

## CONFERRED BY PRESIDENT OF PORTUGUESE REPUBLIC.

## MILITARY ORDER OF AVIL.

*Grand Officer.*

Rank and Name.	Unit.
Van Deventer, Hon. Lt.-Gen. Sir J. L., K.C.B., C.M.G., A.D.C.	S.A. Defence Forces.

*Commander.*

Rank and Name.	Unit.
Usmar, Temp. Lt.-Col. G. H., O.B.E.....	S.A. Medical Corps.

*Officers.*

Rank and Name.	Unit.
McLaren, Temp. Capt. D., M.B.E.....	S.A. Defence Forces (General List).
Molloy, Capt. A. J., M.C.....	S.A. Infantry.
Pienaar, Lt. A. J.....	S.A. Defence Forces.
Smuts, Capt. O. D. C., M.C.....	A.S.C. (S.A. Defence Force).
Van Tyen, Lt. M. S. J. C., M.B.E.....	S.A. Defence Forces.

## PORTUGUESE MILITARY MEDAL FOR GOOD SERVICES (COPPER).

Rank and Name.	Unit.
Hutcheson, Pte. (Actg. Serjt.) T. P.....	S.A. Infantry.

15. **The Governor-General's Fund.**—Previous issues of this Year Book contained particulars of the operations of the Governor-General's Fund inaugurated in September, 1914, with the object of relieving distress caused to persons on active service during the war or to their dependents resident in the Union. The fund continued in existence after the termination of hostilities, and the large sum collected, amounting in the aggregate to about £3,250,000, was gradually disbursed in aid of disabled soldiers and the widows and families of soldiers who had lost their lives in the war. The vocational training of ex-soldiers was largely furthered in the period after the war. At the 31st July, 1922, the balance of the fund amounted to £745,920.

## CHAPTER XII.

## ELECTORATE.

1. **Qualifications of Parliamentary Voters.**—Parliament, in terms of section 35 (i) of the *South Africa Act*, may by law prescribe the qualifications which entitle persons to vote at the elections of members of the House of Assembly: subject to the limitation that no such law shall disqualify, by reason of race or colour only, persons who are or may become registered voters under the law of the Cape of Good Hope unless passed by a two-thirds majority of both Houses of Parliament sitting together. No Act has yet been passed by the Union Parliament dealing with the qualifications of voters. Act No. 12 of 1918 provides for the registration of voters for the House of Assembly and all Provincial Councils, and for contingent matters.

The law of the Cape Province draws no distinction as to race and colour in respect of the voters qualified for registration. In the other Provinces the vote is given to Europeans only, except that in Natal there is a small number of Native and Indian voters who were enrolled prior to the passing of legislation limiting the franchise in that Province to Europeans.

2. **Elections.**—Prior to the date appointed for the establishment of the Union a Delimitation Commission was appointed to arrange for the necessary partition of each of the four Provinces into electoral divisions, each division to return one member. Section 40 of the *South Africa Act* prescribes the method of delimitation to be followed. Section 41 provides that after each quinquennial census (which is required to be taken under the Act) a similar Commission must be appointed to effect necessary redivisions and adjustments, and to provide for the allocation to any Province as the result of the increase of the European male adult population of any additional member or members of Parliament to which it may have become entitled. Any such alteration of numbers becomes effective at the next following general election. A second Delimitation Commission was appointed in 1912, after the Census of 1911.

The third Delimitation Commission was appointed in July, 1919, under the chairmanship of Sir J. H. Lange, Kt. The allocation of members to each Province, as determined by this Commission, is given in Chapter II of this Year Book. The data submitted for the consideration of the Commission were derived from the Census of the European population taken on the 5th May, 1918, in accordance with Act No. 15 of 1918. The following table gives the result of this Census in so far as the requirements of section 34 (vi) of the *South Africa Act* are concerned. Persons absent from the Union on war service were included in the Census for that purpose.

## NUMBER OF EUROPEAN MALE ADULTS—CENSUS OF 1918.†

HEADING.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Number enumerated within the Union....	158,637	37,512	137,891	47,635	381,675
Number of Absentees enumerated*.....	7,207	2,095	8,162	1,014	18,478
<b>TOTAL ENUMERATED.....</b>	<b>165,844</b>	<b>39,607</b>	<b>146,053</b>	<b>48,649</b>	<b>400,153</b>
Number of Members of Imperial Forces enumerated.....	2,552	546	55	7	3,160
Total number of European Male Adults † (Census of 1918).....	163,292	39,061	145,998	48,642	396,993
Total number of European Male Adults † (Census of 1904).....	167,546	34,784	106,493	41,014	349,837
<b>INCREASE OR DECREASE (—)...</b>	<b>— 4,254</b>	<b>4,277</b>	<b>39,505</b>	<b>7,628</b>	<b>47,156</b>

\* In addition, there were enumerated 4,703 European male adults whose Provinces of residence was not stated.

† As defined in *South Africa Act* (§ 34).

‡ A similar table based on the results of the Census of 1921 will be found in the Appendix.

3. Registered Voters in Electoral Divisions.—The following tables show in the last four years of registration in each Province the number of voters registered in each Parliamentary electoral division:—

### NUMBER OF VOTERS REGISTERED IN EACH ELECTORAL DIVISION.

#### (i) CAPE OF GOOD HOPE.

ELECTORAL DIVISION.	YEAR OF REGISTRATION.			
	1917.	1919.	1920 (30th June).	1921 (31st Dec.).
Albany.....	3,193	3,202	3,724	3,837
* Albert.....	3,032	2,762	4,307	4,195
* Allwal.....	2,712	2,741		3,831
Barkly.....	3,831	3,220	4,005	3,700
Beaconsfield.....	3,069	3,233	3,773	3,928
Beaufort West.....	3,661	3,761	3,701	2,779
Bechuanaland.....	4,107	4,397	3,801	4,040
Border.....	3,147	3,059	3,693	4,814
Caledon.....	3,453	3,812	3,573	3,324
Calvinia.....	3,337	3,528		
Cape Town—				
Harbour.....	4,593	5,403	4,463	3,957
Central.....	4,035	4,097	4,407	3,622
Gardens.....	4,082	3,993	4,315	4,504
Castle.....	3,796	3,989	4,297	3,093
Ceres.....	3,269	3,457	3,701	3,762
Coleberg.....	3,152	3,206	4,197	3,686
Cradock.....	3,216	3,355	4,016	3,577
East London.....	4,383	4,816	4,200	4,925
Fort Beaufort.....	2,950	2,842	3,499	3,471
George.....	3,612	3,205	3,832	4,340
Graaff-Reinet.....	2,907	3,187	3,617	3,233
Griqualand.....	3,233	3,372	3,517	3,970
Hope Town.....	3,581	3,819	3,694	3,423
Humansdorp.....	3,243	3,172	3,556	3,447
Kimberley.....	3,063	3,167	3,987	4,023
King William's Town.....	3,320	3,419	3,815	4,096
Ladismith.....	3,254	2,863	3,630	3,405
Liesbeek.....	4,308	5,011	4,214	4,646
Malmesbury.....	3,374	3,737	3,797	3,765
Namaqualand.....	3,072	2,972	3,471	3,385
Newlands.....	4,320	5,050	4,272	3,291
Oudtshoorn.....	3,593	2,974	4,159	3,607
Paarl.....	3,485	3,895	4,129	4,163
Piquetberg.....	3,481	3,842	3,730	3,866
Port Elizabeth—				
Central.....	4,544	4,629	4,173	4,081
South-West.....	4,024	4,206	4,105	4,303
Friesika.....	3,706	3,950	3,781	4,138
Queenstown.....	2,921	2,916	4,068	4,299
Riversdale.....	3,760	3,586	3,965	3,877
Rondebosch.....	3,926	4,494	4,137	3,791
Somerset.....	3,172	3,108	3,818	3,517
South Peninsula.....	4,013	4,485	4,040	3,911
Stellenbosch.....	3,207	3,171	4,197	4,386
Swellendam.....	3,492	3,734	3,548	3,663
Tembuland.....	3,332	3,387	3,575	4,002
Three Rivers.....	4,277	4,692	3,932	4,871
Uitenhage.....	3,170	3,290	4,511	4,450
Victoria West.....	3,283	3,230	3,682	3,495
Wodehouse.....	3,033	2,913	3,977	3,766
Woolstock.....	4,693	5,283	4,344	3,339
Worcester.....	3,621	3,322	3,996	4,393
* Salt River.....	—	—	4,152	3,345
TOTAL.....	181,020	186,405	200,874	197,680

\* Created electoral division by third Delimitation Commission.

NUMBER OF VOTERS REGISTERED IN EACH ELECTORAL DIVISION—*contd.*

## (ii) NATAL.

ELECTORAL DIVISION.	YEAR OF REGISTRATION.			
	1917.	1919.	1920. (30th June).	1921 (31st Dec.).
Dundee.....	2,112	1,755	1,933	1,929
Durban—				
Berea.....	2,599	2,704	2,605	1,914
Central.....	2,233	2,179	2,639	1,936
Greyville.....	2,424	2,916	2,532	1,786
Point.....	2,333	2,136	3,252	2,404
Umbilo.....	2,313	2,043	2,546	2,366
*Illovo.....	—	—	1,869	1,836
*Klip River.....	2,048	1,989	2,020	2,168
*Natal Coast.....	—	—	2,267	2,241
Newcastle.....	1,790	1,390	1,834	1,973
Pietermaritzburg—				
North.....	2,500	2,471	2,229	2,168
South.....	2,402	2,348	2,181	2,048
*Stamford Hill.....	—	—	2,705	2,151
†Umlazi.....	1,778	1,452	—	—
†Umvoti.....	1,815	1,690	1,877	1,610
†Umsinkulu.....	1,780	1,562	—	—
†Victoria County.....	1,889	1,442	—	—
Vryheid.....	1,669	1,435	1,917	2,121
Weenen.....	1,580	1,524	1,903	1,827
Zululand.....	2,050	1,996	1,975	2,124
<b>TOTAL.....</b>	<b>85,255</b>	<b>32,972</b>	<b>38,284</b>	<b>84,602</b>

\* New electoral division created by third Delimitation Commission.

† Electoral division abolished by third Delimitation Commission.

## (iii) TRANSVAAL.

ELECTORAL DIVISION.	YEAR OF REGISTRATION.			
	1917.	1919.	1920 (30th June).	1921 (31st Dec.).
Barberton.....	2,649	2,540	3,133	2,899
Benoni.....	3,995	4,175	3,301	3,358
Bethal.....	3,093	3,513	3,180	2,751
Bezuidenhout.....	3,421	3,991	3,188	3,141
Bokaburg.....	2,045	1,962	3,326	2,732
*Brakpan.....	—	—	2,790	3,719
Commissioner Street.....	1,653	1,836	3,123	2,828
*Christiana.....	—	—	3,262	3,165
Denver.....	2,417	2,090	3,286	2,826
Ermeo.....	3,055	3,084	3,058	2,971
Fordsburg.....	2,227	2,561	3,446	2,257
†Georgetown.....	2,796	2,609	—	—
Germiston.....	2,335	2,085	3,696	3,276
Heidelberg.....	2,992	3,073	3,252	3,145
Hospital.....	2,652	2,648	3,298	2,996
*Jeppes.....	—	—	3,191	2,715
*Johannesburg North.....	—	—	3,102	3,025
Klerksdorp.....	2,937	2,989	3,405	2,976
Krugersdorp.....	2,673	2,245	3,485	2,812
Langlaagte.....	2,528	2,177	3,158	2,739
Lichtenburg.....	3,601	3,641	3,210	2,683
Losberg.....	3,866	3,277	3,063	2,641
Lydenburg.....	3,317	3,304	2,863	2,394
†Maraisburg.....	2,702	2,780	—	—
Marico.....	3,147	3,298	3,182	3,138
Middelburg.....	3,661	3,909	3,141	2,712
†Ophirton.....	2,237	1,870	—	—
Parktown.....	3,492	3,914	3,103	3,159
Potchefstroom.....	2,916	3,251	3,518	2,728
*Pietersburg.....	—	—	2,910	3,009

\* New electoral division created by third Delimitation Commission.

† Electoral division abolished by third Delimitation Commission.

NUMBER OF VOTERS REGISTERED IN EACH ELECTORAL DIVISION—*contd.*(iii) TRANSVAAL—*continued.*

ELECTORAL DIVISION.	YEAR OF REGISTRATION.			
	1917.	1919.	1920 (30th June).	1921 (31st Dec.).
Pretoria—				
Central.....	2,642	2,930	3,631	2,064
East.....	3,276	3,491	3,133	3,088
North.....	2,899	3,401	3,251	2,368
South.....	3,385	4,232	3,266	2,953
West.....	2,984	3,286	4,052	2,503
† Randfontein.....	2,020	2,007	—	—
* Roodepoort.....	—	—	3,560	2,463
Rustenburg.....	3,363	3,909	3,283	3,205
† Slemert.....	2,178	2,180	—	—
Springs.....	3,884	4,361	3,362	3,041
Standerton.....	2,806	3,171	3,215	2,408
Troyeville.....	2,582	2,564	3,174	2,592
Turfontein.....	3,821	4,207	3,356	3,022
* Ventersdorp.....	—	—	3,049	2,870
Von Brandis.....	2,283	2,800	3,288	2,296
Vrededorp.....	3,504	3,562	3,096	2,683
Wakkerstroom.....	2,349	2,812	3,396	3,139
Waterberg.....	3,043	3,307	2,788	3,103
* Witbank.....	—	—	3,193	2,665
Witwatersberg.....	3,273	3,324	2,720	2,375
Wolmaranstad.....	4,164	4,824	2,897	3,828
* Wonderboom.....	—	—	3,225	2,933
Yeoville.....	3,077	3,460	3,158	2,903
Zoutpanberg.....	3,016	3,993	2,980	2,655
<b>TOTAL.....</b>	<b>132,911</b>	<b>140,583</b>	<b>158,726</b>	<b>140,947</b>

\* New electoral division created by third Delimitation Commission.

† Electoral division abolished by third Delimitation Commission.

## (iv) ORANGE FREE STATE.

ELECTORAL DIVISION.	YEAR OF REGISTRATION.			
	1917.	1919.	1920 (30th June).	1921 (31st Dec.).
Bethlehem.....	3,091	3,111	3,139	3,321
† Bloemfontein.....	2,367	3,553	—	—
† Bloemfontein District.....	2,567	2,706	—	—
* Bloemfontein North.....	—	—	3,276	3,182
* Bloemfontein South.....	—	—	3,296	3,094
Boshof.....	2,243	2,892	2,877	2,720
Edenburg.....	2,368	2,832	2,815	2,555
Fauresmith.....	1,998	2,069	3,006	2,758
Ficksburg.....	2,863	2,846	3,082	3,000
Frankfort.....	3,362	3,509	3,118	3,024
Harrismith.....	2,819	2,749	3,100	2,887
Hellbron.....	2,596	2,361	2,186	3,235
Hoopstad.....	2,654	2,614	2,872	2,693
Kroonstad.....	2,972	2,938	3,050	2,975
Ladybrand.....	2,379	2,424	3,057	2,748
Rouxville.....	2,895	2,633	3,028	2,751
Smithfield.....	2,440	2,847	2,694	2,326
Vrededorp.....	3,779	3,264	3,041	2,922
Winburg.....	2,594	3,044	3,018	2,906
<b>TOTAL.....</b>	<b>40,287</b>	<b>47,481</b>	<b>51,648</b>	<b>49,167</b>

\* New electoral division created by third Delimitation Commission.

† Electoral division abolished by third Delimitation Commission.

4. **Parliamentary Representatives and Number of Registered Voters.**—The statement below shows, in respect of each Province, the number of Parliamentary representatives and registered voters at each registration, and the average number of registered voters to each representative:—

**PARLIAMENTARY REPRESENTATIVES AND VOTERS, AND AVERAGE NUMBER OF VOTERS TO EACH REPRESENTATIVE AT EACH REGISTRATION.**

PROVINCE AND YEAR.	Number of Representatives.	NUMBER OF REGISTERED VOTERS.			Average Number of Voters to each Representative.
		Total.	European.	Other than European.	
<b>Cape of Good Hope—</b>					
1900.....	51	142,367	121,846	21,021	2,791
1911.....	51	148,551	125,459	23,092	2,913
1918.....	51	155,997	131,350	24,347	3,053
1915.....	51	169,851	142,479	27,372	3,330
1917.....	51	181,080	150,594	30,486	3,549
1919.....	51	186,406	153,266	33,139	3,655
30th June, 1920..	51	200,874	163,242	37,632	3,939
31st Dec., 1921..	51	197,680	156,541	41,139	3,876
<b>Natal—</b>					
1911.....	17	29,400	—	—	1,729
1912.....	17	29,445	29,259	186	1,732
1918.....	17	31,124	30,798	326	1,831
1914.....	17	32,682	32,318	314	1,920
1915.....	17	33,507	33,239	268	1,971
1916.....	17	34,239	33,991	248	2,014
1917.....	17	35,255	—	—	2,074
1919.....	17	32,972	32,624	348	1,939
30th June, 1920..	17	38,284	37,932	352	2,252
31st Dec., 1921..	17	34,602	34,158	444	2,035
<b>Transvaal—</b>					
1908-09.....	36	97,742	97,742	—	2,715
1910-11.....	36	115,056	115,056	—	3,196
1912-13.....	45	118,559	118,559	—	2,636
1914-15.....	45	121,168	121,168	—	2,693
1916-17.....	45	132,911	132,911	—	2,953
1919.....	45	140,683	140,683	—	3,124
30th June, 1920..	49	158,725	158,725	—	3,239
31st Dec., 1921..	49	140,947	140,947	—	2,876
<b>Orange Free State—</b>					
1909-10.....	17	33,261	33,261	—	2,250
1911-12.....	17	39,817	39,817	—	2,342
1913-14.....	17	40,781	40,781	—	2,399
1915-16.....	17	46,258	46,258	—	2,721
1917-18.....	17	46,237	46,237	—	2,723
1919.....	17	47,481	47,481	—	2,793
30th June, 1920..	17	51,648	51,648	—	3,038
31st Dec., 1921..	17	49,167	49,167	—	2,892

\* Information not available.

5. General Election, 1921.—The following tables give particulars in respect of each electoral division at the General Election for the House of Assembly in 1921:—

**PARTICULARS AS TO EACH ELECTORAL DIVISION AT THE GENERAL ELECTION, 1921.**

PROVINCE AND ELECTORAL DIVISION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>CAPE OF GOOD HOPE—</b>						
Albany.....	3,724	*1	—	—	—	—
Albert and Allwal.....	4,307	2	3,398	79	1,786	53
Barkly.....	3,831	2	2,957	77	1,507	51
Beaconsfield.....	4,005	*1	—	—	—	—
Beaufort West.....	3,773	2	2,789	74	1,535	55
Bechuanaland.....	3,701	2	2,692	72	1,365	51
Border.....	3,801	2	1,743	46	1,373	79
Caledon.....	3,693	2	2,935	79	1,833	62
Calvinia.....	3,573	2	2,522	70	1,541	61
<b>Cape Town—</b>						
Castle.....	4,297	*1	—	—	—	—
Central.....	4,407	2	2,572	58	2,057	80
Gardens.....	4,315	2	2,331	66	1,935	68
Harbour.....	4,463	2	2,473	55	1,754	71
Ceres.....	3,701	2	2,959	79	1,651	56
Colesberg.....	4,197	2	3,246	77	1,784	55
Craddock.....	4,016	2	3,117	77	1,605	61
† East London.....	4,200	2	2,947	70	1,493	51
Fort Beaufort.....	3,499	2	2,446	70	1,569	64
George.....	3,852	2	3,100	81	1,612	52
Graaff-Reinet.....	3,617	2	2,470	68	1,457	59
Griqualand.....	3,517	2	2,196	62	1,731	79
Hope Town.....	3,694	2	2,852	77	1,562	55

\* Uncontested election.

† Result subsequently declared invalid.

PARTICULARS AS TO EACH ELECTORAL DIVISION AT THE GENERAL ELECTION, 1921—*continued.*

PROVINCE AND ELECTORAL DIVISION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>CAPE OF GOOD HOPE—<i>continued.</i></b>						
Humanedorp.....	3,556	2	2,824	79	1,674	59
Kimberley.....	3,937	2	2,533	64	1,557	61
King William's Town.....	3,815	4	2,086	70	1,331	50
Ladismith.....	3,630	2	3,144	86	1,585	50
Liesbeeck.....	4,214	3	2,337	55	1,206	52
Malmesbury.....	3,797	2	3,187	83	1,756	55
Namaqualand.....	3,471	2	2,124	61	1,481	69
Newlands.....	4,272	2	2,372	55	1,844	78
Oudtshoorn.....	4,159	2	3,221	77	1,668	52
Paarl.....	4,129	2	3,214	77	1,925	60
Piquetberg.....	3,730	2	2,993	80	1,684	56
Port Elizabeth—						
Central.....	4,173	2	1,960	46	1,583	81
South-West.....	4,105	2	2,376	57	1,858	78
Prieska.....	3,781	2	2,984	78	1,501	50
Queenstown.....	4,068	2	2,948	72	1,843	63
Riversdale.....	3,985	2	3,415	86	1,708	50
Rondebosch.....	4,137	2	2,070	50	1,637	79
Salt River.....	4,152	3	2,004	48	1,187	59
Somerset East.....	3,818	2	2,982	78	1,631	55
South Peninsula.....	4,040	2	1,888	46	1,469	78
Stellenbosch.....	4,197	*1	—	—	—	—
Swellendam.....	3,548	3	2,741	77	1,583	58
Tembuland.....	3,575	2	2,255	63	1,133	50
Three Rivers.....	3,932	3	2,342	59	1,576	67
Uitenhage.....	4,511	2	3,597	79	2,046	57
Victoria West.....	3,682	2	3,047	82	1,526	50
Wodehouse.....	3,977	2	3,210	80	1,636	51
Woodstock.....	4,344	2	2,011	46	1,124	56
Worcester.....	3,996	2	3,344	83	1,915	57
<b>NATAL—</b>						
Dundee.....	1,933	2	1,162	60	771	66
Durban—						
Berea.....	2,605	2	1,354	51	1,025	70
Central.....	2,639	3	1,470	55	804	55
Greyville.....	2,532	3	1,446	57	920	64
Point.....	3,252	4	1,968	60	1,069	54
Umbilo.....	2,540	2	1,768	69	1,008	57
Illovo.....	1,869	*1	—	—	—	—
Klip River.....	2,020	2	1,355	67	909	67
Natal Coast.....	2,267	*1	—	—	—	—
Newcastle.....	1,834	2	1,331	72	715	54
Pietermaritzburg—						
North.....	2,229	2	1,402	66	752	50
South.....	2,181	*1	—	—	—	—
Stamford Hill.....	2,705	2	1,623	60	1,021	63
Umvoti.....	1,877	3	1,254	66	788	63
Vryheid.....	1,917	2	1,527	79	765	50
Weenen.....	1,903	2	1,020	53	812	80
Zululand.....	1,977	2	1,097	56	920	84
<b>TRANSVAAL—</b>						
Barberton.....	3,133	2	2,029	64	1,153	57
Benoni.....	3,301	2	1,954	59	1,233	63
Bethal.....	3,180	2	2,057	64	1,182	57
Beruidenhout.....	3,188	2	2,114	66	1,222	58
Boksburg.....	3,326	3	2,119	63	1,059	50
Brakpan.....	3,790	2	2,640	69	1,326	50
Commissioner Street.....	3,123	2	1,894	60	1,181	62
Christiana.....	3,262	2	2,007	61	1,368	68
Denver.....	3,286	3	2,242	68	961	43
Ermelo.....	3,058	2	2,256	73	1,367	61
Fordsburg.....	3,446	3	1,925	55	729	38
Germiston.....	3,695	3	2,627	71	1,639	40
Heidelberg.....	3,252	2	2,032	62	1,073	53
Hospital.....	3,298	2	2,080	63	1,412	68
Jeppe.....	3,191	*1	—	—	—	—
Johannesburg (North).....	3,102	2	2,012	64	1,215	60
Klerksdorp.....	3,405	2	2,047	77	1,408	53
Krugersdorp.....	3,485	3	2,600	74	1,158	44
Langlaagte.....	3,158	2	1,976	63	1,036	53
Lichtenburg.....	3,210	2	2,103	65	1,516	72
Tosberg.....	3,063	2	2,163	71	1,239	57

\* Uncontested Election.



PARTICULARS AS TO EACH ELECTORAL DIVISION AT THE GENERAL ELECTION, 1921—*continued.*

PROVINCE AND ELECTORAL DIVISION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>TRANSVAAL—<i>continued.</i></b>						
Lydenburg.....	2,863	2	1,839	64	1,003	55
Marico.....	3,182	2	2,606	82	1,343	51
Middelburg.....	3,141	2	2,879	75	1,222	51
Pietersburg.....	2,910	2	2,013	70	1,108	55
Parktown.....	3,103	*1	—	—	—	—
Potchefstroom.....	3,518	2	2,688	74	1,319	51
Pretoria—						
Central.....	3,631	*1	—	—	—	—
North.....	3,254	2	2,258	70	1,165	52
South.....	3,266	2	2,350	72	1,227	52
East.....	3,133	2	2,010	64	1,534	76
West.....	4,052	3	1,969	48	1,403	71
Rooedeport.....	3,560	2	1,849	52	1,074	58
Rustenburg.....	3,263	2	2,301	71	1,151	60
Springs.....	3,362	3	2,194	65	983	45
Standerton.....	3,215	2	1,783	55	1,215	68
Troyville.....	3,174	2	2,168	68	1,192	55
Turfontein.....	3,356	2	2,161	64	1,209	56
Ventersdorp.....	3,049	2	2,166	71	1,124	52
Von Brandis.....	3,288	2	1,684	51	1,235	73
Vrededorp.....	3,096	3	1,834	60	1,442	79
Wakkerstroom.....	3,396	2	2,603	77	1,327	51
Waterberg.....	2,788	2	1,878	68	1,211	64
Witwatersberg.....	2,720	2	2,134	79	1,098	51
Witbank.....	3,193	2	2,015	63	1,059	53
Wolmaranstad.....	2,897	2	1,765	60	1,152	65
Wonderboom.....	3,225	2	2,055	63	1,410	69
Zeoville.....	3,158	*1	—	—	—	—
Zoutpansberg.....	2,980	2	1,880	61	997	54
<b>ORANGE FREE STATE—</b>						
Bethlehem.....	3,139	2	2,092	66	1,467	70
Bloemfontein North.....	3,276	2	2,176	66	1,246	57
Bloemfontein South.....	3,295	2	2,331	71	1,189	51
Boshof.....	2,877	2	1,866	65	1,618	87
Edenburg.....	2,815	2	1,688	59	1,300	77
Fauresmith.....	3,005	2	1,991	66	1,476	74
Ficksburg.....	3,082	2	1,997	64	1,551	78
Frankfort.....	3,113	2	1,983	63	1,351	68
Harrismith.....	3,100	2	2,137	68	1,394	65
Hellbron.....	3,186	2	2,075	65	1,503	72
Hoopstad.....	2,872	2	1,847	64	1,280	69
Kroonstad.....	3,050	2	2,232	73	1,383	62
Ladybrand.....	3,057	2	1,932	63	1,268	66
Rouxville.....	3,028	2	1,817	60	1,389	76
Smithfield.....	2,698	*1	—	—	—	—
Vrededorp.....	3,041	2	1,807	59	1,270	70
Winburg.....	3,014	2	1,980	66	1,381	69

\* Uncontested election.

6. **By-Elections.**—The following table gives particulars of Parliamentary by-elections which have taken place since the General Election of 1921:—

**BY-ELECTIONS FOR HOUSE OF ASSEMBLY.**

PROVINCE AND ELECTORAL DIVISION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>CAPE OF GOOD HOPE—</b>						
Cape Town (Gardens).....	4,463	2	3,154	71	1,604	51
Les-beek.....	4,581	2	3,038	68	2,134	70
Port Elizabeth (Central).....	4,173	*1	—	—	—	—
Queenstown.....	4,203	2	3,438	82	1,977	57
<b>NATAL—</b>						
Stamford Hill.....	2,132	2	1,641	77	827	51
<b>ORANGE FREE STATE—</b>						
Vrededorp.....	3,041	*1	—	—	—	—

\* Uncontested Election.

7. **Electoral System for Provincial Councils.**—In the Cape and Transvaal Provinces the electoral divisions for members of the House of Assembly and members of the Provincial Council are coincident. In Natal and the Orange Free State, owing to the fact that only seventeen members are returned in each case for the House of Assembly, whereas each of the Provinces returns twenty-five members to the Provincial Council, the electoral divisions do not coincide, having been determined for each purpose by the Delimitation Commission. In other respects the law relating to elections for the House of Assembly applies to elections for Provincial Councils.

8. **Provincial Council Representatives and Number of Registered Voters.**—The statement below shows, in respect of each Province, the number of Provincial Council representatives and registered voters at each registration and the average number of registered voters per representative :—

**PROVINCIAL COUNCIL REPRESENTATIVES AND VOTERS, AND AVERAGE NUMBER OF VOTERS TO EACH REPRESENTATIVE AT EACH REGISTRATION.**

PROVINCE AND YEAR.	Number of Representatives.	NUMBER OF REGISTERED VOTERS.			Average Number of Voters to each Representative.
		Total.	European.	Other than European.	
<b>Cape of Good Hope—</b>					
1909.....	51	142,367	121,346	21,021	2,791
1911.....	51	148,551	125,459	23,092	2,913
1913.....	51	155,697	131,350	24,347	3,053
1915.....	51	169,851	142,479	27,372	3,330
1917.....	51	181,020	150,594	30,426	3,549
1920.....	51	200,874	163,242	37,632	3,939
1921.....	51	197,680	156,541	41,139	3,876
<b>Natal—</b>					
1911.....	25	29,733	*	*	1,189
1912.....	25	31,084	30,919	165	1,243
1913.....	25	31,254	30,961	293	1,250
1914.....	25	32,887	32,601	286	1,315
1915.....	25	33,641	33,390	251	1,346
1916.....	25	34,335	34,085	250	1,373
1917.....	25	—	—	—	—
1920.....	25	38,284	37,932	352	1,531
1921.....	25	34,602	34,158	444	1,384
<b>Transvaal—</b>					
1908-09.....	36	97,742	97,742	—	2,715
1910-11.....	36	115,056	115,056	—	3,196
1912-13.....	45	118,559	118,559	—	2,635
1914-15.....	45	121,168	121,168	—	2,693
1916-17.....	45	132,911	132,911	—	2,953
1920.....	49	158,725	158,725	—	3,239
1921.....	49	140,947	140,947	—	2,876
<b>Orange Free State—</b>					
1909-10.....	25	38,261	38,261	—	1,530
1911-12.....	25	39,817	39,817	—	1,592
1913-14.....	25	40,781	40,781	—	1,631
1915-16.....	25	46,253	46,253	—	1,850
1920.....	25	51,648	51,648	—	2,066
1921.....	25	49,167	49,167	—	1,966

\* Information not available.

9. **Provincial Council Elections.**—The following tables give particulars in respect of each electoral division at the Provincial Council elections in the years specified :—

**PROVINCIAL COUNCIL ELECTIONS.**

PROVINCE, ELECTORAL DIVISION, AND YEAR OF ELECTION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>CAPE OF GOOD HOPE, 1920—</b>						
Albany.....	3,724	*1	—	—	—	—
Albert and Aliwal.....	4,307	2	2,819	65.45	1,411	50.05
Barkly.....	3,831	2	1,945	50.77	1,012	52.03
Beaconsfield.....	4,005	*1	—	—	—	—
Beaufort West.....	3,773	*1	—	—	—	—
Bechuanaland.....	3,701	2	2,178	58.84	1,202	55.19
Border.....	3,801	*1	—	—	—	—

\* Uncontested election.

PROVINCIAL COUNCIL ELECTIONS—*continued.*

PROVINCE, ELECTORAL DIVISION, AND YEAR OF ELECTION.	Number of Voters on Register.	Number of Candidates	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>CAPE OF GOOD HOPE, 1920—<i>contd.</i></b>						
Caledon.....	3,693	2	2,718	73·57	1,610	59·57
Calvinia.....	3,573	2	2,096	58·66	1,280	61·35
Cape Town—						
Harbour.....	4,297	*1	—	—	—	—
Central.....	4,407	3	1,540	35·14	912	58·88
Gardens.....	4,315	2	1,783	41·32	925	51·88
Castle.....	4,463	*1	—	—	—	—
Ceres.....	3,701	2	2,480	67·00	1,433	57·78
Colesberg.....	4,197	2	2,708	64·52	1,344	49·63
Craddock.....	4,010	2	2,741	68·25	1,455	53·08
East London.....	4,200	2	2,340	55·71	1,300	55·94
Fort Beaufort.....	3,499	*1	—	—	—	—
George.....	3,832	*1	—	—	—	—
Grass-Beinet.....	3,617	2	2,182	60·32	1,346	61·69
Griqualand.....	3,517	*1	—	—	—	—
Hope Town.....	3,694	2	2,283	61·80	1,167	51·12
Humansdorp.....	3,556	*1	—	—	—	—
Kimberley.....	3,937	*1	—	—	—	—
King William's Town.....	3,815	*1	—	—	—	—
Ladysmith.....	3,630	2	2,807	77·32	1,470	52·58
Liesbeeck.....	4,214	3	1,487	35·28	802	54·34
Malmesbury.....	3,797	2	2,637	69·44	1,387	52·60
Namaqualand.....	3,471	*1	—	—	—	—
Newlands.....	4,272	*1	—	—	—	—
Oudtshoorn.....	4,159	2	2,956	71·07	1,520	51·42
Paarl.....	4,129	*1	—	—	—	—
Piquetberg.....	3,730	2	2,405	64·47	1,380	57·38
Port Elizabeth—						
Central.....	4,173	*1	—	—	—	—
South-West.....	4,106	*1	—	—	—	—
Prieska.....	3,781	2	2,420	64·00	1,331	55·00
Queenstown.....	4,068	3	1,797	44·17	862	47·41
Elversdale.....	3,965	2	3,187	80·37	1,678	52·65
Rondebosch.....	4,173	2	972	23·49	588	60·49
Salt River.....	4,162	*1	—	—	—	—
Somerset.....	3,818	2	2,658	69·61	1,583	59·56
South Peninsula.....	4,040	*1	—	—	—	—
Stellenbosch.....	4,197	*1	—	—	—	—
Swellendam.....	3,548	2	2,338	65·80	1,343	57·44
Tembuland.....	3,575	*1	1,888	52·81	1,035	54·82
Three Rivers.....	3,932	*1	—	—	—	—
Uitenhage.....	4,511	2	3,334	73·90	1,690	50·89
Victoria West.....	3,682	2	2,781	75·52	1,543	55·48
Wodehouse.....	3,977	2	2,634	66·23	1,367	51·90
Woodstock.....	4,844	2	1,378	31·72	925	67·13
Worcester.....	3,996	2	2,713	67·89	1,544	56·91
<b>NATAL, 1920—</b>						
Dundee.....	1,334	2	479	35·91	280	58·46
Durban—						
Berea.....	1,529	2	597	39·04	302	60·64
Congella.....	1,514	2	859	56·74	484	56·34
Essenwood.....	1,043	2	696	42·36	412	59·19
Greyville.....	1,571	*1	—	—	—	—
Point.....	2,071	3	970	46·84	381	39·23
West Street.....	1,792	*1	—	—	—	—
Durban Toll Gate.....	1,304	*1	—	—	—	—
Ixopo.....	1,222	*1	—	—	—	—
Ladysmith.....	1,448	*1	—	—	—	—
Melmoth.....	1,391	3	278	19·98	130	50·00
Newcastle.....	1,172	*1	—	—	—	—
North Coast.....	1,213	2	492	40·56	402	81·71
Pietermaritzburg—						
East.....	1,358	2	615	45·29	447	72·68
Umsunduzi.....	1,532	2	786	51·31	448	56·99
West.....	1,555	2	764	49·13	511	66·88
Stamford Hill.....	1,481	2	732	49·43	480	65·57
Umbilo.....	1,380	2	673	48·77	472	70·13
Umgeni.....	1,330	*1	—	—	—	—
Umvoti.....	1,372	2	643	46·87	431	67·01
Umsinkulu.....	1,162	*1	—	—	—	—
Utrecht.....	1,222	*1	—	—	—	—
Victoria County.....	1,383	*1	—	—	—	—
Vryheid.....	1,291	2	447	34·54	271	60·63
Weenen.....	1,383	2	437	31·50	244	55·83

\* Uncontested election.

PROVINCIAL COUNCIL ELECTIONS—continued.

PROVINCE, ELECTORAL DIVISION, AND YEAR OF ELECTION.	Number of Voters on Register.	Number of Candidates.	Number of Votes Cast.	Percentage of Votes on Register.	SUCCESSFUL CANDIDATES.	
					Votes Cast for.	Percentage of Votes Recorded.
<b>TRANSVAAL, 1920—</b>						
Barberton.....	2,133	2	1,475	47.08	910	61.69
Benoni.....	3,301	2	1,384	41.93	822	59.39
Bethal.....	2,180	2	1,294	40.69	737	56.96
Bezardenhout.....	3,188	2	1,162	36.45	583	50.70
Boksburg.....	3,326	3	1,399	42.06	613	43.82
Brakpan.....	3,790	3	1,772	46.75	1,055	59.54
Christiana.....	3,262	2	1,569	48.10	1,007	68.64
Commissioner Street.....	3,123	3	1,352	43.29	546	40.38
Denver.....	3,286	3	1,529	46.53	696	45.52
Ermelo.....	3,058	2	1,358	44.41	698	51.40
Fordsburg.....	3,446	3	1,270	36.85	594	46.77
Germiston.....	3,695	3	1,909	51.66	902	47.25
Heidelberg.....	3,252	2	1,372	42.19	743	54.15
Hospital.....	3,298	3	1,453	44.97	685	46.19
Jeppes.....	3,191	2	928	29.08	697	75.11
Johannesburg North.....	3,102	4	1,409	48.32	502	33.40
Klerksdorp.....	3,405	2	1,800	52.86	1,128	62.67
Krugerdsorp.....	3,485	2	1,664	47.75	836	50.24
Langlaaght.....	3,158	4	1,507	49.02	728	50.29
Lichtenburg.....	3,210	*1	—	—	—	—
Losberg.....	3,063	2	1,552	50.67	940	60.57
Lydenburg.....	2,863	2	967	33.78	408	51.50
Marico.....	3,182	2	1,833	57.61	918	50.08
Middelburg.....	3,141	2	1,859	59.18	1,022	54.98
Parktown.....	3,163	2	1,197	38.59	969	80.95
Pietersburg.....	2,910	2	1,559	53.57	892	57.22
Potchefstroom.....	3,518	2	1,894	52.98	936	50.21
<b>Pretoria—</b>						
Central.....	3,631	2	1,569	43.21	883	56.28
North.....	3,234	2	1,773	54.49	936	52.79
South.....	3,266	2	1,795	54.96	920	51.26
East.....	3,133	3	1,682	53.69	804	47.80
West.....	4,052	2	1,247	30.77	719	57.66
Rodepoort.....	3,560	3	1,378	38.71	903	65.52
Rustenburg.....	3,263	2	1,604	49.16	881	54.93
Springs.....	3,362	*1	—	—	—	—
Standerton.....	3,215	*1	—	—	—	—
Troyeville.....	3,174	2	1,299	40.93	660	51.50
Turfontein.....	3,350	2	1,440	42.01	847	58.82
Von Brandis.....	3,288	2	1,291	36.53	616	51.29
Ventersdorp.....	3,049	2	1,684	55.23	879	52.20
Vrededorp.....	3,096	*1	—	—	—	—
Wakkerstroom.....	3,396	2	1,814	53.42	918	50.61
Waterberg.....	2,788	2	1,088	39.02	732	67.28
Witbank.....	3,193	2	1,418	44.34	805	61.00
Witwatersberg.....	2,729	2	1,326	48.75	684	51.58
Wolmaransstad.....	2,897	2	1,215	41.94	758	62.39
Wonderboom.....	3,225	2	1,721	53.36	1,081	62.81
Yeoville.....	3,158	2	1,673	53.00	964	59.98
Zoutpansberg.....	2,989	2	1,273	42.72	635	51.45
<b>ORANGE FREE STATE, 1920—</b>						
Bethlehem.....	1,906	*1	—	—	—	—
<b>Bloemfontein—</b>						
District.....	1,878	*1	—	—	—	—
East.....	2,387	2	923	38.67	453	49.08
West.....	2,294	3	830	37.68	342	41.20
Boshof.....	1,919	*1	—	—	—	—
Edenburg.....	1,915	*1	—	—	—	—
Fauresmith.....	1,984	*1	—	—	—	—
Ficksburg.....	1,814	*1	—	—	—	—
Frankfort.....	2,137	*1	—	—	—	—
Harrismith.....	2,046	2	765	37.39	494	64.58
Heilbron.....	1,919	*1	—	—	—	—
Hoopstad.....	1,831	*1	—	—	—	—
Jacobsdal.....	1,827	*1	—	—	—	—
<b>Kroonstad—</b>						
East.....	1,936	2	802	46.07	588	65.91
West.....	1,754	2	768	43.79	455	59.24
Ladybrand.....	2,003	*1	—	—	—	—
Lindley.....	1,994	*1	—	—	—	—
Parls.....	2,134	*1	—	—	—	—
Rouxville.....	1,931	*1	—	—	—	—
Senekal.....	1,963	*1	—	—	—	—
Thaba 'Nehu.....	2,001	*1	—	—	—	—
Vrele.....	2,113	*1	—	—	—	—
Vrededorp.....	1,839	2	555	30.01	415	74.77
Wejener.....	1,910	*1	—	—	—	—
Winburg.....	1,855	*1	—	—	—	—

\* Uncontested election.

## CHAPTER XIII.

## NATIVE AFFAIRS.

## § 1. Native Population of the Union.

1. **Native Population.**—The number of natives in the Union at various census dates was as follows:—

**NUMBER OF NATIVES IN UNION AREA AT VARIOUS CENSUSES  
(EXCLUSIVE OF MIXED AND OTHER COLOURED POPULATION).**

Province.	1904.	1911.		1921.*	
	Number of Natives.	Number of Natives.	Percentage of Total Population.	Number of Natives.	Percentage of Total Population.
Cape of Good Hope	1,424,787	1,510,939	59.26	1,629,529	58.92
Natal	904,041	953,398	79.24	1,138,783	79.77
Transvaal	957,127	1,219,815	72.34	1,498,666	71.78
Orange Free State	225,101	325,824	61.69	422,145	67.18
UNION	3,491,056	4,019,006	67.28	4,699,433	67.84

\* Preliminary figures, subject to revision. [Final figure for Union 4,697,813.]

2. **Distribution of Native Population.**—The following table indicates, from the returns of the Population Censuses of 1911 and 1921 (preliminary results), the distribution of the Bantu population of the Union. The principal areas in which the natives were congregated in those years and the density per square mile in the case of each group shown are given according to Provinces. It will be seen that in the Cape Province the native population is centred in the Native Territories and a number of eastern districts, with King William's Town as the area with the densest native population. In Natal about one-quarter of the native population is to be found in Zululand, while in the rest of the Province the natives are distributed evenly throughout the various districts. In Zululand they are, however, less densely settled than in the remainder of Natal. In the Transvaal the bulk of the native population is contained in the Witwatersrand area, which is largely urban and has a high density, and in the northern portion of the Province, forming the greater part of the Bushveld. In the Orange Free State the natives are principally located in the central and eastern districts, adjoining the Basutoland border.

## DISTRIBUTION OF NATIVE POPULATION IN THE UNION.

Province and Area.	1911.*		1921.†	
	Native Population.	Per Square Mile.	Native Population.	Per Square Mile.
<b>Cape of Good Hope</b> —				
Native Territories—				
Transkei.....	871,602	53·30	939,372	57·45
Glen Grey.....	49,562	54·58	42,498	46·84
Korachel.....	37,498	54·82	36,617	53·53
Eastern Districts—				
Krug Wilhelm's Town.....	94,303	70·77	91,674	69·77
Albany, Alexandria, Matielust, Cullinan, East London, Fort Beaufort, Komgha, Peddie, Port Elizabeth, Queenstown, Somerset East, Stutterheim, Uitenhage, Victoria East, and Wodehouse.....	211,767	13·03	228,878	14·71
Rest of Province.....	255,267	1·05	260,510	1·24
<b>TOTAL NATIVE POPULATION.....</b>	<b>1,519,639</b>	<b>5·49</b>	<b>1,639,399</b>	<b>5·92</b>
<b>Natal</b> —				
Natal.....	214,969	29·62	250,094	24·04
Rest of Natal.....	738,429	29·71	888,089	35·73
<b>TOTAL NATIVE POPULATION.....</b>	<b>953,398</b>	<b>27·02</b>	<b>1,138,788</b>	<b>32·27</b>
<b>Transvaal</b> —				
Wilwaterstrand.....	278,780	155·48	304,014	169·56
Pietersburg.....	192,183	14·45	215,023	16·17
Zoutpansberg.....	133,840	12·51	154,806	14·42
Lydenburg.....	105,319	10·35	124,510	12·23
Pretoria.....	97,825	14·69	119,654	13·01
Waterberg.....	66,792	4·10	80,497	5·06
Middeburg.....	49,853	9·91	75,602	15·03
Rustenburg.....	48,322	5·13	64,768	6·83
Rest of Province.....	247,171	6·69	260,292	9·61
<b>TOTAL NATIVE POPULATION.....</b>	<b>1,219,845</b>	<b>11·04</b>	<b>1,498,663</b>	<b>13·57</b>
<b>Orange Free State</b> —				
Harrismouth.....	40,051	12·69	45,718	14·49
Bochelem.....	27,256	11·04	35,990	14·58
Bloemfontein.....	27,672	6·29	35,751	8·12
Kroonstad.....	21,189	6·11	35,339	10·28
Winburg.....	23,133	6·24	28,079	7·57
Senekal.....	17,564	10·64	22,057	13·90
Vrede.....	16,472	7·47	22,697	10·29
Heilbron.....	14,475	7·77	22,624	12·10
Thaba N'ouan.....	23,608	17·99	32,325	17·61
Ladybrand.....	16,935	15·27	20,376	18·57
Pleksburg.....	17,250	23·45	20,242	27·59
Rest of Province.....	94,785	3·85	110,427	4·34
<b>TOTAL NATIVE POPULATION.....</b>	<b>325,824</b>	<b>6·47</b>	<b>422,445</b>	<b>8·35</b>
<b>Union.....</b>	<b>4,019,006</b>	<b>8·49</b>	<b>4,699,433</b>	<b>9·63</b>

\* Figures were, in certain instances, subsequently adjusted as the result of the alteration of boundaries of magisterial districts.

† Preliminary unaudited figures.

## § 2. Administration.

1. **General.**—In terms of Section 147 of the *South Africa Act* of 1909, the control and administration of native affairs throughout the Union are vested in the Governor-General-in-Council, who is authorized to exercise all special powers in regard to native administration vested at the time in the Governors of the Colonies entering the Union, or exercised by other authorities as superior chiefs. The executive authority rests with a Minister of Native Affairs, who is in control of a Department of State under a permanent Secretary for Native Affairs, with an Under-Secretary and staff.

In regard to the representation of the natives in the Parliament of the Union, provision is made, under Section 24 (ii) of the *South Africa Act*, for the nomination to the Senate, by the Governor-General, of four members who "shall be selected on the ground mainly of their thorough acquaintance, by reason of their official experience or otherwise, with the reasonable wants and wishes of the coloured races in South Africa."

**2. Native Affairs Commission.**—The *Native Affairs Act* (No. 23 of 1920) provides for the establishment of a Commission presided over by the Minister of Native Affairs, whose functions and duties "include the consideration of any matter relating to the general conduct of the administration, of the legislation in so far as it may affect the native population (other than matters of departmental administration), and the submission to the Minister of its recommendations on any such matter." Its functions are thus merely advisory, but adequate means are reserved to it for placing its views before Cabinet and Parliament should its recommendations not be accepted. The Act also provides for the establishment of local native councils on the model of those already existing in the Transkei and in the Glen Grey District and for the establishment of General Councils similar to the Transkeian Territories and Pondoland General Councils. The Act further revives for the Union the obsolescent provision of the Transvaal Law for the summoning of conferences of native persons and bodies representative of native opinion, with the object of enabling the Government to gauge more accurately the state of native thought and feeling and of affording to those not otherwise represented the opportunity of expressing their views.

The Native Affairs Commission was constituted in 1920 with the following membership: Senator the Hon. A. W. Roberts, D.Sc., F.R.S.E., F.R.A.S., Brigadier-General L. A. S. Lemmer, M.L.A., and C. T. Loram, M.A., LL.B., Ph.D. In the early stages of its activities, which commenced in April, 1921, the Commission accepted as the first principles of its policy (a) that it was primarily and essentially the friend of the native people and as such the needs, aspirations, and progress of the natives should be considered sympathetically by it; (b) that it was the adviser of the Government in matters affecting the interests of the natives; (c) that it should endeavour to win the confidence of the natives; and (d) that it should strive to educate public opinion so as to bring about the most harmonious relations possible between white and black in South Africa. In the course of the year 1921 the Commission dealt with a number of individual points of native administration and matters bearing upon native affairs which were referred to it for consideration by the Government; and, in addition, the Commission investigated certain general questions of native policy, such as native taxation and education, the pass laws, the control of natives in urban areas, land administration, and the extension of the system of local native councils, as contemplated by the *Native Affairs Act*, 1920. Its recommendations on these matters are referred to in the appropriate sections of this chapter.

**3. Administrative System.**—(i) *The Department of Native Affairs.*—The Department is responsible for the administration of all legislation specially affecting the interests of natives and the supervision and control of their general welfare; and is divided into two distinct branches, viz., District Administration and Native Labour. Both are under the direction of the Secretary for Native Affairs at Pretoria. The expenditure incurred on the Administration of the Department is given in Chapter XXIII.

(ii) *District Administration.*—The system of district administration differs in the various Provinces. In the *Cape of Good Hope* the principal native area is formed by the Transkeian Territories, which are administered by a Chief Magistrate, with the help of a General Council meeting at Umtata. In addition to being the Chairman of the Council, the Chief Magistrate is President of the Native Appeal Court. He is assisted by twenty-seven magistrates, who are officers of the Native Affairs Department. In the *Cape Province* (exclusive of the Transkeian Territories) the two distinctly native districts of Herschel and Glen Grey are administered by magistrates who are likewise controlled by the Department of Native Affairs; and the last-mentioned district possesses in addition a quasi-representative organization. In the remaining districts the magistrates of the Department of Justice are charged with the administration of native affairs, being assisted in the more populous native areas by superintendents of natives who are officials of the Native Affairs Department.

In *Natal* a Chief Native Commissioner, with headquarters at Pietermaritzburg, deals administratively with native affairs throughout the Province, including Zululand. He is assisted by a staff of inspectors of location and mission reserves, who are officers of the Native Affairs Department. In a number of districts, however, the Department is entirely dependent on assistance rendered by the magistrates attached to the Department of Justice.

In the *Transvaal* all magistrates are controlled by the Department of Justice, but are *ex-officio* Native Commissioners, and in this capacity are for practical purposes officers of the Department of Native Affairs. They are assisted in the more densely populated native areas by native sub-commissioners, who are purely Native Affairs officials.

In the *Orange Free State* the magistrates act as the representatives of the Department, assisted, in the Harrismith and Thaba 'Nehu Districts (which contain native reserves), by supervisors, who are officers of the Native Affairs Department.

In all four Provinces of the Union there are native chiefs and headmen, many of whom are subsidized by the Government. In a limited number of cases fairly substantial allowances are paid under agreements entered into at the time of annexation, or in recognition of services rendered. In the large majority of cases, however, the allowances are inconsiderable in amount, and are made as a token of recognition rather than as remuneration for services. Some of these officers have limited civil jurisdiction. All serve under district officials and are in charge of tribes, sections of tribes or locations, as the case may be.

(iii) *Native Labour*.—The sub-Department responsible for the supervision and control of industrial native labour comprises a Director of Native Labour, with headquarters at Johannesburg, and a staff of inspectors and protectors of natives and pass officials, who visit the compounds, deal judicially with petty disputes, and generally watch over the welfare and interests of natives employed in industrial labour areas.

4. **Transkeian Territories General Council**.—(i) *Constitution*.—The establishment of native councils in the Transkeian Territories, under a formal constitution, dates from the beginning of 1895, when *District Councils* were created in the districts of Butterworth, Idutywa, Nqamakwe, and Tsomo, the four being united in what was called the *Transkeian General Council*, whose meetings were held at Butterworth. In 1899 the district of Kentani entered the system. In 1903 it was extended to seven districts of Tembuland and East Griqualand, when the name of the larger body was changed to *Transkeian Territories General Council*, meeting yearly in Umtata. Since then six other districts have been added. Those now embraced by the operations of the *Transkeian Territories General Council* are therefore eighteen, namely, Butterworth, Elliotdale, Engcobo, Idutywa, Kentani, Matatiele, Mount Ayliff, Mount Fletcher, Mount Frere, Mqanduli, Nqamakwe, Qumbu, St. Marks, Tsolo, Tsomo, Umtata, Umzimkulu, and Willowvale, comprising the whole of the Transkei, the whole of Tembuland (except Xalanga) and the whole of East Griqualand (except Mount Currie). The general policy of the Government has been opposed to forcing the system upon the people at large in advance of their fitness for it or their desire to have it. The practice is to await the seasonable opportunity in each district considered by itself, and then to call upon the people to express their wishes in the matter.

A *District Council* consists of a Resident Magistrate and six members, and is constituted in the following way. At the formation, and thereafter triennially, nominations for membership are called for. Two of these are made by the Governor-General, and four by the local representatives of the ratepayers. In districts where survey and native individual tenure have been introduced, or where the *District Council* asks for election on a popular basis, the local nominations are made by an *ad hoc* body of title-holders or hut-tax payers, consisting of three persons of each ward elected by the ratepayers. In other districts the nominations are made by the headmen.

Each *District Council* meets quarterly, or oftener if summoned by the magistrate, and at each November meeting nominates two of its number as members of the *General Council* during the following year. The Governor-General nominates another member usually, but not necessarily, a *District Councillor*; and these members from the various districts, together with the magistrates, form the *Transkeian Territories General Council*, which consists at present of the Chief Magistrate of the Territories as presiding officer, eighteen magistrates, and fifty-four native members. The annual session of this body is called during the autumn months of the year by summons from the Chief Magistrate, and usually lasts for a fortnight. The Chief Magistrate is empowered to convene general extraordinary sessions.

(ii) *Functions*.—These Councils (District and General) are constituted as advisories to the administration, associating the people with the control of local funds, giving them a voice in the disposal of affairs intimately affecting their own interest, training them to constitutional methods of expressing their wishes in regard to general and local policy, and also keeping the Government and its officers in touch with native feeling. Debates cover a wide range of subjects, including the revision of laws particularly affecting the native population, such as native marriage and inheritance, education, diseases amongst stock, control of commonages, forests, etc. Questions come before the *General Council* directly by motions introduced by magistrates or members, and also on submission from *District Councils* and references from Government, frequent use being made of the committee system. The resolutions of the Councils (District or General) having been taken on the subjects placed before them, the responsibility for action thereon rests upon the magistrates, the Treasurer, the Chief Magistrate, the Minister, or the Governor-General, according to the importance of the matters involved.

(iii) *Functions of District Councils*.—In local administration the various *District Councils* stand to the *General Council* in the relation of individual parts of a single body. They are the executive organs of the *General Council*, which distributes amongst them such duties as road maintenance, dipping operations, and supervision of commonages; but remains financially responsible for their actions. Strictly speaking, they have no separate



income or expenditure, but there is one common treasury into which all revenues flow, and which is chargeable with the cost of the different services authorized. This arrangement has the twofold merit of allowing for local variations and ensuring, under better control, the accumulation of funds which enable the undertaking of projects beyond the means of any industrial district organization.

(iv) *Financial System*.—The main source of revenue is a rate levied annually by the Governor-General, which may be varied in amount according to the advice of the *General Council*. It has, however, always been fixed at ten shillings, payable roughly by every native male adult in the area under jurisdiction, which embraces the whole of the magisterial (Council) districts, except portions under municipal or village management and, in the case of Matatiele, private farms.

In general, the *District Councils* are responsible for the initiation of *expenditure* proposals, which are collated and laid before the *General Council* in the form of annual estimates of expenditure. After revision by the Treasurer the votes of the Council are taken thereon, and they are then submitted for the approval of the Governor-General. Council operations embrace the maintenance of about 3,200 miles of roads and the construction of new ones at a charge of about £25,000 a year, the construction and repair of dipping tanks, the provision and upkeep of wattle plantations; the dipping of large stock, grants in aid of scholastic education, hospitals; and lastly its own institutions for the teaching of agriculture, and for the improvement of stock breeding amongst natives and experimenting in and encouraging the cotton-growing industry. As a general rule, the Council is not in receipt of Government or Provincial grants, nor does it, within its area, levy rates upon Europeans, who nevertheless share incidentally in most of the benefits accruing to ratepayers from Council expenditure.

(v) *Education*.—Prior to the 1st July, 1920, the Council paid *pro rata* with the Education Department (from ten to twenty shillings in the £1) towards teachers' salaries, school furniture, and sewing material, limiting its assistance to tuition up to Standard IV. It had no part in the appointment of teachers, management of schools, or others matters of educational organization or policy. From the 1st July, 1920, the Cape Provincial Council took over the payment of the whole of the teachers' salaries—including the *pro rata* grants previously paid from Council funds. The General Council resolved to pay a temporary allowance of 20 per cent. of their Provincial grants to all teachers at schools previously aided by it, to take effect from 1st July, 1920, and to cease as soon as the Provincial scale of grants to native teachers was increased. This temporary allowance is still being paid. With regard to agricultural education, the Council possesses two schools of agriculture and three agricultural farms which receive no monetary aid from either the Union or Provincial Government, but which occasionally obtain advice from departmental specialists. The School of Agriculture at Tsolo started in 1913 with four students. At present there are fifty students, which is the maximum number which can be accommodated. To meet the growing demand another school of agriculture was opened at Teko, in the Butterworth district, early in 1922, which provides accommodation for fifty students. The Council pays and controls the work of native agricultural demonstrators, numbering eighteen, distributed over the whole of the districts under the Transkeian Territories General Council. The duty of these demonstrators is to promote better methods of agriculture among the natives.

(vi) *Roads and Bridges*.—There are two rural road authorities, the *Provincial Council* and the *General Council*, whose respective spheres of operations have never been defined by law or formal agreement. Pending such a settlement the *Provincial Council* maintains the great trunk roads and a few others, municipal and village bodies keep roads within their areas, and the remainder are left to the *General Council*. The latter confines itself chiefly to roads in native locations, but occasionally repairs a thoroughfare through a European or native farming settlement, or a magisterial reserve with no local management. The *General Council* is the only body which constructs roads in Council districts. It receives no grants towards construction or maintenance of roads or bridges.

(vii) *Public Health*.—The Council has no prescribed functions in regard to the control of public health, and the question of its *pro rata* contribution on Government expenditure has remained in abeyance. But it pays the local *pro rata* share of the cost of treating its ratepayer population in hospitals of the Territories.

(viii) *Large Stock Dipping Operations*.—From the 1st July, 1915, cattle dipping operations in the eighteen *Transkeian Territories General Council* districts have been paid for from funds supplied by the natives, by means of stock rates. The magistrate and *District Council* of each district, with the exception of Idutywa, are responsible for carrying out the dipping operations. Subject to control by the Chief Magistrate and co-operation with the Veterinary Department, they take the necessary steps for suppressing East Coast Fever. The Engineer's department of the *General Council* arranges for and supervises the construction and repairs of cattle tanks in native areas.

(ix) *Statistics.*—The following is a statement showing the revenue and expenditure from 1913-14.

**TRANSKEIAN TERRITORIES GENERAL COUNCIL—REVENUE AND EXPENDITURE, 1913-14 TO 1920-21.**

Heading.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£	£	£
Revenue.....	92,715	94,147	94,947	97,007	101,759	103,673	103,921	97,003
Expenditure....	100,241	95,131	88,114	86,485	103,866	108,840	99,999	105,241

**5. Pondoland General Council.**—(i) *Constitution.*—In 1911 the Council system was extended to the districts of Libode, Ngqeleni, and Port St. Johns, collectively known as Western Pondoland. There are three *District Councils*, and a *General Council* known as the *Western Pondoland General Council* constituted on lines analogous to those of the *Transkeian Territories General Council*. The principal difference in constitution between the two is that the members, who are elected in the case of the *Transkeian Territories General Council*, are, in Western Pondoland, nominated by the Paramount Chief.

(ii) *Functions.*—The activities of the *Western Pondoland General Council* are on a more restricted scale than those of the *Transkeian Territories General Council*, and they are sufficiently indicated in the subjoined statement showing the revenue and expenditure from 1913-14.

**PONDOLAND GENERAL COUNCIL—REVENUE AND EXPENDITURE, 1913-14 TO 1920-21.**

Heading.	1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£	£	£
Revenue.....	9,901	10,227	9,784	10,090	10,081	10,513	10,067	10,011
Expenditure....	10,516	9,226	10,317	10,432	10,657	10,222	10,587	10,078

**6. Eastern Pondoland Trust Fund.**—In Eastern Pondoland, comprising the districts of Bizana, Flagstaff, Lusikisiki, and Tabankulu, the cost of construction and maintenance of cattle and sheep tanks, dipping of large stock, the cost of combating stock diseases generally, and grants towards scholastic education are met from revenue raised by special taxation each year. The amount of the tax is 7s. 6d. a year for each hut-tax payer, 2s. of which is education tax and 5s. 6d. tank and dipping tax. The Education Fund commenced from 1st July, 1917. Prior to the 1st July, 1918, the revenue and expenditure in connection with tank and dipping taxes were included in the accounts of the Native Affairs Department, but from the date mentioned the control of this Trust Fund was transferred to the Chief Magistrate. The table hereunder gives the revenue and expenditure of the Trust Fund from the 1st July, 1918:—

**EASTERN PONDOLAND TRUST FUND—REVENUE AND EXPENDITURE, 1918-19 TO 1920-21.**

Heading.	1918-1919.	1919-1920.	1920-1921.
	£	£	£
Revenue.....	19,211	14,297	15,262
Expenditure....	16,343	13,922	13,700

**7. Glen Grey District Council.**—(i) *Constitution.*—This Council was established under the provisions of the *Glen Grey Act* (Cape of Good Hope), No. 25 of 1894. It is composed of the magistrate of Lady Frere as chairman and twelve native members, six nominated by the Governor-General and six elected by the Location Boards also established under the Act.

(ii) *Functions and Financial Statistics.*—The revenues of the Council are derived from the rates levied in terms of the Act, and are spent in the interests of natives of the district on dipping of cattle, roads, the encouragement of agriculture, irrigation and public health. It has constructed and maintains a number of dipping tanks; it possesses an experimental farm, which is of service in raising the standard of agriculture in the district, and it is responsible for the upkeep of all roads in the district excepting the main road. The general position of the Council has been very much relieved by the action of the Provincial Council in assuming responsibility for the payment of all teachers' salaries, and the expenditure on education, previously one of the largest items in the Council's accounts, has been diverted to other purposes.

The table hereunder gives the revenue and expenditure of the Council for a period of years.

**GLEN GREY DISTRICT COUNCIL—REVENUE, EXPENDITURE, AND INDEBTEDNESS, 1914-15 TO 1921.**

Heading.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919.*	1920.*	1921.*
	£	£	£	£	£	£	£	£
Revenue.....	7,568	6,917	7,221	8,944	8,208	8,705	6,104	6,372
Expenditure....	7,427	7,006	7,630	7,185	7,804	9,635	8,240	6,235
Indebtedness....	1,173	614	257	106	450	316	657	1,424

\* The financial year corresponds with the calendar year.

**8. Local Councils under Act No. 23 of 1920.**—The *Native Affairs Act, 1920*, provides for the establishment of local councils in native areas which have been set aside or may hereafter be set aside as such by Parliament. The councils are in principle designed to have real local self-government, and, while independent of official or European control in their deliberations, they will have as chairmen Government officials with advisory duties, conversant with the necessities and obligations of local government. The Native Affairs Commission, which was empowered to recommend the constitution of such councils, proceeded from the standpoint that these bodies should be established wherever possible. A series of consultative meetings were held with the natives at various centres, and as a result the Commission in 1921 recommended the establishment of councils at King William's Town (6), Middeldrift (1), and Keiskama Hoek (1)—all in the Cape Province. In the other Provinces, in view of the comparative novelty of the proposed system, no definite recommendations were made in 1921.

### § 3. Control of Natives.

**1. Natives in Urban Areas.**—(i) *General.*—Before the establishment of the Union the control and administration of matters affecting natives in urban areas were vested in the local authorities having jurisdiction. These functions were exercised through regulations framed under statutory powers and subject before promulgation to the approval of the central governments of the various colonies. There were thus two ways in which the law regarding such natives might differ between colony and colony. In the first place the powers granted by statute to the local authorities varied to a very great extent, and in the second place the policy of one central government was to restrict the action of local authorities, while that of another was to allow every latitude in the control of the native population.

The *South Africa Act* (Section 85) granted to the Provincial Councils power to make Ordinances in relation to all matters affecting local authorities and all matters which in the opinion of the Governor-General-in-Council were of a merely local or private nature. Section 147 of that Act, however, vested in the Governor-General-in-Council the control and administration of native affairs throughout the Union. The question which arose immediately after the constitution of the Union was whether in the exercise of their powers in regard to natives the local authorities were to be subject to the Provincial or to the Union Government, in other words, whether regulations differentially affecting natives framed by the local authorities required merely the approval of the Executive Committee or whether they required in addition the approval of the Governor-General-in-Council. It was decided that the powers in question should be reserved to the Union Government in view of Section 147 of the *South Africa Act*. The Native Affairs Department has therefore since 1910 been concerned in this connection with (1) the oversight of all regulations submitted for approval and (2) the preparation of legislation affecting natives.

The conditions prevailing in the urban native locations in all the Provinces of the Union have been far from satisfactory. This may be attributed to several factors, of which two at

least, though fairly well defined, can only be combated by the slow processes of education and experience—namely, the attitude of local authorities towards the native and the passive indifference or occasionally active hostility of the natives themselves. A third factor, largely conditioned by the others, but easier to deal with, because more concrete, is the admitted inadequacy of the existing native legislation. Local authorities derive their powers of regulation in native matters from the laws governing their activities which were in many cases enacted before the constitution of the Union, and which are characterized by a wide divergence of policy between the various legislatures.

(ii) *Cape of Good Hope.*—In the Cape Province the only authority by which the local bodies are entitled to exercise any supervision occurs in the *Public Health Act* of 1897, under which by-laws may be made "for regulating the use of native locations and for maintaining good order, cleanliness and sanitation therein, and for preventing overcrowding and the erection or the use of unhealthy or unsuitable huts and dwellings." But while the local authority is given power to secure the punishment of breaches of such regulations by the natives, no duty is cast upon it by law to see that proper provision is made or opportunity given for meeting the health requirements of the native population. The Native Affairs Department has, however, been in a position by virtue of its indirect control, to impose this obligation on the local authorities and to enforce its fulfilment to a certain extent.

The position in the Cape Province is complicated by the fact that natives are not compelled to reside in the locations, and may live under the most disreputable conditions, amenable to no special control. Cape Town and Port Elizabeth are exceptional among the towns of the Cape Province, in that natives in these areas must, unless exempted, reside within locations established and controlled by the Union Government under the *Native Reserve Locations Acts*. Provision for the transfer of the control of these locations to the local authorities was made by Act No. 48 of 1919.

(iii) *Natal.*—In the urban areas of Natal, with the exception of Durban and Pietermaritzburg, although local authorities have the power to lay out locations and compel the residence of natives therein, the location system is untried. The native population of the town squats on the town lands, and is subject to a minimum of control.

(iv) *Transvaal.*—In the Transvaal the regulations for the control of locations have been framed in terms of Ordinance No. 58 of 1903. These regulations contain provisions in regard to public health matters; but here, as in the Cape Province, no power exists of compelling the local authorities to carry out their share of the necessary reforms. In Johannesburg the difficulty of finding suitable sites for locations has rendered inoperative the provision for compulsory residence.

(v) *Orange Free State.*—In the Orange Free State the powers granted to local authorities in respect of the control of coloured persons (here including natives) are very wide, but are directed rather to the preservation of status than to the amelioration of the condition of the natives. This direction has been reflected in the regulations, although, as in the case of the Cape Province, the Native Affairs Department has recently urged the inclusion of provisions casting upon the local bodies some responsibility in regard to matters of health.

(vi) *Union Legislation.*—It was a condition of the understanding arrived at by the Union and Provincial Governments in 1912, on the subject of legislation regarding natives in urban areas, that the Union Government would introduce a measure in respect of that matter as soon as practicable. The first draft of a Bill was prepared in 1912, but further action was delayed owing to various causes; principally because such legislation is of necessity dependent on large questions of general native policy. In 1921 the question was referred to the Native Affairs Commission, and that body, after consultation with the various interests concerned, framed a revised *Urban Areas Bill*, which was published in 1922. Its consideration by Parliament was, however, deferred until the 1923 session.

**2. Orange Free State Native Reserves.**—There are in the Orange Free State three areas reserved for the exclusive occupation of natives. These areas are the Native Reserves of Witzieshoek, Thaba 'Nehu, and Seliba.

The *Witzieshoek Reserve*, in extent about 50,000 morgen, was assigned in 1867 for the occupation of Paulus Mopeli, a Mosuto Chief, who desired to become a subject of the Orange Free State. The present population of the Reserve is estimated at 5,500. The chief of the tribe, who is appointed by the Government, exercises a limited jurisdiction in civil cases but none in criminal cases, is exempt from tax, and is bound to give all the required assistance for the preservation of order and peace within the territory. The representative of the Government, who is responsible for the administration of the Reserve, is known as the *Commandant*, and is an officer of the Native Affairs Department. In civil cases there is an appeal from the decision of the Chief to the *Commandant*, and in criminal cases the *Commandant* has all the powers granted to courts of resident magistrates. The *Commandant* must reside within the Reserve, and is charged with the collection of the hut tax of £1 per annum levied on the owner of each hut. He keeps a register of all male

persons in the Reserve, as well as of the number of huts and exercises a general oversight over the affairs of the Reserve.

In addition to these officials, there is a Board constituted under Ordinance No. 6 of 1907, consisting of seven members. Five of these are natives of the Reserve, and two—the chairman and vice-chairman—are Europeans. All the members are nominated by the Government. The powers and duties of the Board include the maintenance and repair of roads (other than main roads), the provision of water supply and sanitary services, the establishment and support of schools in consultation with the education authorities, and the levy on each coloured male person of an annual tax not exceeding £1 (at present 10s.) for these purposes. The Board is further empowered, subject to approval by the Government, to make such regulations as may be necessary for carrying out these functions, and for other purposes connected with the management of the Reserve. The revenue collected from 31st May, 1910, to 31st December, 1918, amounted to £5,931, representing principally the location tax of 10s. per annum, school fees payable by pupils residing outside the Reserve, fines imposed, Government grants in aid of native education, dipping fees, and fees for grazing rights. The expenditure during the same period was £5,638, of which the chief items were: Education £2,633, and Improvements (fences, roads, dipping tanks, etc.), £1,923.

Owing to financial difficulties the Board resolved to suspend the activities of the schools from July, 1921, but a certain number were re-opened in January, 1922.

**3. Pass Laws.**—Pass Laws based on various statutes are in operation throughout the Union, with the exception of the Cape Province (excluding the Transkei), where the natives (unless accompanied by live stock) enjoy entire freedom of movement. The question of the pass laws was referred to the Select Committee on Native Affairs appointed by the House of Assembly in 1914. This Committee reported that it considered it inadvisable to attempt at that stage to legislate with a view to the consolidation of the pass laws in force in the different Provinces, but that such legislation should await the action to be taken by Parliament on the report of the Natives Land Commission then sitting. At the same time the Committee recognized that there were certain defects in, and grievances under, the pass laws, which might be remedied as a temporary measure pending consolidating legislation, and it accordingly recommended for the consideration of the House a draft Bill, the text of which will be found in the Committee's report [S.C. 84—'14].

Owing to the outbreak of the war it was not found possible to introduce this amending Bill, but in the meantime administrative action has been taken to relieve the situation, as far as possible, in the following directions:—

- (a) Exemption of women from the Night Passes Ordinance (Transvaal).
- (b) Removal of charge of 1s. on a travelling pass under the General Pass Regulations (Transvaal).
- (c) Inviting the co-operation of the police and municipal bodies in the Orange Free State in sympathetically administering by-laws for the taking out of residential passes by native women.
- (d) Administering the laws relating to the exemption of natives from the operation of pass laws in the Transvaal and Orange Free State in the most liberal manner possible.

A Departmental Committee of Inquiry was also appointed in December, 1919, which fully investigated the pass question in all four Provinces, and presented a report to the Government. The administration of the pass laws formed one of the first subjects to be inquired into by the Native Affairs Commission appointed under Act No. 23 of 1920, and the Commission in 1921 framed the outlines of a proposed measure for the consideration of the Government.

**4. Exemption Laws.**—There are three *Exemption Laws* operating in the Union, namely, Proclamation No. 35 of 1901 (Transvaal), Ordinance No. 2 of 1903 (Orange Free State) and Law No. 28 of 1865 (Natal). The two former measures exempt well-educated adult male natives pursuing various defined occupations from the operation of the pass laws, and in the Transvaal also from payment of native taxes and from the provisions of certain other laws specially applying to natives. The Natal statute exempts both male and female natives of advanced civilization from native law as in force in the Natal Province.

The question of the consolidation of these laws or alternatively of arranging for *Letters of Exemption* issued in any one of the Provinces to operate in the remaining Provinces has been considered by the Department of Native Affairs. Owing, however, to the entirely different character of the Natal law and the wider exemption provided under the Transvaal law as compared with the law in the Orange Free State, it has not been found practicable to give effect to the alternative without legislation. As regards the introduction of a consolidating statute, the subject is so closely related to the pass and tax laws in operation throughout the Union that it must necessarily await attention until legislative action is taken on the report of the *Natives Land Commission*. In the meantime these exemption enactments are administered in the most liberal manner possible.

The following *Letters of Exemption* issued since the constitution of the Union are still in force:—

		<i>Letters of Exemption.</i>	
Natal.....	550	Orange Free State—	
Transvaal—		Final.....	313
Final.....	860	Provisional.....	153
Provisional.....	1,136		

5. **Tribal Trust Funds (Transvaal).**—In the Transvaal what are known as *Tribal Trust Funds* have been established in various districts, under the control of the local officers of the Native Affairs Department. Originally these funds were instituted for the purpose of extinguishing tribal debts and reorganizing the finances of the tribes concerned. Owing to the dilatoriness in meeting their obligations in respect of land purchases, etc., imprudence and mismanagement of tribal moneys, certain tribes had become yearly more and more involved until with the consent of chiefs and people their affairs were investigated and taken in hand by the officers of the Native Affairs Department. As a result of the assistance and protection afforded, the tribal finances were in the course of a few years placed upon a solvent and satisfactory basis.

These Trust Funds comprise the proceeds of self-imposed levies voluntarily subscribed by the natives. The levy usually takes the form of an annual rate payable by each taxpayer, the amount of which is fixed by the Chief and members of the tribe. It is collected at the office of the Native Commissioner or Sub-Native Commissioner, and paid into a special banking account under the control of a Board consisting of the Commissioner and the Chief and councillors of the tribe. Books of account in respect of receipts and expenditure are kept, are audited annually by a public accountant, and are available for inspection at all times by natives interested.

The system of maintaining *Tribal Trust Funds* derived from voluntary levies has been initiated in the Pietersburg district, and has been attended with marked success. As a result, a number of such Funds has been established, and in some cases they are utilized as media not only for discharging tribal obligations, but for providing services of benefit and utility to the communities concerned, e.g. fencing, tree planting, the construction and maintenance of dipping tanks, the sinking of boreholes, erection of windmills, etc. Under Government Notice No. 382 of 1921 provision is made enabling some legal sanction to be attached to the collection of such levies.

By these means the way is being prepared in the native areas of the Transvaal for the introduction in due course of the Council system of local self-government under the guidance of departmental officers, which obtains as indicated in preceding paragraphs in the Glen Grey District and the Transkeian Territories.

#### § 4. Education and Religious Influences.

1. **Education.**—(i) *General.*—Strictly speaking, the ordinary distinctions drawn between various grades of education do not obtain in the case of native education, which cannot in any sense be called *higher education*. But having regard to the average degree of education amongst the natives, it may be laid down that education up to and including Standard IV is *primary*, from the native point of view; everything above that may be classified, for present purposes, as *higher education*.

All state and state-aided native education in the Union, with the exception of that represented by the South African Native College, is controlled by the Provincial Administrations in terms of § 85 of the *South Africa Act*. Native education, other than state and state-aided education, is under the control of missionary societies. In consequence of this arrangement, the supervision of the education of the natives has been made distinct from the administration of all other native matters—a circumstance which has inevitably resulted in the almost complete divorce of native education from the general native policy of the Union Government. The Native Affairs Commission, in its annual report for 1921, strongly recommended that native education should be controlled and administered by the Union Government in view of existing Provincial anomalies and the inadequate financial provision made under the present system. It may be noted, as a fact which has some bearing on the point, that there has appeared a growing inclination amongst a certain section of the native population, particularly in the Transkeian Territories, to secularize native education and to obtain a larger direct share in its management. Statistics of native education will be found in Chapter VI, which also contains particulars of the organization of native education in the various Provinces, forming as it does an integral portion of the general educational systems in force in these Provinces. The details given in the following paragraphs are an extension of these observations, and show more particularly what is being done by the several Provinces in providing for the education of the natives.

By section 10 of the *Financial Relations Fourth Extension Act*, No. 5 of 1922, it was laid down that—

- (i) every Province shall expend annually on the education of natives a sum not less than its expenditure on such education during the financial year 1921-22 or such a sum as bears to the total expenditure upon education of that Province the same proportion as was borne by the expenditure on the education of natives to the total expenditure on education of that Province in the year 1921-22;
- (ii) the Governor-General may from time to time make grants to any Province for the extension and improvement of educational facilities amongst natives and for the adjustment of salaries of native teachers, such grants to be made out of revenue derived from the direct taxation of natives.

(iii) *Cape of Good Hope*.—The activities of the Transkeian Territories and Pondoland General Councils and the Eastern Pondoland Trust Fund in connection with education are dealt with in § 2 of this chapter.

In Eastern Pondoland an education fund was created in 1916 under which the Pondos agreed to an annual tax of not less than 2s. per head being imposed on them, the proceeds to be devoted to their educational needs. Estimates of expenditure for the year 1921-22 were approved at £2,720, and the revenue for the same period was estimated at £3,100. In June, 1919, the Administrator of the Cape appointed a Commission to investigate the whole question of native education in the Province. Its report, a most valuable one, was issued in 1920 (C.P. 4-'20). Some of the Commission's recommendations have already been carried out, notably the appointment of a Chief Inspector of Native Education and the preparation of a draft curriculum especially designed for native schools.

(iii) *Natal*.—In Natal the personnel of the Inspectorate Branch of the Education Department was reorganized so as to make specific provision for native education. There is also the *Native Education Advisory Board*, consisting of representatives of all missionary denominations, the Chief Inspector of Native Education, and the Chief Native Commissioner. As a further step in the direction of native education the Government in 1918 established an institution where the sons of chiefs and indunas in Natal may be educated so as to fit themselves for the various duties they are called upon to perform.

A grant of £150 per annum was made to the St. Hilda's Native Girls' College, Klip River District, towards the salary of an instructor in spinning and weaving, with a view to the encouragement of this industry amongst native women. Grants are also made from the Natal Mission Reserve funds to the Adams Mission Station at Amanzimtoti, with the object of encouraging native industrial education, and more particularly agriculture.

(iv) *Transvaal*.—In the Transvaal, in order to assist native schools not under European supervision to earn the grants made from the Provincial Administration funds, by arrangement with the Education Department, the Sub-Native Commissioners act as correspondents to such schools, when approached, and generally assist in the work of supervision on behalf of the education authorities.

**2. Higher Education.**—(i) *General*.—There are numerous institutions in the Union which endeavour to provide for the needs of the native peoples in regard to higher education, i.e. education beyond Standard IV, including industrial, agricultural, and commercial education, preparation for religious ministry, and the teaching profession. The leading institutions are:—

*Cape of Good Hope.*

Lovedale.  
Blythswood.  
Healdtown.  
Bensonvale.  
St. Matthew's (Keiskamahoe).  
Shawbury (Qumbu).  
St. John's College (Umtata).  
Buntingville (Umtata).  
Lesseyton (Queenstown).  
Peddie.  
Zounebloem College.  
Tiger Kloof (Vryburg).  
Emfundisweni.  
Clarkebury.

*Natal.*

Adams Training Institution.  
Edendale.  
Amanzimtoti.  
Marianhill.  
Ohlange.  
Modderspruit.  
Indaleni.

*Transvaal.*

Kilnerton (Pretoria).  
Diocesan College (Pietersburg).  
Botsabelo (Middelburg).

*Orange Free State.*

Thaba 'Nchu.  
Stofberg Gedenk.

(ii) *The South African Native College*.—The principal event, however, since the constitution of the Union in this connection has been the establishment of the South African Native College. As early as the year 1880 it was recognized that, if the desire for education on the part of natives of South Africa continued to grow, it would sooner or later be necessary to provide an institution capable of giving an education, under Christian

auspices, up to a University standard. If this were not done they would seek education in America and other countries. In 1905 the *South African Native Affairs Commission* recommended "that a Central Native College or similar institution be established and aided by the various States for training native teachers, and in order to afford opportunities for higher education to native students." After the death of Dr. Stewart, of Lovedale, in 1905, a convention of natives from all the States of South Africa was held at Lovedale to consider the steps that should be taken to give effect to the recommendation of the *Inter-Colonial Native Affairs Commission*, and as a result a petition was presented to the High Commissioner, and the various Governments of South Africa, praying that an Inter-State Native College should be established. The interest of the natives in the scheme was manifested by the grant of £10,000 by the *Transkeian Territories General Council* in 1907 towards this object, and the United Free Church of Scotland offered a site at Fort Hare, in the Victoria East District, as part of a contribution of £5,000. Other contributions were made or promised. In 1908 a Select Committee on Native Education appointed by the Parliament of the Cape Colony reported in favour of support being given to the Inter-State College, but the materialization of the College scheme was delayed.

In November, 1914, an important step forward was taken when the Constitution of the College, which had been submitted in draft to the contributors and various bodies interested, was finally adopted. The Governing Council of the College, established under the Constitution, held its first meeting in January, 1915, and took over the funds hitherto administered by the Executive Board. The Council decided that the site offered by the United Free Church of Scotland was suitable for the purposes of the College, which, in view of the incorporation in the Union of the various States interested in its foundation, was called *The South African Native College*. The Government of the Union further pledged its support by promising an annual grant, and appointed its representatives to the Governing Council, a step that was also taken by the University of the Cape of Good Hope (later University of South Africa), and by the various contributing bodies.

The College is designed ultimately to provide a liberal education of University standard, and also training for those who wish to qualify themselves to enter upon one of the learned professions or to follow the higher branches of agriculture, commerce, industries, or domestic arts.

**3. Orange Free State Imperial Grant.**—Out of a grant of £2,000,000 made by the Imperial Government as war compensation for natives in the Orange Free State, a sum of £39,000 remains unexpended, and the natives urged on the Government that this money should be used for educational extension, more particularly higher education. The Minister of Native Affairs decided that the wishes of the natives should be met, and the Government has under consideration the measures necessary for carrying these proposals into effect.

Grants are now made from the interest on this fund to approved institutions in respect of natives from the Orange Free State receiving education in standards above Standard IV or industrial training. The grant is at present £15 for each such student. The allocation is made with the assistance of the Provincial education authorities. A Committee under the chairmanship of the Principal of the South African Native College has recently inquired into the means of using the capital of the fund for the establishment of institutions for the higher education of the natives in the Free State, i.e. institutions which will form a link between the existing schools and the South African Native College. The Committee has reported and its recommendations are at present under the consideration of the Government.

**4. Native Separatist Churches.**—There are about seventy-six separatist churches, and the tendency is for the number to increase rapidly. One of the difficulties in dealing with these bodies is the question of the appointment of their ministers as marriage officers, a matter which received consideration from a Select Committee of the Senate in 1913. The recommendations of that Committee were as follows:—

In the Transvaal and Orange Free State Provinces, only European ministers are recognized as marriage officers to celebrate marriages by Christian rites, although there is nothing in law to prohibit the appointment of natives as marriage officers. In the Cape Province ordination as a minister of the Christian religion in accordance with the *Marriage Order in Council* of 1838, automatically entitles a native to celebrate such marriages; while in Natal, where all marriage officers must be licensed, it has not been the practice to refuse licences to duly ordained native ministers of recognized churches. Your Committee considers that a native who has been ordained a minister of an established European church should, while remaining associated with such church, be deemed by the State worthy to be entrusted with the duty of celebrating as a marriage officer a marriage by Christian rites, and is of opinion that duly ordained native ministers of such churches should be recognized as marriage officers throughout the Union.

In the case of native ministers belonging to purely native churches which have not by length of existence, or by the magnitude and stability of their work or by other means shown themselves to be entitled to recognition, your Committee does not consider it desirable to place them on the same footing. But, in its view, ministers of purely native churches should be appointed marriage officers during the pleasure of the Governor-General, if they are able to prove to the satisfaction of the Government that they are of good character, are educationally fit, and possess a sufficient knowledge of the marriage laws for the office; and further, that their appointments are reasonably necessary to meet the needs of substantial congregations coming under their ministrations.



This policy is now pursued; the Department of Native Affairs is satisfying itself in regard to the character, antecedents, and standing of the applicant and the church which he represents, and as to the reasonable requirements of the congregation coming under the applicant's ministrations. About 100 native ministers of separatist churches hold appointments as marriage officers.

The most fruitful cause leading to the increased establishment of such churches is to be found in jealousies and differences frequently leading to open quarrels amongst natives over the question of supremacy in the church. Repeated schisms occur, each side claiming to have expelled the other from the church for insubordination, and both coming separately to the Government with a request for State recognition of their church. In 1921 a Commission was appointed to inquire into the origin and activities of these bodies.

### § 5. Native Labour.

1. **The Native Labour Regulation Act.**—The Union Act No. 15 of 1911 consolidated the laws in regard to the recruiting and employment of native labour previously in force in the various Provinces. This law follows generally the line of the previous Transvaal regulations, which, however, were considerably amplified and expanded with the addition of provision for the payment of compensation in the case of accident. The executive duties under the Act are carried out, as under the Transvaal regulations, by an officer styled the *Director of Native Labour*, with headquarters in Johannesburg; and include provision for the issue of licences to employers and agents to recruit natives, and to compound managers, and the assessment of compensation, and confer power to cancel contracts, to repatriate sick natives, and to exercise control and protection over native labourers, more particularly in *Labour Districts*.

*Labour Districts* can be proclaimed by the Governor-General where large numbers of natives are employed either in mining, industrial, or other work. In such areas stricter pass regulations are applied, and, where more than fifty natives are employed, compound managers are appointed to supervise and control them, investigate their complaints, and attend to their lawful requirements. Government inspectors are also appointed to inquire into native grievances and settle disputes, and special regulations are in operation in regard to housing, feeding, and the provision of hospital accommodation. Fourteen such *Labour Districts* in the Transvaal, which were established prior to Act No. 15 of 1911—namely, Randfontein, Krugersdorp, Roodepoort, Johannesburg, Germiston, Boksburg, Benoni, Springs, Witbank, Rayton, Klerksdorp (deproclaimed in 1920), Heidelberg, Vereeniging, and Rooiberg—were reproclaimed under the new Act by Proclamation No. 300 of 1911. In addition a new *Labour District* was constituted at Christians to embrace the alluvial diamond diggings there, and another at Barkly West in the Cape Province to embrace the river diggings. *Labour Districts* were also established in the Orange Free State, namely, Heilbron, Vierfontein (deproclaimed in 1920), Fauresmith, Boshof, and Voorspoed, to embrace the various coal and diamond mines in that Province.

Under section 19 of the Act, inspectors were appointed on the Witwatersrand to perform judicial functions, to act as protectors of natives, to visit the compounds, inspect conditions under which natives are accommodated, inquire into complaints of natives, and put forward their claims for compensation for injuries sustained or for disability due to phthisis or tuberculosis. In addition, inspectors were appointed in other areas of the Transvaal and for Kimberley, Barkly West, and the Orange Free State. An inspector is also stationed on the Natal coalfields, and three other inspectors have been appointed to supervise labour conditions on the sugar estates, etc., along the coast of Natal and Zululand.

The following table gives the number of recruiting licences issued under the Act for a period of years.

ISSUE OF RECRUITING LICENCES, 1913 TO 1921.

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Total.
1913.....	1,496	311	237	5	2,048
1914.....	923	153	176	5	1,257
1915.....	542	83	125	4	754
1916.....	498	73	91	3	665
1917.....	446	80	79	3	608
1918.....	550	86	85	2	723
1919.....	551	101	78	1	731
1920.....	527	88	67	1	683
1921.....	502	64	53	1	620

Soon after the coming into operation of the Act it was found necessary to secure as far as possible a more equal division between conflicting industrial, mining, and agricultural interests in the different parts of the Union, and to safeguard any district not possessing a large native population against being denuded of its labour supply through the activities of labour agents acting on behalf of employers at other centres. With this end in view special regulations were issued embodying conditions on the issue of employers' and labour agents' licences. The object of these regulations was as far as possible to secure that only in cases where there was a large surplus native population in a district should recruiting be allowed. At the same time no obstacle was placed in the way of natives voluntarily proceeding to districts which in their opinion offered the most attractive spheres of labour.

On the whole these regulations have operated fairly and, although the tendency is for native labour still to flow in an increasing degree towards the Witwatersrand and the mining industries, this is chiefly due to the higher wage obtainable there and the superior feeding and housing conditions prevailing. The Native Labour Department is, however, endeavouring as far as possible to assist the farming industry by encouraging natives rejected for mine work to engage for farm labour, and by allowing labour agents to recruit for farmers under special conditions.

**2. Natives Employed in Transvaal Labour Districts.**—The subjoined tables (i) and (ii) give an analysis of the natives employed in the proclaimed Labour Districts of the Transvaal for several years, classified according to the territory from which the labour has been obtained. Table (iii) shows the average number of natives from various territories employed in the same Labour Districts for the same period:—

**(i) NATIVES EMPLOYED IN TRANSVAAL LABOUR DISTRICTS IN DECEMBER OF EACH YEAR, 1915 TO 1921.**

SOURCE OF SUPPLY.	TOTAL NUMBER EMPLOYED.						
	1915.	1916.	1917.	1918.	1919.	1920.	1921.
<b>UNION OF SOUTH AFRICA—</b>							
Cape of Good Hope.....	89,255	80,400	71,712	58,496	78,387	62,043	73,519
Natal and Zululand.....	30,246	25,884	28,514	27,057	31,328	25,565	24,335
Transvaal.....	43,902	43,126	42,917	43,786	49,415	48,770	49,797
Orange Free State.....	4,422	4,408	4,475	4,593	4,983	4,877	4,236
<b>TOTAL.....</b>	<b>167,985</b>	<b>158,820</b>	<b>147,618</b>	<b>133,932</b>	<b>158,113</b>	<b>142,155</b>	<b>151,887</b>
<b>OTHER BRITISH TERRITORIES—</b>							
Basutoland.....	15,901	18,287	15,434	13,304	15,556	16,081	24,095
Bechuanaland Protectorate.....	4,498	4,471	3,187	2,714	2,752	2,578	3,345
British Nyassaland Protectorate.....	755	879	913	950	930	1,134	1,395
Rhodesia, Northern.....	76	86	94	164	188	249	165
Rhodesia, Southern.....	976	1,019	1,045	1,201	1,027	1,262	1,593
Swaziland.....	5,589	4,588	4,602	5,151	5,299	3,548	4,954
<b>TOTAL.....</b>	<b>27,765</b>	<b>20,330</b>	<b>25,208</b>	<b>23,497</b>	<b>25,752</b>	<b>24,852</b>	<b>35,551</b>
<b>PORTUGUESE TERRITORIES—</b>							
East Coast, South of Lat. 22° S.	84,183	84,542	83,265	82,552	83,142	95,076	90,544
Beira and Chinde.....	76	58	55	791	610	445	372
Moçambique.....	1,072	796	625				
Nyasa.....	63	42	37				
Zambesia, Quilimane, and Tete.....	415	357	297				
<b>TOTAL.....</b>	<b>85,809</b>	<b>85,795</b>	<b>84,252</b>	<b>83,346</b>	<b>83,761</b>	<b>98,521</b>	<b>90,916</b>
<b>OTHER TERRITORIES—</b>							
(German) South-West Africa.....	62	48	46	151	176	167	81
Unclassified.....	52	77	83				
<b>TOTAL.....</b>	<b>114</b>	<b>125</b>	<b>129</b>	<b>151</b>	<b>176</b>	<b>167</b>	<b>81</b>
<b>GRAND TOTAL.....</b>	<b>281,573</b>	<b>274,070</b>	<b>257,207</b>	<b>240,926</b>	<b>268,802</b>	<b>265,695</b>	<b>278,435</b>

## (ii) NATIVES EMPLOYED IN TRANSVAAL LABOUR DISTRICTS ON MINES AND WORKS ONLY (DECEMBER OF EACH YEAR), 1915 TO 1921.

SOURCE OF SUPPLY.	TOTAL NUMBER EMPLOYED.						
	1915.	1916.	1917.	1918.	1919.	1920.	1921.
<b>UNION OF SOUTH AFRICA—</b>							
Cape of Good Hope.....	81,210	72,324	83,251	49,440	82,237	51,342	62,137
Natal and Zululand.....	14,468	11,524	11,759	10,322	9,920	6,541	5,757
Transvaal.....	21,564	22,539	18,104	16,192	17,824	14,750	14,273
Orange Free State.....	1,297	1,226	1,159	1,129	1,121	956	914
<b>TOTAL.....</b>	<b>118,539</b>	<b>107,613</b>	<b>94,273</b>	<b>77,083</b>	<b>91,102</b>	<b>73,589</b>	<b>83,081</b>
<b>OTHER BRITISH TERRITORIES—</b>							
Basutoland.....	14,725	17,226	14,308	12,029	14,071	14,615	22,115
Bechuanaland Protectorate.....	3,027	3,895	2,646	2,082	2,052	1,754	2,375
British Nyasaland Protectorate.....	564	650	659	514	431	483	478
Rhodesia, Northern.....	48	42	39	68	38	50	35
Rhodesia, Southern.....	634	590	490	438	314	331	287
Swaziland.....	5,231	4,235	4,106	4,681	4,728	2,967	4,452
<b>TOTAL.....</b>	<b>25,129</b>	<b>26,638</b>	<b>22,330</b>	<b>19,806</b>	<b>21,634</b>	<b>20,293</b>	<b>29,745</b>
<b>PORTUGUESE TERRITORIES—</b>							
East Coast, South of Lat. 22° S....	82,979	83,473	82,286	81,443	81,906	96,445	88,616
Beira and Chiado.....	52	50	44				
Mozambique.....	1,063	788	618	754	574	390	330
Nyasa.....	58	38	32				
Zambesia, Quilmane, and Tete....	406	343	254				
<b>TOTAL.....</b>	<b>84,558</b>	<b>84,692</b>	<b>83,234</b>	<b>82,197</b>	<b>82,540</b>	<b>96,835</b>	<b>88,946</b>
<b>OTHER TERRITORIES—</b>							
(German) South-West Africa.....	37	20	20	35	43	25	7
Unclassified.....	16	28	22				
<b>TOTAL.....</b>	<b>53</b>	<b>48</b>	<b>42</b>	<b>35</b>	<b>43</b>	<b>25</b>	<b>7</b>
<b>GRAND TOTAL.....</b>	<b>228,279</b>	<b>218,991</b>	<b>199,888</b>	<b>179,121</b>	<b>193,319</b>	<b>190,652</b>	<b>201,779</b>

## (iii) AVERAGE NUMBER OF NATIVES EMPLOYED IN TRANSVAAL LABOUR DISTRICTS, 1915 TO 1921.

SOURCE OF SUPPLY.	TOTAL NUMBER EMPLOYED.						
	1915.	1916.	1917.	1918.	1919.	1920.	1921.
Cape of Good Hope.....	78,625	81,113	77,782	75,355	79,971	77,262	71,039
Natal and Zululand.....	27,701	28,352	28,456	30,954	31,041	29,915	25,072
Transvaal.....	43,249	51,623	48,081	47,803	50,116	53,389	51,068
Orange Free State.....	4,236	4,409	4,624	4,831	4,888	5,175	4,478
<b>TOTAL—UNION OF S. AFRICA....</b>	<b>153,811</b>	<b>168,497</b>	<b>158,943</b>	<b>158,923</b>	<b>166,316</b>	<b>165,741</b>	<b>151,657</b>
Portuguese Territory.....	79,702	83,704	80,917	81,996	77,964	92,451	92,701
<b>Other Sources—</b>							
Basutoland.....	15,671	15,109	17,817	16,333	14,696	15,743	19,768
Bechuanaland Protectorate.....	5,020	4,558	4,154	3,518	3,118	3,388	3,673
British Nyasaland Protectorate.....	730	824	898	920	924	1,008	1,275
(German) South-West Africa.....							
Rhodesia, Northern.....	61	80	92	140	175	221	197
Rhodesia, Southern.....	1,078	1,015	1,127	1,206	1,073	1,132	1,467
Swaziland.....	4,310	4,984	4,191	5,225	4,661	4,256	3,818
Other.....	112	127	120	142	175	166	100
<b>GRAND TOTAL.....</b>	<b>260,495</b>	<b>278,958</b>	<b>266,260</b>	<b>268,112</b>	<b>269,162</b>	<b>284,109</b>	<b>274,665</b>

\* Included in "Other."

3. **Deposit and Remittance Agency.**—Regulations were issued under the Act relative to the Native Deposit and Remittance Agency established at Johannesburg and its sub-agencies. Since 1913 the following amounts have passed through its books:—

## DEPOSIT AND REMITTANCE AGENCY ACCOUNT, 1913 TO 1921.

Year.	Remittances.		Deposits.		Year.	Remittances.		Deposits.	
	£		£			£		£	
1913.....	40,573		30,930		1919.....	41,745		21,273	
1914.....	40,401		21,982		1920.....	28,567		21,595	
1915.....	41,742		1,450		1921.....	21,323		10,058	
1916.....	52,409		2,740		TOTAL.....	66,307		142,030	
1917.....	80,138		14,279						
1918.....	91,469		17,723						

Many natives, however, still continue to remit large sums of money through the agency of friends returning home, employers, and recruiting organizations. Certain of the latter, with the consent of the Government, recruit on contracts under which a portion of the wages stipulated for is paid on the return of the natives to their homes.

**4. Compensation.**—Under section 22 of the Act, the Director is charged with the duty of assessing and obtaining from employers the amounts payable under the Act for accidents. This principle has been further extended to payments for phthisis, and the amounts payable in case of death have been increased. There is still a considerable amount of dissatisfaction amongst the natives in regard to the present system of compensation, which, however, is a considerable advance on the practice in vogue prior to the passing of the Act. The *Miners' Phthisis Act*, No. 40 of 1919, makes adequate provision for the compensation of native sufferers from silicosis and tuberculosis.

**5. Health and Disease.**—Since the issue of the new regulations and the organization provided under the Act, there has been a steady decline in the death rates. As the result of debates in Parliament in 1912 and 1913, energetic steps were taken with the object of combating the mortality from pneumonia. In the first place the further importation of tropical natives was prohibited, and special measures were adopted in the case of those still employed. Change-houses and waiting-rooms were established at the heads of mine shafts where natives coming off shift could obtain an adequate supply of warm water for washing, and warm clothing in the winter weather. These change-houses have since been in many cases adopted by the mines for all natives.

In addition, on the invitation of the Chamber of Mines, Surgeon-General Gorgas with two other American medical experts visited the Rand and furnished a report on the health conditions. Their recommendations included the establishment of the village hut system, the introduction of families and the centralization of hospitals.

The investigations of the South African Institute for Medical Research and the discovery of a prophylactic for pneumonia have made possible the control of this disease to a very large extent.

The following tables show the mortality amongst natives in proclaimed labour districts in the Transvaal during a series of years.

(i) **TERRITORIAL ANALYSIS OF MORTALITY FROM DISEASE AMONG NATIVE LABOURERS EMPLOYED BY AND RECENTLY DISCHARGED BY MINES AND WORKS, AND CONTRACTORS ON MINES AND WORKS, IN THE PROCLAIMED LABOUR DISTRICTS, DURING THE YEARS 1915 TO 1921.\***

Territory.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
<b>UNION OF SOUTH AFRICA.</b>							
Cape Province.....	8.68	7.94	6.37	15.04	9.29	10.71	8.47
Natal and Zululand.....	8.76	9.17	5.41	11.83	10.37	10.29	6.20
Orange Free State.....	7.74	12.67	5.42	19.40	8.37	8.93	7.91
Transvaal.....	15.49	11.75	8.14	14.95	11.58	7.61	7.05
TOTAL.....	10.03	8.99	6.62	14.07	9.91	10.05	8.12
<b>OTHER BRITISH TERRITORIES.</b>							
Basutoland.....	18.81	15.75	12.30	23.69	13.14	17.50	17.94
Bechuanaland.....	15.09	15.88	12.36	14.05	13.37	19.28	19.00
Nyasaland Protectorate.....	33.63	23.89	10.84	11.71	10.75	14.93	10.06
Northern Rhodesia.....	—	22.22	—	90.91	21.93	21.74	—
Southern Rhodesia.....	27.62	18.81	11.32	43.24	31.17	35.93	15.11
Swaziland.....	15.34	15.25	9.10	21.74	17.03	12.76	9.68
TOTAL.....	18.13	15.94	11.72	22.51	14.23	17.15	16.75
<b>PORTUGUESE TERRITORIES.</b>							
East Coast, South of Lat. 22° S.,	24.93	20.03	16.57	29.14	19.89	21.30	15.23
Tropical, North of Lat. 22° S.,	19.54	15.75	23.92	23.76	22.80	13.83	8.20
TOTAL.....	24.81	19.96	16.67	29.09	19.83	21.26	15.20
<b>UNCLASSIFIED.....</b>	28.37	—	22.22	25.64	26.03	36.46	—
TOTAL.....	16.48	13.78	11.04	21.25	14.19	15.74	12.42

\* Rate per 1000 per annum.

(ii) **COMPARATIVE STATEMENT OF MORTALITY PER 1,000 P.A. AMONGST NATIVE LABOURERS EMPLOYED BY AND RECENTLY DISCHARGED BY MINES AND WORKS, AND CONTRACTORS ON MINES AND WORKS, IN THE PROCLAIMED LABOUR DISTRICTS OF THE TRANSVAAL.**

Heading.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
Average Number Employed.....	210,421	224,273	208,554	206,102	199,159	206,394	199,036
Deaths from Disease {							
No. ....	3,108	3,090	2,303	4,350	2,827	3,248	2,483
Rate.....	16.48	13.78	11.04	21.25	14.19	15.74	12.42
Deaths from Accident {							
No. ....	655	690	548	487	507	516	457
Rate.....	3.11	3.08	2.63	2.41	2.55	2.50	2.29
Total Deaths {							
No. ....	4,123	3,780	2,851	4,837	3,334	3,764	2,940
Rate.....	19.59	16.86	13.67	23.66	16.74	18.24	14.70

**6. Mortality from Disease Amongst Mine Labourers.**—Dr. W. Watkins-Pitchford, Director of the South African Institute for Medical Research, in giving evidence in August, 1919, before the Low Grade Mines Commission (see Chapter XVII) stated that for several years past he had transferred the monthly mortality returns relating to the natives employed on mines and works in the Proclaimed Labour Districts of the Transvaal to a chart reproduced below. The chart contains three series of records—the topmost curve (A) represents the monthly death-rate from all diseases, whilst superimposed upon it is a bolder line indicating the mean monthly rate for the year; the middle curve (B) is that of the monthly death-rate from pneumonia, the mean of the monthly rates being again indicated by a bolder line; the lowest curve (C) refers to the proportional mortality from meningitis.

The Director pointed out that the death-rate from all diseases remained uniformly high during the first four years (1908–11). The average of the annual rates for this period was 28.32 per thousand employed. There was good reason for believing that in the years antecedent to 1908 the death-rate was never materially lower than this figure, and was often considerably above it. In the year 1912 a very marked fall in the death-rate was recorded, and this decline was consistently maintained excepting for a slight retrogression in 1915, to which reference will again be made, and a marked rise in 1918, coinciding with and consequent upon the visitation of epidemic influenza.

The agencies which brought about the improvement in 1912, and which have, to judge from the chart, been in more or less continuous operation ever since, have resulted in the saving of the lives of approximately 15,000 native labourers during the six years, 1912–17, the year 1918 being deliberately ignored owing to the influenza epidemic. In other words, if the high death-rate (28.32) of the four years antecedent to 1912 had been continued, some 15,000 more natives would have died in this period alone.

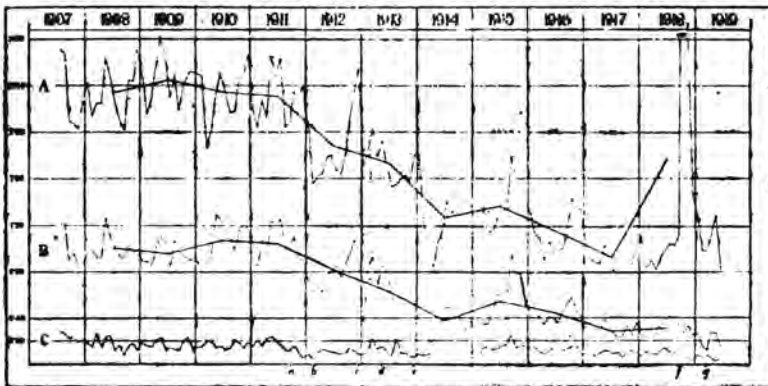
The height above the base line of the middle curve, that for pneumonia, indicates the large share that this disease has contributed to the general mortality. Reference to the monthly returns of the Native Labour Department shows, in fact, that during the ten years 1908–17, it accounted for 40 per cent. of the total mortality from disease. That the reduction of the general death-rate has been largely due to a reduction of the death-rate from pneumonia is apparent from the chart, but what is not immediately apparent is that the beneficial agencies, whatever they have been, have had a *specific influence* upon the pneumonia mortality. This deduction was based upon the fact that, whereas the pneumonia mortality represented 43 per cent. of the general mortality in the four years, 1908–11, it represented only 36 per cent. of the mortality in the six subsequent years.

It was in the last quarter of the year 1911 that the work of scientifically combating the pneumonia of native labourers was initiated by the visit of Sir Almoth Wright, and the only preventive procedure which was then adopted and which has been carried out with increasing method and extent ever since that time has been prophylactic inoculation with pneumococcal vaccine.

Anti-pneumonia inoculations were begun upon the 4th of October, 1911. The marked fall in the total mortality from all diseases which took place in 1912 could in the opinion of the director be reasonably attributed to no other agency than the use of this vaccine among the tropical natives. That the obvious effect on the general mortality curve was not greater is doubtless due to the fact that the tropical labourers constituted less than one-tenth of the total labour force; that it was as marked as it is, is probably because the tropical labourers were far more susceptible to pneumonia than other natives.

In discussing this chart of the mortality from all diseases it must be remembered that it does not represent the mortality amongst inoculated natives, nor that amongst tropical natives, but the death-rate amongst *all* the native labourers of the mines and works of the Transvaal.

**MORTALITY OF NATIVES IN TRANSVAAL LABOUR DISTRICTS.**



**7. General Conditions of Native Labour.**—Certain particulars regarding the general conditions of native labour and employment in the Union are given in Chapter VII. The subject has not yet been adequately investigated apart from its bearing on the mining industry; but it is clear, both from general considerations and from the results of the various Industrial Censuses (see Chapter XVIII), that the native forms a considerable factor in the industrial organization of the country. This fact implies the concentration in the principal industrial centres of a large body of natives, not very numerous relatively to the total native population of the Union, but constituting a high percentage of the population of the areas concerned. The existence of this class of urban native in manufacturing industry and on the mines has brought in its train a number of problems connected with the control, the remuneration, and the housing of the native worker, and with his relation to the European engaged in the same industry. In recent years tendencies towards industrial and political unrest and some crude forms of industrial combination have manifested themselves among urban natives. The strike of 71,000 natives employed on the Witwatersrand mines in 1920 was a phenomenon which had not previously been witnessed in South Africa on a similar scale; and it had particular significance as an evident reflection of sentiments and methods prevailing among European workers.

In its annual report for 1921 the Native Affairs Commission dwelt on this aspect of native evolution, and noted, as symptoms of the new conditions of native life, the increasing disintegration of the old tribal system, the moral decline of the people, the influence of the half-educated agitator, and the existence of a growing dissatisfaction with authority.

**8. Food Consumption of the Native Population.**—As the result of an investigation conducted by the Office of Statistics, with the help of various Government Departments, private organizations, and persons closely in touch with native life, it has been possible to form a fairly definite idea of the standard of living of the native as exemplified by the nature and the quantity of the food he consumes. Particulars of the information obtained from the various reports on the subject, which covered a wide and representative field, are given in "Social Statistics," No. 4, 1922 (S.P. 35); but the following table summarizes such data as are available concerning the dietary of natives on the De Beers Consolidated Mines, Kimberley, on the Witwatersrand gold mines, and in the Union prisons. It is to be noted that on the Kimberley mines the natives are free to purchase their own food, whereas on the gold mines definite ration scales are adhered to.

**AVERAGE DAILY DIET OF AN ADULT NATIVE MALE.**

Commodity.	De Beers Consolidated Mines.	Minimum Ration on Gold Mines.	Prison Ration.	
			Under Three Months' Sentence.	Over Three Months' Sentence.
	Oz.	Oz.	Oz.	Oz.
Maize meal.....	7.2	24.0	22.0	25.4
Boer meal.....	10.2	—	—	—
Bread.....	0.6	6.0	—	—
Rice.....	0.1	—	—	—
Meat.....	5.6	7.5	—	2.3
Beans.....	0.1	3.0	—	0.0
Mixed vegetables.....	4.6*	5.0	14.0	6.9
Sugar.....	4.4	1.0	1.0†	1.0†
Jam.....	0.2	—	—	—
Milk (condensed).....	0.5	—	—	—
Milk (fresh).....	0.15 pt.	—	—	—
Tea, coffee, cocoa.....	0.3	0.25	—	—
Peanuts.....	—	2.0	—	—
Salt.....	0.4	0.5	0.75	0.75

\* No estimate of quantity possible.

† Or fat.

## § 6. Land Administration.

**1. The Natives Land Act.**—The *Natives Land Act*, No. 27 of 1913, took effect from the 19th June, 1913, and was avowedly a temporary measure with the object of maintaining the *status quo* as regards the ownership and occupation of land in the Union relatively by natives and by persons other than natives—so far as that could be done without imposing undue hardship “until Parliament should make other provision.” Provision was made for the appointment in the interim of a Commission for the purpose of inquiring into and recommending to Parliament what areas in the Union should be set apart within which (a) natives and (b) persons other than natives should not be permitted to acquire or hire land or interests in land.

To fulfil its purpose, the Act laid down that, except with the approval of the Governor-General, a native might not acquire from a person other than a native, nor a person other than a native from a native, any land or interest in land in any area outside of the native areas described in the schedule to the Act; and that without such approval no person other than a native might acquire any land or interest therein in a scheduled native area.

The Commission appointed under the Act (chairman, Sir William Beaumont) reported in 1916. After an exhaustive investigation of the questions referred to it, the Commission made recommendations as to the areas which should be set aside for native occupation. Extracts from the report of the Commission, giving certain interesting data collected by the latter, will be found in the fourth and previous issues of this Year Book.

In 1917 the further legislation contemplated in the Act was introduced into Parliament in the shape of the *Native Affairs Administration Bill*. The Native areas recommended by the Beaumont Commission were embodied in a schedule to the Bill, which, after the second reading, was referred to the Select Committee on Native Affairs. A large body of evidence was taken by that Committee, which, however, in the time at its disposal, was only able to consider and submit recommendations for the amendment of Chapter II; and to suggest, in regard to the matter of areas, that the Government should during the recess consider the advisability of appointing local committees to inquire further as to the adequacy and suitability of the areas recommended by the Beaumont Commission. This suggestion was adopted by the Government; and local committees, consisting each of three members (increased to four in the case of the Cape), selected for their knowledge of the areas in question, were appointed for the Cape Province, Natal, Orange Free State, Eastern Transvaal, and Western Transvaal.

The reports of the local committees were furnished in 1918, and from their several recommendations it was clear to the Government that the committees, in arriving at their conclusions, had followed different principles and that consequently the enactment of segregation clauses would be premature until the bases of the several recommendations had been co-ordinated, provision had been ensured for consideration in the native interest of the detailed proposals and the native population had been given further opportunity for enlightenment and discussion. In this connection, it might be stated that the suspicion and unrest engendered in the native mind towards the *Native Affairs Administration Bill* seemed to have increased rather than decreased with the effluxion of time.

These considerations led the Government to the conclusion that the time was not yet ripe for passing definite clear-cut segregation legislation, but as a preliminary step in that direction the policy embodied in the *Native Affairs Act* of 1920 (see § 2, paragraph 2) was decided upon.

In view of its far-reaching importance, reference may be made to the decision of the Chief Justice and a full bench in the Appellate Division of the Supreme Court, in the combined appeal of *Thompson and Stilwell versus Kuma*, when it was held that the restrictions imposed upon the acquisition of land or interests in land by sections one and five of the 1913 Act did not, upon the construction given by the Court to section eight (2), apply in the Cape Province.

**2. Individual Tenure.**—(i) *Cape of Good Hope.*—The individual system of land tenure as elaborated in the *Glen Grey Act*, No. 25 of 1894, and applied in the Transkeian districts of Butterworth, Nqamakwe, Tsomo, and Idutywa, as provided in Proclamation No. 227 of 1895 (Cape), was extended to the districts of Tembuland by Proclamation No. 320 of 1911, while a somewhat modified but essentially similar system was applied to the District of Xalanga by Proclamation No. 241 of 1911. The survey of Xalanga with a view to the grant of individual titles was completed in 1914. In this district 2,292 garden and 2,016 building lots were surveyed and arrangements made for the issue of titles. In the Umtata district 13,296 garden lots and about 8,100 building lots were surveyed, and title-deeds are in course of preparation. The survey of the Engcobo district is now proceeding.

In the course of the survey of the Butterworth district in or about the year 1900, the plan was in many cases followed of surveying the arable lands of the several houses of a kraal as a single lot, with the result that when the holder died the heir became entitled to the land of all the houses. So many cases of this nature were found to exist, in which the heirs of minor houses suffered hardship through being deprived of a titled claim to the land

of their house, that it was found desirable to amend the law so as to permit of such consolidated lands being subdivided with a view to the several houses coming into the hands of their rightful owners again. This was the idea underlying Proclamation No. 300 of 1913, which, however, was framed so as to be of wider scope than to apply to such cases only. Any large lot may now be subdivided, with the approval of the Governor-General, provided (so as to prevent excessive subdivision and its consequent evils) that no arable subplot is less than three morgen, and no building subplot less than half a morgen in extent. Advantage has been taken of the Proclamation only to a limited extent (about twelve cases).

A feature of the later surveys has been the engrafting into the Glen Grey system of land tenure of a plan for the setting aside of residential areas. Specific provision was made for this in connection with the Xalanga survey, and in other surveyed districts the policy is being given effect to by administrative means. Existing homesteads as a rule are not interfered with, but no new residential sites are being authorized unless they fall within one or another of the residential areas. All new church or school sites are also required to be within these areas. The policy has both an economic and a social aspect—economic in that it was brought about by the increasing congestion of the locations and the necessity for conserving the common lands as much as possible; social, in that it marks a departure from the older native custom of selecting kraal sites at considerable distances from one another and distributed in a more or less haphazard manner about the commonage. The natives themselves, as is to be expected of a people essentially conservative in character, are slow to appreciate the change, though the Tembus voluntarily broached the matter to the Government when the survey was under discussion.

Two new principles in regard to individual tenure in the Transkeian Territories were introduced by Proclamation No. 196 of 1920. Forfeiture of allotments takes the place of cancellation of title deeds, and the functions of the Registrar of Deeds in regard to the custody, transfer, and registration of titles, have been vested in the Chief Magistrate.

(ii) *Natal*.—During 1918 the first definite step was taken towards introducing individual tenure of land into the native areas in Natal. A beginning was made in the Mission Reserves, and the preliminary survey of the Ifafa Reserve is complete, while others are proceeding. The conditions under which residents will be attached to the surveyed holdings are not yet decided.

**3. Occupation of Land for Mission Purposes.**—Between the 1st January, 1913, and the 31st December, 1921, a total of 892 church, school, and mission sites were formally authorized to be occupied in native areas throughout the Union, as follows:—

- (a) *Transkeian Territories*: 401 church sites, 59 school sites, 8 mission sites.
- (b) *Cape Province* (exclusive of Transkeian Territories): 76 church sites, 5 school sites, 10 mission sites.
- (c) *Natal*: 177 church and school sites of less than 5 acres each, 147 mission sites of 5 acres and upwards.
- (d) *Transvaal*: 2 church sites, 2 mission sites, 1 school site.
- (e) *Orange Free State*: 4 church sites.

In the Transkeian Territories the sites authorized are not all new sites. Very many are old established sites in respect of which application for formal permission to occupy was only recently made as a result of closer supervision by the Native Affairs Department. As regards Natal also, only a small number of the sites authorized are new, the position being that only since the passing of Act No. 1 of 1912 has the formal registration of sites and issue of certificates of occupation, after Parliamentary sanction has been obtained, been systematically carried out, and sites earlier occupied only with the consent of the local Native Chief placed on an authoritative basis.

**4. Mission Stations and Communal Reserves Act.**—In 1914 Act No. 29 of 1909 (Cape) was applied to the Zoar Mission Station in the Ladismith Division (Cape); and in 1915 to Pniel Mission Station in the Division of Paarl. With these additions the Act applies at the present time to six mission stations, the other four being Shiloh in the Queenstown Division, Mamre in the Malmesbury Division, Enon in the Uitenhage Division, and Goshen in the Cathcart Division.

Survey for the purposes of individual tenure in terms of section 8 of the Act has been effected at only one mission station, viz., Goshen.

The provisions of Part II of the Act have been applied to the following reserves in Namaqualand: Concordia, Komaggas, Leliefontein, and Steinkopf.

**5. Occupation of Land for Trading Purposes.**—The number of new sites authorized to be occupied for trading purposes in native areas in the Union since the 1st January, 1913, and up to the 31st December, 1921, is as follows:—

<i>Transkeian Territories</i> (in Crown Land Native Locations).....	40
<i>Cape Province</i> , exclusive of Transkeian Territories (in Crown Land Native Locations).....	20
<i>Natal</i> (in locations and reserves vested in the Natal and Zululand Native Trusts).....	26
<i>Transvaal</i> (Crown Native Locations).....	27
<i>Orange Free State</i> (Native Reserves).....	1



In addition to the above, during the same period twelve store sites were leased in the Namaqualand Reserves by the Boards of Management with the approval of the Government, and thirty-one leases of store sites on tribally-owned land in the Transvaal were sanctioned in terms of section one of the *Natives Land Act* and of Law No. 3 of 1898 (Transvaal). In 1912 the sanction of Parliament was obtained to the issue of formal leases to fifty-seven storekeepers in Zululand who had acquired permission to trade from the Zulu kings under the old regime, or subsequently under informal arrangement with the chiefs. Most of these leases have already been completed.

A principal feature of the policy under which trading sites are permitted to be occupied in native locations in the Transkeian Territories is the general rule that no new site should be approved which is within a distance of five miles (by the nearest route) of any existing site. This "five-mile radius" rule, which is departed from only in most exceptional circumstances, secures to the trader what is virtually a monopoly of the native trade within that distance; but, as natives will willingly travel a much greater distance to a store further off if for any reason they are dissatisfied with the one in their immediate locality, a reasonable amount of competition is preserved. More than one firm has, however, by securing financial control over, and subsequently securing transfer of, several trading stations in near proximity to one another, managed to create monopolies over very much greater areas. The matter was considered in 1917 by the Parliamentary Select Committee on Native Affairs. Proclamation No. 208 of 1917 was based on its report, and provides the means of checking the growth of such monopolies.

6. **Prospecting in Native Areas.**—Applications for permits to prospect in native areas are not encouraged. Several native areas in the Cape Province have been proclaimed as areas within which prospecting is not allowed; and in the Transvaal—where permission to prospect in locations can only be obtained with the approval of the Minister of Native Affairs—applications have been almost consistently refused. The most notable exception has been in respect to winning *corundum* in the Crown Native Locations in the northern districts of the Transvaal. As a result of representations made to the Government regarding the great need of *corundum* for war purposes, boards were appointed which sat at Louis Trichardt and Pietersburg to consider applications for permits to win this mineral in the native locations where it is found in considerable quantities. Thirty-five permits were issued.

## § 7. Natal Native Trusts.

1. **The Natal Native Trust.**—*The Natal Native Trust* was constituted under Letters Patent dated 27th April, 1864. In this body are vested approximately 2,262,066 acres of location land, and 144,192 acres of mission reserve lands, which are administered by the Trust for the benefit of the natives living thereon. No rent is payable by natives living on location land, who are liable only for the usual hut tax of 14s. per hut per annum; but mission reserve natives, in addition to the hut tax referred to, pay a rental of £1 per annum, of which half is remitted to the missionary bodies for educational purposes, the remaining half being held in trust for the natives. Act No. 49 of 1903 which transferred the trusteeship to the *Natal Native Trust* deals with the control of these reserves.

Prior to the constitution of the Union the members of the Executive Council for the time being were *ex-officio* members of the *Natal Native Trust*, but Act No. 1 of 1912 makes provision for the delegation by the Governor-General to the Minister of Native Affairs of the administration of all such matters as were on the 31st May, 1910, and since that date administered by any legally constituted *Native Trusts*. Both locations and mission reserves are held under deeds of grant from Government, the latter being tracts of land in various parts of the Colony, set apart in order that the missionary bodies referred to in the deeds of grant may have a fixed population among which to carry on their labours. These grants were made between 1862 and 1887.

Up to 1890 no rents were collected except for a few store sites. The rule requiring payment of rent from new tenants as a condition of allowing them to come on the reserves was passed in 1888, but no rents were collected before 1890. At first the rent was 10s. per hut per annum, and later 30s. In 1904 the rental was increased to £3. In 1906 it was reduced to 30s. per hut, and power was reserved in the regulations for reducing the rent still further in cases where it was considered unduly heavy.

With a view to introducing some form of individual land tenure on the mission reserves in this Province, approval was given to a preliminary survey and investigation of the Ifafa and Amanzimtoti Reserves. The Ifafa Reserve is 6,209 acres in extent and the Amanzimtoti 8,077 acres.

The system is being introduced on the following lines:—

- (a) For monogamous residents lots will be surveyed to the extent of 13 acres;
- (b) the title of occupation will be issued in respect of each lot;
- (c) a minimum rental of £1 per annum per lot will be charged in lieu of the present hut rental;
- (d) the cost of the survey will be borne from the Mission Reserve Funds; and
- (e) steps will be taken as soon as legally possible to constitute Advisory Boards.

Amongst other activities of the *Natal Native Trust* may be mentioned the Mooi River and Tugela River Irrigation Works and the Zwartkop afforestation scheme.

**2. Putili and Other Trusts.**—(i) *Putili Trust*.—This was originally a separate Trust constituted under indenture dated the 18th September, 1878, but on the 28th February, 1908, the Governor of Natal appointed the Natal Native Trust to be sole trustees of the Putili Fund. The Trust is now administered in the same manner as the other locations in the Province.

(ii) *Umnini Trust*.—The Umnini Trust was created by indenture in 1858, and consists of three trustees, the Chief Native Commissioner and his successors in office, the chief of the Amatuli Tribe, and a third member. The only revenue which the Trust derives is in respect of Lots 47, 48 and 49, Umnini Location, which are let at a rental of £10 per annum. In order, therefore, to carry on the work connected with the two dipping tanks in the location a voluntary levy on the natives was agreed to in 1914.

(iii) *Zululand Native Trust*.—This trust is constituted under deed of grant, dated the 6th April, 1909, and is administered in the same way as the Natal Native Trust. The agreements which were in existence with regard to store sites in Zululand at the date of Union have been replaced by 99 year leases. The area in each case is a hundred acres where occupation was prior to annexation, and twenty acres if taken up afterwards. The rental is £5 per annum.

(iv) *Impapala Lots*.—Certificates in respect of these lots were issued in October, 1912, authorizing occupation on payment of a rental of 2s. per annum per acre and 10s. per annum towards the estimated cost of survey, until the total cost of survey had been paid in full. Seven out of eighty-five lots still remain vacant. The extent of the plots vary from nine to thirty-five acres with a total area of 2,638 acres. There are thirteen commonages evenly distributed over the whole settlement varying in extent from eleven to 150 acres, with a total of 694 acres, leaving for actual occupation 1,944 acres, on which are resident the Christian natives or their descendants who migrated there in 1886, mostly from the Natal American mission stations.

## § 8. Stock Dipping Operations.

**1. Development of System of Stock Dipping.**—Responsibility for the inauguration of regular and systematic dipping of stock in native areas was assumed by the Native Affairs Department by arrangement with the Department of Agriculture.

On the 31st December, 1921, there were under the supervision of the Department in the Cape Province proper 74 tanks, in the Transkeian Territories 446, in Natal 422, and in the Transvaal 292. All these tanks have been constructed and are being maintained at the expense of the natives. In the Transkeian Territories this expenditure is met in a variety of ways: in fifteen districts by a stock rate, in two districts by a poll rate, and in one district by a charge of  $\frac{1}{2}$ d. per head dipped. In Western Pondoland dipping is paid for out of the annual general rate of 10s. per adult male; in Eastern Pondoland and Xalanga by a special rate of 5s. 6d. and 7s. 6d. respectively on each hut tax payer. In the only native location in the Mount Currie district a poll rate of 7s. 6d. is levied. In Natal a general dipping levy of 5s. per adult male is charged. In the Cape Province proper and in the Transvaal the cost of construction and maintenance is being met by special rates under the *Dipping Advances Act* or by voluntary levies or levies under *Government Notice No. 382 of 1921*.

In the Transkeian Territories, except in the district of Idutywa, where dipping operations are in charge of a committee consisting of natives, control is exercised by the Magistrate and the District Council, where such exists, under the directions of the Chief Magistrate. The 446 tanks in the Territories are served by a staff of 56 European supervisors, 15 native assistant supervisors, and 203 native foremen.

In the Glen Grey district the District Council exercises control and in Natal the Department has special dipping supervisors. In the other areas the local officers of the Department are in general control, assisted where necessary by specially-appointed supervisors.

The number of native-owned cattle in the Transkeian Territories (excluding the districts of Mount Currie and Idutywa) increased during 1920 by 72,018. The number of head on the 1st January, 1918, was 490,179; 1919, 572,369; 1920, 661,349; 1921, 733,367. In Natal the cattle in native areas have increased during the last three years from 350,000 to 520,000, and the value of the stock, both large and small, is said to be not less than £6,000,000.

**2. Expenditure on Dipping Tanks.**—The following figures represent as at 31st March, 1921, the capital cost, the expenditure, and the receipts in respect of dipping tanks in native areas completed under the provisions of the *Dipping Tanks Advances Act* of 1911:—

## DIPPING TANK EXPENDITURE AND RECOVERIES TO 31st MARCH, 1921.

Area.	Expenditure.			Receipts.			Balances.		
	Capital Cost.	Interest.	Maintenance of Tanks and Dipping Operations.	Capital.	Interest.	Maintenance.	Capital.	Interest.	Maintenance.
Cape Province.	£ 39,486	£ 1,803	£ 45,822	£ 39,285	£ 1,864	£ 34,720	£ 201	£ 1	£ 10,601
Natal.....	90,159	13,111	182,740	81,629	13,396	78,914	8,529	16	103,826
Transvaal.....	7,202	584	5,312	6,638	584	4,426	625	—	886
TOTAL.....£	136,907	16,858	233,374	127,552	15,844	118,060	9,355	17	115,313

## § 9. Taxation.

1. **Sources of Revenue.**—The following is a summary of the principal sources of native revenue in the various Provinces (as distinct from rents, rates and fees, etc., paid by natives to properly constituted bodies and trusts).

(i) *Cape Province* (apart from Transkeian Territories)—

(a) *Hut Tax.*—(1) On Crown Lands a tax of 10s. per hut is imposed by section 11 of Act No. 37 of 1884. Hut tax is levied in all Crown Locations (except where quitrent is claimable as in the case of the surveyed locations under Act No. 40 of 1879), including the Bechuansland Reserves. (2) On private property the hut tax has been replaced by private location fees imposed under section 6 of Act No. 32 of 1909.

(b) *Quitrent.*—Quitrents are imposed either in surveyed locations under the Glen Grey Act No. 25 of 1894, or in locations surveyed under Act No. 40 of 1879.

(ii) *Transkeian Territories.*—A hut tax of 10s. per annum is levied under section 2 of Proclamation No. 320 of 1904 on every holder of an arable allotment in crown land locations which have not been surveyed. On surveyed Crown land locations a quitrent is substituted for the hut tax. Private location fees are imposed in lieu of the hut tax in respect of natives residing on private property in the Matatiele and Mount Currie districts.

(iii) *Natal.*—A hut tax of 14s. per hut is imposed on all natives resident in the Province with the exception of those living in houses of European construction and having only one wife, and generally conforming to civilized usages. In addition a rent of £2 is levied in respect of every native hut on Crown lands as distinct from locations.

(iv) *Transvaal.*—A tax of £2 is levied on every adult male native under section 3 of Act No. 9 of 1908 with a remission of £1 in respect of municipal location residents and *bona fide* farm labourers. In addition, a native squatting on Crown lands as distinct from locations has to pay a rent of £1 per annum.

The Transvaal Provincial Council in 1921 passed an Ordinance (No. 7) levying a poll tax of £2 10s., of which £2 was rebated in favour of the native taxpayer who had paid the consolidated tax to the central Government. The Ordinance was later challenged in the Courts and declared *ultra vires* in so far as natives were concerned.

(v) *Orange Free State.*—Under Ordinance No. 2 of 1904 a poll tax of £1 per annum is levied on all male coloured persons who have personally resided in the Province for a period of at least six successive months during the year in respect of which the tax is payable.

2. **Consolidating Legislation.**—The question of consolidating the various taxation laws has been continually under consideration since the constitution of the Union, and in 1911 a draft consolidating measure was prepared by the Inland Revenue Department. Action has, however, been postponed. In the meantime, with a view to bringing the collection of tax in Natal into line with the practice obtaining in other parts of the Union, and also meeting the wishes of the natives themselves, fresh regulations, under section 3 of Law No. 13 of 1875 (Natal), were promulgated in 1917, transferring the onus of payment from the kraal head to the hut owner.

In accordance with a recommendation of the Native Affairs Commission, Act No. 5 of 1922 provided that a Provincial Council shall not have the power to make an Ordinance imposing direct taxation upon the persons, lands, habitations, or incomes of natives.

Particulars of native revenue collected are given in Chapter XXIII.

## CHAPTER XIV. LAND SURVEY, TENURE, AND OCCUPATION.

### § 1. Land Survey.

1. **General.**—In South Africa, as in most civilized countries, the principle has always been recognized that the State is directly interested in the stability of title to immovable property. Without security of tenure the capital necessary for the development of a country, more especially an agricultural and pastoral country such as the Union is, would be difficult to obtain except at a rate of interest so high as to defeat the desired end. That money is always available for first mortgages on any properties registered in one of the Deeds Registry Offices in the Union at the normal rate of interest prevailing at the time of investment is a clear indication that the general investing public has no doubt of the security of this type of investment. In the attainment of this very necessary sense of security, the high state of perfection to which the science of land surveying has been brought in this country has played no small part.

The system of land registration in the Union is based on the principle that every deed granting or conveying landed property either has a diagram of the property being conveyed attached to such deed, or refers back to a previous deed with diagram attached. The area of the land, its dimensions, locality, description of its boundaries, etc., are all clearly set forth in the diagram which is referred to in, and may be taken to be a component part of, the deed of conveyance. The necessity for accuracy in the survey upon which the diagram is based is therefore obvious, and, to ensure this, no diagram is accepted for registration with a deed of grant or transfer unless signed by a surveyor duly admitted to practise as such in that Province of the Union in which the land being dealt with is situate, and approved by the Surveyor-General of that Province.

The qualifications necessary and the laws or practice under which surveyors have from time to time been admitted in the several Provinces now constituting the Union have been governed naturally by the necessities of the moment, the material available, and the value of landed property. The standard from the beginning was set as high as circumstances would permit, and by a gradual process of evolution this has been steadily raised until to-day considerable scientific attainments are necessary before a land surveyor's certificate can be obtained in the Union.

Before a diagram signed by a surveyor duly admitted to practise as such is approved by the Surveyor-General, the numerical data thereon are first checked by him to see that they are consistent within themselves, and are then compared with those on the diagrams of adjoining holdings to ensure that the property being granted or transferred does not overlap or encroach in any way on land already alienated. It will thus be seen that every precaution possible, short of checking the actual field work of the surveyor, is taken by Government to ensure that a diagram attached to any deed accurately represents the land therein referred to. Any investor advancing money on, or purchasing, property in the Union which has been surveyed within comparatively recent years may be reasonably certain that the extent and description of the land quoted in the diagram and deed are correct. Naturally, the older the date of survey, the less the certitude of the accuracy of the work. In the "good old days," when there was little or no supervision over the work of admitted land surveyors, there were some who apparently took advantage of the fact that there was no likelihood of their surveys being checked for many years to come, and did some extremely bad work, resulting in a certain number of diagrams being registered which did not by any means correctly represent the land purporting to be granted or transferred. Later, as the methods of land surveying improved, and the opportunities for checking these old surveys became more frequent, it was realized that some means had to be evolved, in cases where faulty diagrams had been registered, to bring the titles of the properties into harmony with the boundaries of the land as beaconed or occupied. Laws were therefore promulgated, first in the Cape Colony, and later in the Transvaal and the Orange River Colony, under which an owner, finding that the original survey of his property had been incorrectly made, could have a resurvey of and obtain an *Amended Title* in accordance with the existing boundaries of his land. The laws for the obtaining of an amended title to any property within the Union have now been consolidated and are contained in section *twenty-one* of Act No. 13 of 1918, and the regulations framed under the Act. Thus the erroneous diagram and title has been for a number of years, and is still being, steadily eliminated and replaced by one more in accord with the present day requirements. The result is that it may be safely asserted that, except in the sparsely populated districts, where land is of comparatively small value, very few titles now exist which do not correctly describe the land as defined by existing boundaries.

The areas of the different Provinces constituting the Union of South Africa are recorded as follows:—

Cape of Good Hope.....	276,966 square miles.
Natal.....	35,284 "
Transvaal.....	110,450 "
Orange Free State.....	50,369 "
UNION.....	<u>473,089</u> "

**2. Legislation.**—There is as yet no general law governing the admission of land surveyors to practise as such in the Union. In the Transvaal the law at present in force is Ordinance No. 55 of 1903, as amended by Ordinance No. 8 of 1904. In the Orange Free State, Ordinance No. 16 of 1903 applies. Neither in the Cape Province nor in Natal is there any specific law on the subject. The necessary qualifications are laid down in Government proclamations in accordance with long established usage or practice. Although the laws or proclamations differ slightly in detail, the essentials are the same.

A candidate for admission to practise as a land surveyor in any one of the Provinces of the Union to-day must have—

- (a) attained the age of twenty-one years;
- (b) passed the matriculation examination of the University, or an examination of an equivalent standard;
- (c) passed the First and Second Survey examinations of the University of the Cape of Good Hope;
- (d) served for at least two years in the field with a duly admitted surveyor; and
- (e) performed to the satisfaction of the Surveyors-General a trial survey in which his practical knowledge of the methods of surveying, use and adjustment of instruments, framing of plans and diagrams, and of the land laws of the country, will be tested.

A surveyor admitted to practise as such in any one of the Provinces of the Union may, on application to the Secretary for Lands, in terms of the *Land Surveyors' Recognition Act*, No. 25 of 1917, obtain a certificate entitling him to practise in any one of the other Provinces.

The adoption of a general survey law for the whole Union is anticipated, consolidating the various laws, regulations, tariffs, fees of office, etc., presently in force in the four Provinces.

**3. Triangulation.**—Owing partly to the fact that there is little forest in the Union, and partly to the country being generally of a hilly or mountainous nature, land surveying in the Union is carried out almost entirely by means of triangulation, the chain or measuring tape being used only for the determination of the lengths of base lines or of comparatively short distances for the fixation of points not easily accessible by triangulation.

In addition to the ordinary property surveys which, though sufficient for the purpose of title or transfer, are of little practical value in the compilation of comprehensive and accurate maps of South Africa, some important triangulation surveys have been carried out. The most notable are those made of selected portions of the Cape Province by Sir Thomas Maclear, Her Majesty's Astronomer, between 1841 and 1848, and by Captain W. Bailey, R.E., between 1859 and 1863; but by far the most extensive and important survey operations which have been carried out in the country are the primary triangulation which was performed between the years 1882 and 1893 by Lieutenant-Colonel Morris, R.E., under the direction of Sir David Gill, Her Majesty's Astronomer, and which intersects the Cape Province and Natal by a series of chains of triangles, and the subsequent extension of this triangulation through Natal, the Orange Free State and the Transvaal to Rhodesia. This primary triangulation and its extension form the framework on which the general survey of the Union is gradually being made.

As contributions to this general survey several triangulations of a secondary class based on Colonel Morris's triangulation, have been carried out in the Cape Province at different times. Of these secondary triangulations the most important and extensive are those which have been extended—for the most part along the coastal belt of the Cape Province and Natal—under the direction of Mr. J. J. Bosman, late Director of Secondary Triangulation, Cape Province, and by Mr. A. Hammar, Director of Trigonometrical Survey, Natal, and his small staff.

Since the retirement of Mr. J. J. Bosman early in 1919 and the appointment of Mr. W. C. van der Sterr as Director of the Trigonometrical Survey of the Union of South Africa at the end of the same year, the work of the Secondary Triangulation has been continued, principally along the coastal belt.

The Land Surveyors' Institutes and other professional technical bodies have for a considerable time urged upon the Government the necessity of pursuing a more vigorous policy. As a result of their representations in this connection a Survey Commission was appointed on the 1st January, 1921, "to inquire into matters concerning the surveys of

land," and its recommendations, which include the completion of the Primary Triangulation and the extension of the Secondary and Tertiary Triangulation in the more developed parts, would undoubtedly go far to satisfy the present needs of the Union and particularly the Provinces of the Transvaal and the Orange Free State, where, with the exception of the Gold Fields Triangulation in the Transvaal, no Secondary Triangulation has been carried out.

**4. Government Supervision of Survey.**—In each Province is a Surveyor-General who controls the survey of all Government land, and employs duly admitted surveyors for this work at a tariff fixed by law or regulation. After land is once alienated from the Crown, the Surveyor-General has no further concern with its subsequent subdivisions beyond the examination of the diagrams necessary for effecting transfer of the portions, which as above mentioned must bear his certificate of approval before being accepted for registration in a Deeds Office.

The subdivision of private property may only be performed by surveyors admitted to practise in that Province in which the property is situate. The cost of these surveys is a matter of arrangement between the owner and the surveyor, though the Institutes of Land Surveyors in each Province have fixed tariffs at which most surveys of private property are made.

During the year 1920 there were examined in the Cape Province 4,885 diagrams in respect of Crown land and 5,275 in respect of private property. In the Transvaal 18,923 diagrams were dealt with, and in the Orange Free State 1,574 sets of diagrams in respect of farms and 2,482 in respect of town erven. In Natal 2,567 sets, representing 7,960 diagrams, were registered.

In the Province of the Transvaal no charge is made by Government for the work of examining for approval diagrams of private property; in the other Provinces certain fees are imposed by law or regulation, varying according to the nature of the work.

**5. Scale of Fees.**—The following scale of fees to be charged in the offices of the Surveyors-General was brought into effect as from the 1st April, 1922:—

SCALE OF FEES CHARGED IN THE OFFICES OF THE SURVEYORS-GENERAL.

<i>Examination Fee</i> —	£	s	d
The examination of a diagram of any piece of land, excluding diagrams of Crown land:—			
For any number of sides up to six inclusive.....	0	10	0
For each additional side over six.....	0	1	0
The examination of general plans of townships, framed in terms of the Proclamation of Townships (Transvaal) Ordinance, 1905, and Townships (Transvaal) Act, 1907, per figure.....	0	1	0
<i>Deduction Fee</i> —			
For deduction of each figure which is represented on a diagram or the laying-off of a servitude (e.g. composite diagram made up of three separate figures—fee 15s—for deductions).....	0	5	0
<i>Outline Diagrams</i> —			
Outline diagrams framed for Deeds Office, King William's Town, Kimberley, Vryburg, and Mafeking, in order to show the deductions. (No fee for laying down deductions in these outline copies).....	0	7	6
<i>Certificate of Remaining Extent</i> —			
For certificate of remainder of each property represented by one diagram	0	3	0
For certificate of remainder of each property represented by one general plan.....	0	5	0
			per hour.
<i>Cancellation of Deduction</i> —			
For each cancellation of deduction.....	0	3	0
<i>Amendment of Plan</i> —			
For amendment of general plan of township, per hour of portion thereof.	0	5	0
<i>Copies of Diagrams and Tracings, Including Certification</i> —			
Certified copy of each diagram of land not exceeding 10 morgen in extent	0	9	0
Certified copy of each diagram of land exceeding 10 morgen:—			
For a figure of not more than six sides.....	1	0	6
For each additional side.....	0	1	0
For each deduction shown on the copy of the diagram.....	0	1	6
For each copy of a general plan (including plans of townships): For the time taken on the preparation of the plan.....	0	5	0
			per hour with a minimum of 5s.

*Tracings—*

For each certified complete tracing of a diagram of land not exceeding 10 morgen in extent.....	0 5 0
For each certified complete tracing of a diagram of land exceeding 10 morgen :—	
For a figure of not more than six sides.....	0 10 0
For each additional side.....	0 0 8
For each deduction shown on the tracing of a diagram.....	0 0 8
For each rough tracing of a diagram of land not exceeding 10 morgen..	0 2 0
For each rough tracing of a diagram of land exceeding 10 morgen :—	
For a figure of not more than six sides.....	0 5 0
For each additional side.....	0 0 3

NOTE.—Special charges may be made at the discretion of the Surveyors-General for copies or tracings of diagrams in cases where the cost entailed in their preparation is not covered by the above tariff.

*Miscellaneous Certified Copies—*

For every certified copy of any document not specified above :—	
For the first 100 words.....	0 2 6
For every additional 100 words or fraction thereof.....	0 1 0
For checking and certifying additional copies of a diagram.....	0 3 6

*Certificate—*

For each certificate endorsed on a diagram, tracing, or other document..	0 1 0
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*Surprints—*

For each surprint made from an existing tracing :—	
Per square foot mounted.....	0 1 6
Per square foot unmounted.....	0 1 0
With minimum charges of 2s. 6d. and 1s. 6d. respectively,	
When no tracing of plans exists from which surprints can be made a charge of 5s. per hour for time taken in preparing necessary tracing will be made in addition to the charge specified above.	

*Searches—*

For every search made in the Offices of the Surveyors-General :—	
For the first hour or portion thereof.....	0 3 0
For each subsequent half hour or portion thereof.....	0 1 0

*Land Surveyors' Registration Fee—*

Fee for registration as land surveyors upon admission to † practise in each Province.....	5 5 0
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*Miscellaneous Work—*

For any work not specified in this, per hour or portion thereof.....	0 5 0
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NOTE.—For the purposes of this tariff, two acres are to be considered as equal to one morgen.

## § 2. Tenure and Occupation of Crown Lands.

1. **Land Laws of the Union.**—For the purposes of this review only a brief outline of the main provisions of the land laws which are applicable to the whole of the Union can be given, it not being possible owing to the exigencies of space to deal in detail with all the laws that relate to the disposal of Crown lands. The summary given will, however, afford sufficient information to enable an idea to be formed of the functions of the Department of Lands.

Prior to the establishment of the Union each Province administered its Crown lands under certain statutory provisions which are referred to in this Chapter under the heading of the respective Provinces. The *Land Settlement Act*, promulgated in October, 1912, was the first land law of the Union Parliament to bring about uniformity of practice in the four Provinces in relation to the acquirement, exchange, and disposal of Crown lands. The Act, which is additional to and not in substitution for any prior law, has proved generally satisfactory in its operation, and has shown that a public need has been met. During the period which has elapsed since the Act was passed the further requirements of leasees and the requirements of new applicants have been gauged. In the light of the experience gained and with a view to meeting these wants and improving the terms and conditions provided by the original Act, amending Acts—the *Land Settlement Act Amendment Act, 1917*, and the *Land Settlement Acts Further Amendment Act, 1920*—have been passed. These three Acts together embody the provisions under which active land settlement in the Union is at present conducted.

\* A further amending Act was passed in 1922.

**2. Land Settlement Act, 1912, as amended by Act No. 23 of 1917 and Act No. 28 of 1920.**—The main provisions of these Acts empower the Minister of Lands, *inter alia*—

- (a) to acquire private land by purchase or exchange for land settlement purposes, and, after division into suitable holdings, advertisement in the *Government Gazette* and local newspapers (giving full details as to terms, price, and the like), to dispose of such land or any other Crown lands similarly treated to approved applicants, on lease for five years with an option to purchase extended over twenty years;
- (b) to acquire and allot particular land selected by an applicant who is prepared to contribute in cash at least one-fifth of the total cost thereof;
- (c) to make advances not exceeding £500 in amount to lessees under the Act for the purpose of developing their holdings;
- (d) to cause boring operations to be effected or improvements of a substantial nature to be erected or constructed, and to add the cost thereof to the purchase price of holdings.

(i) *Land Boards.*—The Minister is assisted by a Land Board of five members in each Province, to which body all matters under the Act are referred for consideration, advice, report, or recommendation.

(ii) *Qualifications.*—For land under 2 (a) and (b) the applicant must (a) be at least eighteen years of age; (b) possess qualifications sufficient for utilizing the land; (c) intend to occupy, develop, and work the holding; (d) be of good character.

(iii) *Terms.*—For land under 2 (a)—leased farms—the principal terms are that—

- (a) The lease shall be for five years.
- (b) The rentals charged on the purchase prices shall be (1) for the first year, nil; (2) for the second and third years, 2 per cent. per annum; (3) for the fourth and fifth years, 3½ per cent. per annum, payable half-yearly in advance.
- (c) The lease may, with the Minister's consent, be extended for a further period not exceeding five years at a rental of not less than 4 per cent. per annum on the purchase price.
- (d) The option to purchase a holding by paying the purchase price over a period of twenty years can be exercised at any time with the Minister's consent, subject to the lease conditions being fulfilled and improvements to the value of 10 per cent. of the purchase price being constructed on the holding.
- (e) Instalment payments on every £100 of purchase price amount to £7. 6s. 2d. (approximately 7½ per cent.) per annum, which includes interest at 4 per cent.,\* and the residue is apportioned to capital, the interest payment diminishing and the capital payment increasing after each instalment, which remains the same throughout, is paid. The payments must be made half-yearly in advance.

For land under 2 (b)—farms specially purchased for applicants—the principal terms are that—

- (a) There must be a lease on which the option to purchase is exercised from the date of transfer of the land to the Government.
- (b) For the first two years the payments are nil; for the subsequent eighteen years the purchase price is paid in half-yearly instalments in advance, plus interest at 4 per cent.
- (c) On every £100 of purchase price appearing in the lease, the yearly payment would amount to £7. 17s., i.e. 7·85 per cent., of which 4 per cent.\* is apportioned to interest and the residue to capital payments.
- (d) One-fifth of the total price at which the land was sold must be paid by the lessee before allotment.
- (e) The purchase price of the holding payable as in (b) above, is made up of (1) the purchase price paid by the Minister; (2) the cost of transfer and the survey fees; (3) other expenditure by the Minister in connection with the purchase, transfer, and allotment of the land; (4) interest for a period of two years at the rate of 4 per cent.\* per annum on the aggregate of the amounts mentioned in (1), (2), and (3), but the contribution made towards the purchase price by the lessee is excluded from that aggregate.

The one-fifth contribution is excluded from the above amount in arriving at the purchase price to be payable over eighteen years by a lessee.

(iv) *Conditions.*—For land under 2 (a) and (b) the conditions provide for—

- (a) personal occupation;
- (b) care of improvements and trees;
- (c) no sub-letting, mortgaging, or transfer without authority;
- (d) the holding to be utilized for agricultural and pastoral purposes;

\* The rate of interest was increased as from the 1st May, 1922, to 5 per cent.



- (e) the reservation of all minerals, except in the case of land under 2 (b), when on issue of Crown Grant the mineral rights, withheld during the period before the issue of Crown Grant, are granted;
- (f) the liability of the lease to cancellation should its terms or the provisions of the Act not be complied with;
- (g) the land to be improved when no improvements exist at the date of allotment within the first five years by improvements to the extent of 10 per cent. of the value of the holding;
- (h) no compensation for improvements on cancellation of the lease, but if on re-allotment of the land an incoming tenant pays for the improvements the outgoing lessee will be paid such amount, less debts owing to the Government;
- (i) capital instalments of the purchase price being repaid on cancellation, less debts and in the case of land under (2) (b) that the Minister may repay the one-fifth contribution made.

(v) *General Provisions.*—There are certain general provisions in the Act dealing with (a) the addition to the purchase price of the cost of improvements which may be made by the Minister for boring and the like, and the consequent increase of the annual payments; (b) the cancellation of the interests of joint holders in land, if all the lessees do not comply with the terms of the lease; (c) the transfer of a lessee's interests to another qualified person; (d) the allotment of land to persons oversea, who must apply through the High Commissioner in London; as well as other provisions governing particular circumstances.

3. *Advances to Lessees.*—The Act provides for advances being made to lessees up to an amount of £500 for the purchase of stock, implements, seeds, and other things necessary for the development of the holding. The Minister may also effect certain improvements on any holding out of public moneys and add the cost thereof to the purchase price of the land, or treat the amount as an advance. The advances are repayable over five years from the date on which they are made, and interest is at the rate of  $4\frac{1}{2}$  per cent.\* per annum. In special circumstances the Minister may extend the time of repayment for periods not to exceed five years.

4. *Advances to Lessees of Town Lands and Commonages.*—An amendment to the Act now admits of advances being made for the purchase of cattle to assist persons who have leases of lots within any area or settlement laid out for farming or agricultural purposes by any local authority on town lands or commonages, provided that the Land Board within whose area the land is situated recommends the application.

*Conditions.*—The stock is the property of the Government and must be branded. On the termination of the lease held by the debtor the moneys due to the Government for the advance become repayable.

5. *Statistics: Results of Working of the Land Settlement Act.*—The operations under sections 16-20 of the Act, in terms of which sections the land is leased for five years with an option of purchase over twenty years, are as follows:—

**ALLOTMENTS MADE UNDER SECTIONS 16-20 OF THE LAND SETTLEMENT ACT  
1912,† TO 31st MARCH, 1921.**

Description.	1st April, 1920, to 31st March, 1921.	1912 to 31st March, 1921.
Lessees.....No.	642	3,038
Area.....Acres.	1,745,576	5,785,359
Valuation.....£	566,986	2,098,464

† Passing of Act at end of 1912.

(i) *Section 11 of the Act.*—This Section, which provides for land being purchased specially for applicants who are prepared to contribute one-fifth of the purchase price, was suspended owing to the outbreak of the War, and no transactions were effected thereunder subsequent to August, 1914. During the session of Parliament in 1917, however, further funds were voted to enable purchases of land to be made in terms of Section 11. A table showing particulars of the operations under this section from the passing of the Act at the end of 1912 is given hereunder:—

\* The rate of interest was increased as from the 1st May, 1922 to 5 per cent.

**LAND PURCHASED UNDER SECTION 11 IN THE VARIOUS PROVINCES, 1912\* TO  
31st MARCH, 1921.**

Province.	Area.	Valuation.	No. of Holdings.	No. of Lessees.
	Acres.	£		
Cape of Good Hope.....	92,979	78,823	71	85
Natal.....	39,422	124,549	59	76
Transvaal.....	571,992	935,727	672	854
Orange Free State.....	58,771	112,114	61	69
<b>TOTAL.....</b>	<b>762,864</b>	<b>1,251,213</b>	<b>863</b>	<b>1,085</b>

\* Passing of Act at end of 1912.

Contributions by the Government in respect of the purchase price, including transfer costs and other incidental expenditure, amounted to £987,788, and contributions by the persons assisted to £263,423, representing a total of £1,251,213.

(ii) *Section 10 of the Act.*—This section provides for the purchase of land for subdivision into suitable farms for allotment to the public. The total amount expended from the year 1912, in acquiring land under this section amounted to £1,245,467, the area purchased being 610,576 acres.

**6. Other Laws of the Union.**—The other land laws which have been introduced since the establishment of the Union affect lessees and their land in a particular Province, and are dealt with later in this summary. The main Acts are the *Transvaal and Orange Free State Land Settlements Amendment Act, 1912* (Act No. 15 of 1912) and the *Transvaal and Orange Free State Land Settlements Act Further Amendment Act, 1916* (Act No. 16 of 1916). These Acts deal with settlers placed on Crown lands in the Transvaal and the Orange Free State by the Crown Colony Governments between the years 1902 and 1907, and enable those settlers to secure freehold of their holdings on passing a mortgage bond in favour of the Government for the amount of the purchase price of the land, plus the amount owing for advances. In the Transvaal the total sum due is repayable over thirty years, with interest at 4 per cent. by equal half-yearly instalments payable in advance; in the Orange Free State it is repayable before the expiration of thirty years, during which period interest at 4 per cent. is repayable half-yearly in advance.

**7. Cape of Good Hope Province.**—The disposal of Crown lands in the Cape Province was regulated prior to the establishment of the Union by various Land Acts, dating more particularly from 1887 to 1908, and was on the basis of parliamentary control.

(i) *Act No. 15 of 1887.*—The principal Act in the Cape dealing with the disposal of Crown lands is Act No. 15 of 1887, and in a sense all other Acts in force with regard to the alienation of such land may be said only to establish exceptions to this Act. The land is offered at public auction at an upset price. In cases where the purchase price exceeds £25 twelve calendar months are allowed for the payment of one-fifth thereof, while a mortgage in favour of the Government for the remaining four-fifths may be passed bearing interest at 4 per cent. per annum.

The Act further provides for the granting of land for special public purposes, for carrying on trade in native locations, for grants to municipalities, for the disposal of small pieces of Crown land between farms (uitval grond), and for leases of irrigable lands, fishing stations seaside resorts, and the like.

(ii) *Act No. 37 of 1882.*—This Act authorizes the disposal of land from four to two hundred and fifty morgen in extent on a five years' licence entitling the holder to receive a grant at the end of the term, subject to a perpetual annual quitrent. The licence fee and the annual quitrent payments are the same and amount to one-twentieth of the valuation at allotment. The quitrent can at any time be redeemed by the payment of a total sum equal to twenty times the annual instalment.

(iii) *Act No. 40 of 1895.*—This Act is an elaboration of the principle established by Act No. 37 of 1882, and provides a scheme for land settlement for use in large areas on non-arable or slightly arable land. The purchase price is payable in twenty equal annual instalments. A successful applicant obtains a licence to occupy a farm for five years, during each of which he pays one-twentieth part of the purchase price. After five years, if the licence conditions have been complied with, or after two years if improvements at least equal to the value of the purchase price have been effected and the licence conditions have been fulfilled, title to the land is granted on a mortgage bond in favour of the Government being passed to secure payment of the remaining instalments.

(iv) *Act No. 42 of 1908.*—Act No. 40 of 1895 was amended to some extent by this Act, which also provides for the issue of water prospecting licences over dry areas of unsurveyed Crown lands. If water was found the successful licence holder would be entitled to receive a licence over about 21,000 acres for five years with subsequent conversion to title on the lines governed by Act No. 40 of 1895. The operation of the Act has been suspended.

(v) *Act No. 26 of 1891.*—This Act deals with the sale of certain lands bought or improved by Government, and provides also for leasing land for five years without the option of purchase.

(vi) *Act No. 23 of 1893.*—This Act permitted the Government to dispose of land acquired by the Rhodesian Railways in Bechuanaland from the Bechuanaland Government, in which the Cape Government held an interest.

(vii) *The Land Settlement Act, 1912*, is, of course, operative in the Cape Province, and Crown land for disposal is also dealt with under that Act.

(viii) *Act No. 8 of 1922.*—This Act amended the provisions of Act No. 15 of 1887 to the extent that the Government was empowered to sell or lease any Crown land within the Cape Province or to exchange any such land for privately owned land.

**8. Natal Province.**—Prior to the passing of the *Land Settlement Act, 1912*, the only Act which dealt with land settlement in Natal was Act No. 44 of 1904, which was intended to aid and encourage the agricultural development of Natal. The Act, though amended, was found to be defective and unworkable, and operations thereunder have been suspended. The disposal of Crown lands, when not dealt with under the *Land Settlement Act, 1912*, is governed by rules and regulations promulgated by the Governor-General under the powers conferred upon him by Section 122 of the *South Africa Act*.

(i) *Proclamations, etc.*—The main Proclamations issued are:—

(a) *No. 102 of 1911*, dealing with the disposal of Crown lands in Natal (including Zululand) other than sugar-cane lands, Crown reserves, special reserves, and township lands.

(b) *No. 103 of 1911*, providing for the disposal of lands in the divisions of Ixopo, Bergville, Impendhle, New Hanover, Ipolela, Dundee, and Lions River. These lands were acquired by the Government of the Colony of Natal for closer settlement.

(c) *No. 219 of 1911*, providing for the disposal of Crown lands in Natal (including Zululand) set apart for the cultivation of sugar-cane.

(d) *No. 58 of 1912*, dealing with the disposal of Crown lands in Government townships in Natal.

All applications for land are considered by the Land Board, which advises the Minister, with whom the final selection rests. No applications are considered from persons under eighteen years of age or who possess more than one hundred acres of land; and personal occupation for nine months is required. The purchase price of ordinary Crown lands is payable in twenty equal instalments, the first of which is payable at the termination of the third year from the date of allotment. The sale price of acquired lands, the disposal of which is governed by Proclamation No. 103 of 1911, is payable in eighteen instalments, including interest at 4 per cent., the first instalment falling due at the end of the third year from the date of allotment.

(ii) *Sugar Cane Lands.*—In the case of sugar cane lands dealt with under Proclamation No. 219 of 1911 the terms and conditions are briefly as set out hereunder:—

(a) *Lease.*—For a period of ninety-nine years.

(b) *Rental.*—For the first and second years, nil. For the next succeeding twenty years an annual rental representing one-twentieth of the valuation of the land is charged; thereafter an annual rental of one shilling per annum in respect of the remaining period of the lease.

(c) *Conditions.*—The reason for the issue of a ninety-nine years' lease is that before sugar lands are allotted it is customary for the Government to arrange with a third party for the erection and working of a central mill to deal with cane grown by Crown allottees. There is no Government liability towards the mill-owners or the planters, but the former obtain from Government a lease of a suitable mill site, together with the sole crushing rights up to a stated limit of cane grown within a certain area by Crown allottees. These allottees are, under the terms of their leases, bound to enter into agreements for the crushing of cane at the central mill. The Government settles the terms of such agreements beforehand and safeguards as far as possible the allottees' interests.

(d) *Cultivation.*—The allottee is required to cultivate sugar-cane on at least 15 per cent. of his land during the first three years of his tenure, and thenceforward to maintain such area under cultivation.

(iii) *General.*—In Natal (including Zululand) grazing lands, being unalienated Crown lands not suitable for European settlement, are offered for tender under Proclamation No. 221 of 1914. Tenders are also invited from time to time for the disposal of arven in townships in terms of Proclamation No. 58 of 1912.

9. **Transvaal Province.**—(i) *Crown Land Disposal Ordinance, 1903.*—This Ordinance (No. 57 of 1903), as amended by the *Crown Land Disposal Amendment Ordinance, 1906*, may be termed the basis of land administration in the Transvaal. The *Transvaal Settlers' Ordinance of 1902* (No. 45 of 1902), which was later amended by the *Land Settlement Act, 1907* (No. 37 of 1907), was the first Ordinance under Crown Colony Government to deal with what is usually termed land settlement. The funds from which settlers were assisted, and with which land was acquired, were furnished from the Guaranteed Loan, 1903, out of which £1,300,000 was set aside for general land settlement purposes.

(ii) *Crown Land Disposal Ordinance, 1903 (as amended).*—This Ordinance allows the Government generally to dispose of unalienated Crown lands by grant, sale, lease, or otherwise, and to exchange, donate, or reserve such land. Provision is also made for the establishment of a Land Board.

The powers of the Ordinance are wide, but the leases in force have been framed on the following basis:—

(a) *Leases with Option of Purchase:*—

- (1) *Terms.*—Five years' lease. Renewal for further five years with the Minister's consent. The option to purchase is included in the terms.
- (2) *Rental.*— $1\frac{1}{2}$  per cent. for first and second years... } on the purchase  
 $2\frac{1}{2}$  per cent. for following three years... } price.  
 $4$  per cent. if lease extended..... }
- (3) *Option.*—If the option to purchase is exercised the purchase price is payable half-yearly in advance by equal instalments over twenty years, with interest at 4 per cent. The yearly amount on every £100 of the purchase price totals £7. 6s. 2d. (about 7·31 per cent.), of which 4 per cent. of the instalments is devoted to interest; the amount credited to interest decreases on each payment and the sum credited to capital increases.
- (4) *Conditions.*—The essential conditions imposed embrace (a) personal occupation; (b) erection of a suitable residence within two years; (c) no sub-letting, assignment, or transfer without consent; (d) minerals reserved to the Crown; (e) no payment for improvements on cancellation.
- (5) *Crown Grants.*—These may be issued after ten years, provided that the full purchase price is paid during that period and that the conditions of the lease are fulfilled.

Particulars of all land are advertised, and the Land Board deals with all applications submitted and makes a recommendation to the Minister as to the particular applicant to whom the land should be allotted.

(b) *Leases without Option of Purchase.*—These are usually issued where some impediment to the sale of the land exists, due to the land being mineralized or having been proclaimed under the mining laws.

- (1) *Terms.*—Twenty-one years' lease.
- (2) *Rental.*—The rental is determined in each case and advertised, but is generally  $2\frac{1}{2}$  per cent. on the value of the holding.
- (3) *Conditions.*—The principal conditions applying to a lease are similar to those under (ii) (a) above.

Farms which are not considered suitable for disposal under the *Land Settlement Act, 1912*, are disposed of under the *Crown Land Disposal Ordinance, 1903* (Transvaal).

- (4) *Statistics.*—The following particulars show at a glance the operations under the Ordinance:—

**WORKING OF CROWN LAND DISPOSAL ORDINANCE, TRANSVAAL (1903).**

Description.	1st April, 1920, to 31st March, 1921.	Total result from passing of Ordinance to 31st March, 1921.
Lessees.....No.	295	1,583
Area.....Acres	650,170	2,691,197
Approximate valuation.....£	144,652	572,711

(iii) *Settlers Ordinance, 1902 (Transvaal) (as amended).*—The settlers who have been allotted holdings under this Ordinance, and who have generally become known as the "Milner Settlers," were until the granting of Responsible Government in 1907 dealt with

by the Lands Department. Under the Letters Patent granting Responsible Government a Land Board was established for five years to take over the control and administration of the Ordinance, and the land subject thereto was transferred to the Board. At the expiration of the Board's terms of office, in 1912, the administrative control was resumed by the Department.

The *Settlers Ordinance* as amended during 1907 by the promulgation of the *Land Settlement Act, 1907* (Transvaal) makes provision as under:—

- (a) *Leases*.—For five years, conditionally renewable for two further periods of five years, thus providing for a lease for a total period of fifteen years. The lease contains an option of purchase.
- (b) *Rentals*.—1½ per cent. for the first and second years; 2½ per cent. for the third to fifth years, and on the first five years' extension of lease; not less than 4 per cent. is charged on the purchase price for any further extension of lease.
- (c) *Licences*.—When the option of purchase is exercised, the lease is determined and a settler obtains a licence from the date of cancellation of the lease, under which licence the purchase price is payable by instalments over thirty years bearing interest at 4 per cent. per annum.

On every £100 of the purchase price the payments are £5. 15s. per annum (5½ per cent., of which 4 per cent. is interest). After the first payment the amounts in respect of interest decrease and the amount devoted to the reduction of capital increases.

- (d) *Conditions*.—Provisions relating to personal occupation, erection of a suitable residence within two years, restrictions against sub-letting, assignment, or transfer, and provisions for the reservation of minerals to the Crown, are embodied in both lease and licence issued under the Ordinance.
- (e) *Advances*.—Most of the settlers received advances from time to time of an average of £300; in some cases as much as £1,000 was advanced. The money was furnished from the Transvaal Guaranteed Loan out of which £1,300,000 was set aside for land settlement, and was supplemented by about £18,000 derived as revenue from the late Land Settlement Board.
- (f) *Concessions*.—Many of the settlers were further assisted by the Crown Colony and late Transvaal Governments by a writing-off of advances, rent, and interest, but beyond mentioning the circumstance there is no necessity to particularize the extent of the concessions granted by the Government from time to time.

- (v) *Statistics*.—On the dissolution of the Board in April, 1912, 410 settlers established on 380 holdings were handed over to the Department, and at the 31st March, 1921, 83 settlers were in occupation of 72 holdings on licence or lease under the *Settlers Ordinance*. The difference in the numbers for the two periods is accounted for by the settlers having availed themselves of the privileges of Act No. 15 of 1912 and taking out Crown Grants of their holdings.

(iv) *Transvaal and Orange Free State Land Settlements Amendment Act, 1912*.—During the year 1912 an Act was passed authorizing the issue of Crown Grants of holdings allotted under the respective Settlers Ordinances in force in the Provinces of the Transvaal and the Orange Free State. (This Act was later amended by Act No. 16 of 1916.) The Act provides for the issue, on the recommendation of the Land Board, of a quitrent title to the settler, subject to the passing of a bond in favour of the Government, securing any balance due in respect of the purchase price, or advances outstanding.

- (a) *Terms*.—Payments due under the bond are made over a period of thirty years by equal half-yearly instalments bearing interest at 4 per cent. per annum.
- (b) *Conditions*.—If the settler-mortgagor desires to sell his holding, he must give the Minister an option of purchase at the price at which he desires to sell privately, and this option must be exercised by the Minister within one month, should he desire to take over the property.

10. *Orange Free State Province*.—(i) *General*.—In the Orange Free State a sum of £1,250,000 was allocated to land settlement purposes, from the Guaranteed Loan of £35,000,000. The Crown Colony Government also inherited land to the value of about £312,000 from the late Republic. Under the Letters Patent, when Responsible Government was granted in 1907 a Land Board was established for a period of five years, and the Board administered the schemes of settlement in that Colony. The principal Act administered by the Board was the *Land Settlement Ordinance, 1902* (O.F.S.). With one exception the settlers established thereunder have taken advantage of the terms of Act No. 15 of 1912.

(ii) *Transvaal and Orange Free State Land Settlements Amendment Act, 1912*.—Shortly before demitting office the Board made certain proposals to the Government which resulted in the passing of the *Transvaal and Orange Free State Land Settlements Amendment Act,*

1912; which Act was amended in certain details at a later date. This Act enabled a settler holding land under the Ordinance previously quoted to obtain a Crown Grant for his land, provided that simultaneously with the registration of the Grant a bond in favour of the Government was passed to secure both the purchase price of the farm and the outstanding amount of the advances owing to the Government.

- (a) *Settlers*.—556 persons held land under the Ordinance when the Board relinquished office, and the Board recommended that the majority should receive the advantages conferred by Act No. 15 of 1912.
- (b) *Conditions*.—Interest at the rate of 4 per cent. is payable half-yearly in advance on the amount of the bond; the bond is for thirty years, and the amount must be liquidated before or immediately on the expiration of that term. If the settler-mortgagor desires to sell his holding, he must give the Minister an option of purchase at the price at which he desires to sell privately, and the option must be exercised by the Minister within one month, should he desire to take over the property.

On the dissolution of the Board in 1912 the administration of the Ordinance devolved upon the Department.

- (c) *Total Bonds*.—At the 31st March, 1921, mortgage bonds were in force in the Orange Free State in respect of a sum of £574,895 due to the Government by settlers.

(iii) *Other Laws in the Orange Free State*.—Prior to the passing of the *Land Settlement Act, 1912*, the laws governing the disposal of Crown lands, other than for settlement purposes, were the *Crown Lands Small Areas Disposal Ordinance, 1905*, and the *Crown Lands Disposal Ordinance, 1908*.

These laws provide for the sale of Crown lands which are not of sufficient extent to be occupied as separate holdings.

11. *Method of Application for Vacant Crown Lands (Unadvertised)*.—Applications by letter, addressed to the Secretary for Lands, Pretoria, may at any time be made for any portion of unsurveyed vacant Crown lands, from areas sufficiently large to be utilized as cattle ranches to areas small enough to form market gardens. Such applications indicate to the Department the district in which the demand for the vacant Crown land exists, and, if such a course is considered advisable, reports on the land are obtained. If the reports are favourable the land is surveyed, divided into farms and valued, particulars are advertised in the *Government Gazette*, and the applicant is afforded an opportunity of obtaining the land he may desire, his application being of course considered together with those of other applicants. Evidence of a demand for land is established by inquiry made for such land; by new conditions, such as the desire to establish cattle ranching, or to undertake cotton growing on a large scale, and by the advent of railway communication. Manifestations in this direction are met by the particulars of Crown land being publicly advertised and the land being offered for allotment.

The High Commissioner for the Union of South Africa in London (address: Trafalgar Square, W.C. 2) is prepared to give general information and advice to persons, who may desire to take up farming pursuits in the Union, as to local conditions and farming possibilities in various parts of the Union. An Adviser on Land Settlement has been attached to his office for that purpose.

12. *Advertised Crown Lands open for Application*.—The *Government Gazette* and the local newspapers publish from time to time lists of farms available for allotment. These lists contain information of a particular and general nature regarding the land offered, show under which Land Acts, and on what terms, the farms can be leased or acquired, and indicate when, and the manner in which, applications should be made. A form of application for such land is obtainable from any Magistrate. Farms of the kind referred to may be either vacant Crown land which has been surveyed into farms or land procured by purchase by the Government or by exchange for land settlement purposes.

13. *Method of Purchase*.—Section 11 of the *Land Settlement Act, 1912*, as amended by the *Land Settlement Act Amendment Act, 1917*, provides for the purchase for an applicant of any land suitable for settlement within the Union. The following essential conditions are imposed:—

- (a) The farm must not cost more than a total of approximately £1 500, of which the Government contributes a sum not exceeding £1 200, i.e. four-fifths of the price.
- (b) The applicant must be prepared to pay and deposit in cash one-fifth of the total cost to the Government.
- (c) An option to purchase the farm must be obtained in favour of the Minister of Lands for a period of approximately six weeks.
- (d) Land with onerous servitudes will not be considered, nor, generally speaking, will undivided portions be purchased.

- (e) A letter addressed to the Secretary for Lands, Pretoria, must be written by the applicant, giving a description of the land indicating the total price to be paid and the applicant's readiness to contribute, in cash, one-fifth of the purchase price, and enclosing the option of purchase.
- f) The applicant must (1) be at least eighteen years of age; (2) possess qualifications sufficient for utilizing the land; (3) intend to occupy, develop, and work the holding; and (4) be of good character.

If, after an inspection of the holding by the Land Board concerned, the Minister decides to purchase, the land will be allotted to the applicant on a lease from the date on which it is transferred to the Government, and from that date the lessee exercises his option to purchase the land from the Government by the payment, over a period of eighteen years, of half-yearly instalments in advance, the first of such instalments falling due two years after the date of transfer to the Government. The payments to be made over a year are thus approximately at the rate of 7.85 per cent., of which 4 per cent.\* is devoted to interest. While the instalments payable throughout the eighteen years remain the same, the amount apportioned to interest becomes smaller after each payment, and the amount by which the capital is paid off becomes larger. The particular advantages to be gained by a successful applicant for the purchase of land in the manner described are that he has the selection of the land which he desires to purchase, and is not in competition with numerous other applicants for the same land, as would be the case if he applied for advertised Crown lands, which are allotted after a selection from all the applicants has been made.

14. **Advances.**—The Government will consider, on the merits of each case, applications from persons for whom land has been purchased, for advances not exceeding £500 to assist them to purchase stock, seeds, and other farming necessaries, and may further aid those persons by sinking boreholes or making permanent improvements on their farms and adding the cost to the purchase price of the holdings.

15. **Financial.**—At the 31st March, 1921, there were 11,108 debtors on the books of the Department, the capital sum due to the Government for land sold, for advances made to settlers, and the like, amounting to £3,635,424. The collections during the year were: for rent £61,224 and for interest £95,100; while the arrears still owing under these two heads were: for rent £24,826, and for interest £31,935.

16. **General Statistics.**—The following table summarizes the allotments of agricultural holdings made during the twelve months ended the 31st March, 1921, and during the period from the 31st May, 1910, under the several statutes governing the disposal of land for settlement purposes:—

#### ALLOTMENT OF AGRICULTURAL HOLDINGS.

STATUTES GOVERNING ALLOTMENT.	1ST APRIL 1920, TO 31ST MARCH 1921.				31ST MAY, 1910, TO 31ST MARCH, 1921		
	No. of Holdings.	No. of Settlers.	Area.	Valuation.	No. of Settlers.	Area.	Valuation.
			Acres.	£		Acres.	£
Land Settlement Act, 1912							
Section 11.....	286	350	205,830	418,706	1,085	762,865	1,251,213
Section 16.....	553	642	1,321,276	566,986	3,038	6,185,359	2,008,464
Crown Land Disposal Ordinance, 1903 (Transvaal)—							
Leases with option of purchase.....	125	160	589,416	120,125	1,488	3,248,504	543,710
Leases without option of purchase.....	122	120	60,754	24,527	523	1,020,942	109,730
Natal Proclamations.....	8	8	5,688	3,385	654	465,194	542,060
Act No. 37 of 1892 (Cape)	—	—	—	—	39	7,359	5,577
Act No. 15 of 1887 (Cape)	29	42	50,288	10,032	342	1,337,755	144,543
Act No. 26 of 1891 (Cape)	19	11	15,281	7,503	415	2,949,918	90,063
Act No. 23 of 1893 (Cape)	—	—	—	—	12	107,283	4,249
Act No. 40 of 1895 (Cape)	17	42	418,260	110,197	227	2,030,054	73,098
Act No. 41 of 1902 (Cape)	3	4	557	1,326	30	7,909	15,858
Act No. 13 of 1908 (O.F.S.)	—	—	—	—	34	77,631	27,496
Irrigation Settlements Act No. 31 of 1909 (O.F.S.)	—	—	—	—	259	5,554	57,776
<b>TOTAL.....</b>	<b>1,162</b>	<b>1,406</b>	<b>2,667,359</b>	<b>1,155,846</b>	<b>8,146</b>	<b>18,806,387</b>	<b>4,942,837</b>

\* The rate of interest was increased to 5 per cent. as from the 1st May, 1922.

† In addition annual rental of £200.

17. **Boreholes and Windmills.**—Boreholes are sunk for Crown lessees, and in the case of deep boring windmills are erected.

§ 3. Land and Agricultural Bank of South Africa.

1. **Establishment.**—The Land and Agricultural Bank of South Africa was established on the 1st October, 1912, by Act No. 18 of 1912. Prior to that date a land bank existed in the Transvaal under the name of *The Transvaal Land and Agricultural Bank* (Act No. 26 of 1907); in the Orange Free State as *The Land and Agricultural Loan Fund* (Act No. 33 of 1909); and in Natal also under the name of *The Land and Agricultural Loan Fund* (Act No. 27 of 1907). In the Cape of Good Hope *The Agricultural Credit Bank Act*, No. 25 of 1907, was passed, but remained inoperative. On the 1st October, 1912, the three provincial banks ceased to exist, and their assets and liabilities were transferred to and vested in *The Land and Agricultural Bank of South Africa*, referred to for convenience as *The Union Land Bank*.

The position of the three provincial banks at the 30th September, 1912, was as follows:—

**FINANCIAL POSITION OF PROVINCIAL LAND BANKS AT 30th SEPTEMBER, 1912.\***

*Assets.*

Description.	Natal Land Bank.	Transvaal Land Bank.	Orange Free State Land Bank.	Total.
	£	£	£	£
Advances against Mortgage.....	235,831	1,673,438	374,346	2,283,615
Advances against Promissory Notes.....	—	—	105,960	105,960
Advances to Co-operative Societies.....	—	232,111	—	232,111
Advances for Fencing.....	—	170,001	—	170,001
Cash.....	2,250	12,573	13,253	28,076
Sundries.....	3,530	7,413	11,617	22,560
<b>TOTAL ASSETS.....£</b>	<b>241,611</b>	<b>2,095,536</b>	<b>505,176</b>	<b>2,842,323</b>

*Liabilities.*

Description.	Natal Land Bank.	Transvaal Land Bank.	Orange Free State Land Bank.	Total.
	£	£	£	£
Capital (Government Advance).....	235,000	2,000,000	500,000	2,735,000
Reserve Funds.....	6,607	68,064	4,816	79,487
Sundry Creditors.....	—	3,856	—	3,856
Sundries.....	4	23,616	360	23,980
<b>TOTAL LIABILITIES.....£</b>	<b>241,611</b>	<b>2,095,536</b>	<b>505,176</b>	<b>2,842,323</b>

\* Date on which the three Provincial banks ceased operations.

*The Union Land Bank* took over the assets and liabilities of the three provincial banks at such an amount "as may be mutually agreed between the Minister of Finance and the central board of the bank." Under that agreement the value of the assets and liabilities of the Transvaal and Natal banks were taken at the figure shown in the balance-sheets as at the 30th September, 1912, but in the case of the Orange Free State bank the balance-sheet figures were reduced by £3560, the assets *Advances against Promissory Notes* (£105,960) and the liability *Reserve Funds* (£4,816) being reduced by the amount mentioned.



**2. Capital.**—The *Union Land Bank* commenced business on the 1st October, 1912, with a capital of £2,735,000, derived from the provincial banks in the proportions shown above. Its capital is not fixed, and consists of the amount mentioned, together with—

- (a) such further moneys as Parliament may from time to time by appropriation authorize the Minister of Finance to pay to the bank;
- (b) such amounts as the bank may recover in respect of advances for constructing dipping tanks and erecting fences made by the Union Government under Act No. 20 of 1911, by the Natal Government under Act No. 20 of 1910, and by the Cape Government under Acts No. 43 of 1906 and No. 37 of 1909 and Government Notice No. 1283 of 1909; and
- (c) such further amounts as the Bank was authorized to raise, under Section 3 of Act No. 36 of 1921, for the purpose of financing co-operative societies by means of—
  - (i) discounting with other banks, bills of co-operative societies,
  - (ii) overdrafts with other banks, and
  - (iii) issuing "Land Bank bills."

The further moneys authorized by Parliament are: 1912-13, £400,000; 1913-14, £1,225,000; 1914-15, £750,000; 1917-18, £225,000; 1918-19, £400,000; 1919-20, £300,000; 1920-21, £250,000; 1921-22, £500,000; Total, £4,050,000.

Out of the 1913 vote an amount of £200,000 was not drawn, and the 1915 vote of £750,000 was surrendered at the express request of the Minister of Finance. Of the 1921-22 vote, an amount of £460,361 was drawn by the Bank, so that £3,060,361 were actually drawn out of the £4,050,000 voted by Parliament. The dipping-tank and fencing advances handed to the bank for collection amounted at the 1st October, 1912, to £364,382, in respect of which a sum of £339,345 has been recovered. Out of this amount £199,593 has been credited to the capital account of the bank. At the 31st December, 1921, the bank's capital was therefore as follows:—

**LAND AND AGRICULTURAL BANK—CAPITAL FUND AT 31st DECEMBER, 1921.**

Heading.	Amount.
Capital Funds transferred from Provincial Land Banks, 1st October, 1912.....	£ 2,735,000
Parliamentary Appropriations since 1st October, 1912.....	3,100,000
Portion of Dipping-Tank and Fencing Advances Recoveries.....	199,593
TOTAL.....	£ 4,034,593

**3. Cost of Capital.**—The Act provides that the bank shall pay interest at the rate of 3½ per cent. per annum on its capital, but this rate may be increased or reduced by resolution of Parliament, and it is further provided that the bank shall not pay a higher rate than is recovered on any advances made by any of the Provincial banks. By resolution, Parliament, in 1914, increased the rate to 4 per cent. per annum on amounts paid to the bank after the 1st April, 1914. The only advances bearing interest at a lower rate than 3½ per cent. were made by the Transvaal Land Bank under the *Fencing Act*, No. 12 of 1908, at the rate of 3½ per cent. The capital amount involved is being steadily reduced.

The cost of capital to the bank is therefore as follows: 3½ per cent. on £42,785; 3¾ per cent. on £4,268,225; 4 per cent. on £25,000; 4-725 per cent. on £250,000; 5-5 per cent. on £250,000, and 5-19761 per cent. on £250,000. The present position is that the bank's capital returns to the State an amount in excess of the cost to the State.

**4. Management and Control.**—(i) *The Central Board.*—The bank is a body corporate and its operations and policy are controlled by a central board consisting of a general manager (who is chairman) and four ordinary members, each of whom is nominated by the Governor-General. The central board meets in Pretoria, where the bank's head office is situated.

(ii) *Local Boards.*—In addition to the central board, there are local boards consisting of three members, who are also nominated by the Governor-General. These local boards are purely advisory, and have been established (1) at Cape Town for the Cape Western area, (2) at Port Elizabeth for the Cape Eastern area, (3) at Bloemfontein for the Orange Free State area, and (4) at Pietermaritzburg for the Natal area. In fixing the four areas mentioned the provincial boundaries were deliberately ignored. Thus for the bank's purposes the Orange Free State and Transvaal areas include certain districts which geographically fall in the Cape Province. Similarly the Natal area extends beyond the geographical boundaries of that Province.

(iii) *Agents for the Bank.*—Every magistrate, field-cornet, and police officer and the Postmaster-General and any officer under him, are by law appointed agents of the bank, when required by the central board to assist in any matter.

(iv) *Staff*.—The bank is not a department of State, and its officers are not members of the Public Service, although its officers may include seconded members of the Public Service.

At the 31st December, 1921, the bank's staff consisted of seventy-five officers, of whom eleven were seconded from the Public Service. Whilst the seconded officers contribute to the various pension funds of the Public Service, the bank established on the 1st May, 1916, a superannuation fund for its own officers, to which it contributes on the £1 for £1 principle. The contributions by officers are limited to 4 per cent. per annum of their respective salaries.

(v) *Cost of Administration*.—The following figures represent the cost of administering the bank from the year 1913, relative to the value of the funds administered in each year: For 1913, .662 per cent.; for 1914, .714 per cent.; for 1915, .573 per cent.; for 1916, .634 per cent.; for 1917, .617 per cent.; for 1918, .664 per cent.; for 1919, .669 per cent.; for 1920, .708 per cent.; for 1921, .849 per cent.

5. **Operations of the Bank.**—(i) *Objects and Powers*.—The main objects on the bank are to make advances—

- (a) to farmers against the security of first mortgage on agricultural or pastoral land. The maximum advance is £2,000 to any one farmer, and the advance cannot exceed 60 per cent. of the value placed by the Central Board on the land;
- (b) to agricultural co-operative societies against the security of the joint and several liability of the members for the society's debts; and to guarantee the fulfilment of contracts undertaken by co-operative societies individually or by some organization acting for a group of co-operative societies;
- (c) to farmers to construct dipping-tanks, silos and other contrivances for the making or storage of ensilage and to erect boundary fences;
- (d) to settlers who hold land from the Crown under lease or licence. Repayment of these loans is guaranteed by the Minister of Lands.

(ii) *The Bank as Collecting Agent*.—It has already been remarked that the bank is recovering certain dipping-tank and fencing advances made by the Government, and that the amount so recovered forms part of the bank's funds. In addition, the bank's machinery is being used by the Government to collect advances owing under—

- (a) Transvaal Ordinance No. 38 of 1904 (East Coast Fever Fencing);
- (b) Natal Act No. 6 of 1907 (East Coast Fever Fencing); and
- (c) Chapter II of Act No. 17 of 1912 (Compulsory Fencing).

The bank is paid a commission of 5 per cent. on amounts so recovered.

The following table shows the extent of the bank's operations in this connection since the 1st October, 1912:—

**LAND AND AGRICULTURAL BANK.—RECOVERIES OF SUNDRY ADVANCES ON BEHALF OF UNION GOVERNMENT, 1st OCTOBER, 1912, TO 31st DECEMBER, 1921.**

Statute governing Advance.	Amount Due at 1st October, 1912.	Amount Recovered by Bank at 31st Dec., 1921.
	£	£
Transvaal Ordinance No. 38 of 1904 (East Coast Fever Fencing).....	95,664	94,596
Natal Act No. 6 of 1907 (East Coast Fever Fencing)	37,755	34,683
Union Act No. 17 of 1912, Chapter 11 (Compulsory Fencing)*.....	1,557	1,087

\* Handed to bank for collection in August, 1915.

(iii) *Relief of Distress caused by Drought and Flood in Cape Midlands*.—In 1916 Parliament approved of advances being made to farmers in distress through severe losses in stock (principally goats and sheep) caused by drought and flood in the Cape Midlands. The advances were not made in cash, but in stock. Whilst the amount involved was not part of the bank's funds, the bank's machinery was used to administer the funds, the remuneration being 5 per cent. on the amount collected. The total value of the advances made under this head amounted to £50,539, in respect of which £1,047 was owing at 31st December, 1921. The control of this matter was vested by Parliament in the general manager personally, and the central board is in no way concerned with the matter.

(iv) *Co-operation amongst Farmers*.—The bank is directly interested in every co-operative society with unlimited liability established by farmers in the Transvaal and

Orange Free State Provinces, and it obtains that interest because it has granted loans to such societies. The bank is, however, not responsible for their formation and registration, these matters being governed by special co-operative laws administered by the Department of Agriculture. In the Cape and Natal Provinces there are no special co-operative laws; but in 1916 Parliament passed legislation and employed the bank's organization to enable the farmers of these two Provinces to form co-operative societies with unlimited liability, and thus to qualify for assistance from the bank. The formation and registration of societies in the two Provinces mentioned was formerly part of the bank's duties, but an Act dealing with the formation and registration of co-operative agricultural societies throughout the Union was passed during the 1922 Parliamentary Session.

By an Act passed in 1922, amending the Land Bank Act, the bank has power to—

- (a) make advances to co-operative societies with limited liability;
- (b) receive money on fixed deposit for the purpose of financing co-operative societies; and
- (c) make advances to fence public roads on the same terms as boundary fencing.

(v) *Statistics of Ordinary Operations.*—Full statistics of the ordinary operations of the bank are given in Chapter XXIII as part of the section E, Private Finance.

(vi) *Financial Results.*—The loans made by the bank to farmers and agricultural co-operative societies prior to 1921 carried interest at 5 per cent. per annum, with the exception of dipping-tank and fencing loans, for which the rate was 4 per cent. per annum. Since 1921, however, the interest charged has been raised to 6 per cent. on ordinary advances and 5 per cent. on dipping tank and fencing loans. The interest now charged to agricultural co-operative societies is regulated by the cost of raising the money. The profits earned by the bank from its inception to the 31st December, 1921, are shown in the table hereunder.

The amount of £355,596, shown as net profit, has been placed to a reserve fund which, together with the amount of £75,926 taken over from the three provincial banks, makes that fund in credit to the extent of £431,522. The Act provides that the reserve fund shall be employed to make good "any loss or deficiency which may occur in any of the transactions of the bank." Up to the present there has been no loss or deficiency. The total earnings of the bank for the period 1st January, 1913, to 31st December, 1921, are shown in the following table as percentages of the bank's capital:

**LAND AND AGRICULTURAL BANK.—NET PROFITS AND PROPORTION OF TOTAL EARNINGS TO CAPITAL, 1912 TO 1921.**

Year.	Net Profits.	Earnings per cent. of Capital.	Year.	Net Profits.	Earnings per cent. of Capital.
	£			£	
1912.....	8,674*	—	1918...	45,305	5.20
1913.....	30,183	5.00	1919...	45,791	5.12
1914.....	29,852	5.15	1920...	45,693	5.24
1915.....	31,849	4.97	1921...	43,959	5.44
1916.....	31,912	4.99			
1917.....	42,378	5.16	TOTAL.	£355,596	5.14

\* Three months ended 31st December.

Whilst the bank is conducted on ordinary commercial lines, its object is not to make large profits, and Act No. 36 of 1921 provides that as soon as the reserve fund and the capital of the Bank total such amount as is, in the Board's opinion, adequate to enable the Bank fully to carry out its objects, an amount determined by the Board will be paid to the Minister of Finance out of the profits and the reserve fund of the bank, but the amount of the reserve fund may not be reduced below £350,000.

The bank's income now leaves about £400,000 available each year for reinvestment; but owing to the growth of the agricultural industry throughout the Union and the consequent increase in capital requirements, it is still necessary for Parliament to augment the bank's own resources. It is anticipated, however, that the time is not far distant when the bank will be able fully to carry out its objects on its own resources, and that it will be in a position to commence the repayment of its capital.

#### § 4. Registration of Deeds.

1. *Deeds Registries in the Cape of Good Hope.*—There are in the Cape Province four Deeds Registry Offices, situated at Cape Town, King William's Town, Kimberley and Vryburg respectively.

Each Registry is in charge of an officer styled the Registrar of Deeds, and effects registration in respect of that portion of the Province specially allotted to it, as under:—

King William's Town	The Divisions of King William's Town, East London, Komgha, Stutterheim, and portions of the Divisions of Cathcart and Victoria East.
Kimberley.....	The Divisions of Kimberley, Barkly West, Herbert, and Hay.
Vryburg.....	The Divisions of Vryburg, Mafeking, Gordonis, Kuruman, and Taung.
Cape Town.....	The remaining divisions and districts, one hundred and two in number.

It is essential for the purposes of registration that all transfer deeds and mortgage bonds shall have been drawn or prepared by persons duly authorized by law so to do and be executed in the presence of the Registrar concerned. In the Cape Province advocates of the Supreme Court and conveyancers are so authorized. Other deeds are only registered if they have been executed in the presence of a notary public and attested by his signature.

The principal functions of the several Registrars of Deeds are the following:—

- (a) To register grants or leases, by the Crown, of land.
- (b) To examine, attest, and register deeds of transfer or hypothecation of land.
- (c) To register cessions of mortgage bonds, or renunciations, or waivers, by the legal holders.
- (d) To effect the necessary registration in connection with the cancellation of mortgage bonds, or part-payments, or releases therefrom.
- (e) To register antenuptial contracts, general or special notarial bonds, notarial deeds of servitude and of donation, and other notarial deeds registrable by law.
- (f) To register leases and cessions of leases of rights to minerals as defined by Act No. 31 of 1898, namely, gold, silver, and platinum.
- (g) To register usufructs of land.
- (h) To register notarial deeds of lease of land for ten years and upwards.
- (i) To issue and register such certificates of title to land as may be prescribed by law.
- (j) When so required by law, to satisfy themselves in connection with the registration of any deed—
  - (1) that the duties, taxes, fees, dues, and quitrent (if any) payable to the Government or Provincial Administration have been paid;
  - (2) that rates or charges payable in respect of land to a local authority have been paid.
- (k) Generally to exercise all such powers and discharge all such duties as are by statute and common law imposed upon them.

(i) *Deeds Registry at Cape Town.*—The Deeds Registry at Cape Town came into being in the year 1828 as a result of the promulgation of Ordinance No. 39 of 1828, which enacted "that all deeds of transfer of landed property, mortgages, and other like acts and instruments which have been certified, and enregistered before, and subscribed by, two members of the Court of Justice in the presence of the Colonial Secretary before they could be registered shall be certified and enregistered, and subscribed by, the Registrar of Deeds." The Ordinance further enacts that the Colonial Debt Register kept at the office of the Colonial Secretary shall be kept by the Registrar of Deeds. The Debt Register was established by a *Placaut*, dated the 19th June, 1714, and every ledger that has been used in connection therewith has been preserved. A large proportion of the earlier ones are no longer in use nor are they now required for purposes of references. They form, however, an interesting relic of the past, evidencing, *inter alia*, that it was a common practice, when slavery was recognized, for the owners of slaves to hypothecate the latter.

Prior to the establishment of the Debt Register no provision had been made for the registration of bonds or obligations and persons in possession of the same were accordingly required by the *Placaut* to exhibit them "to the end that a proper register may be formed and kept thereof, and it may always be possible to see when any immovable property is lawfully mortgaged so that all persons may, in the putting out of money, regulate themselves accordingly." It was further enacted that all future writings of mortgage should be similarly registered.

The *Placaut* as above indicated applies only to bonds and obligations on immovable property, but as it was subsequently found "that parties to whom or in whose favour mortgages or hypothecations, as well general as special, have been passed sometimes abstain from registering the same against their debtors until the increasing embarrassments of such debtors or other reasons render it necessary to secure a preference over other creditors who may have dealt with such debtors in total ignorance that any such mortgages or hypothecations were in existence," an Ordinance (No. 27 of the 3rd October, 1846) was

passed, making registration in the Debt Register compulsory within prescribed periods, the period in each case being dependent upon the part of the Province in which the deed was executed.

In the year 1875, an Act (No. 21 of 1875) was also passed, providing for the registration of antenuptial contracts within the same periods as those prescribed in regard to bonds and obligations. No time limit was fixed, however, in regard to those executed outside the Province. A subsequent Act (No. 43 of 1895) provided for the registration of debentures, one of the provisions of which enacts that debentures when registered as prescribed shall, although issued at different dates, rank *pari passu* in order of preference.

Two Acts were passed in 1891 and 1905 styled respectively *The Deeds Registry Act, 1891*, and *The Deeds Registry Amendment Act, 1905*, each of which contains important provisions. Practically the whole of these Acts have been repealed by *The Union Deeds Registries Act, 1918*, promulgated on the 1st January, 1919.

The earliest regulation relating to the registration of titles to land is apparently that contained in a resolution passed by the *Council of Policy* on the 1st July, 1836, calling upon all persons to produce their title-deeds and leases for the purpose of having them copied into a strong book and authenticated by the Secretary. No provision, however, was made for the institution of a complete system of land registration, and it was not until the year 1882 that a suitable set of registers was established. The records are, therefore, to a great extent incomplete in this respect, but every endeavour is being made to remedy the defect. The Registry is, on the other hand, fortunate in possessing an all but complete set of the duplicate originals of all title-deeds of land, grants as well as transfers.

The first grant issued is dated the 10th October, 1657, and bears the signature of Johan van Riebeck, first Commander of the Cape under the Dutch East India Company, and of the Secretary to the Council, the land to which it relates being described as "certain piece of land situate in the great field on the pass between Table Bay and False Bay, behind the table, and eastwards of the Bush Mountains on the other side, or east side, of the fresh river, called Liesbeek." Of the documents filed in the Registry those, perhaps, of greatest interest to the general public are two embodying agreements between the Company's officers and certain Hottentot chiefs with regard to land in the occupation of the Company and of the European population. By the first, which is dated in the fortress of Good Hope, 19th April, 1672, the Hottentot chief agreed to sell to the Company "the whole district of the Cape, including Table, Hout, and Saldanha Bays, with all lands, rivers, and forests therein and pertaining thereto," the consideration stipulated for being goods and merchandise of the value of four thousand reals of eight (£800). By the second document "the district of Hottentots Holland adjoining the Cape with all its lands, streams and forests, together with False Bay," were ceded to the Company in return for merchandise also of the value of £800. According, however, to Theal's "Chronicle of Cape Commanders" the value of the goods actually transferred was £2. 16s. 5d. in respect of the earlier agreement and £6. 16s. 4d. in respect of the later.

Of other measures relating, either wholly or in part, to the transfer of land the following may be mentioned; the *Titles Registration and Derelict Lands Act, 1881*, which, *inter alia*, provides machinery for obtaining transfer when land has been acquired by prescription, or when owing to some cause transfer cannot be obtained in the ordinary course; the *Glen Grey Lands and Local Affairs Act, 1894*, which, in addition to other matters, provides for a simple and inexpensive form of transfer in regard to native allotments situate in the district of Glen Grey and any other native areas to which the Act may be applied.

Instead of effecting transfer by separate deed executed before the Registrar the owners of the allotments appear before a magistrate and sign a form of transfer endorsed on the original title-deed which is then forwarded to the Registrar for registration.

*The Transfer Duty Act, 1884*, requires the production of a receipt for transfer duty in connection with every transfer not expressly exempted; Acts Nos. 16 of 1890, 23 of 1892, 30 of 1893, and 3 of 1905 were passed to facilitate the transfer of land mortgaged to Government under the *Crown Lands Disposal Act, 1887*; Act No. 3 of 1873 vests land transferred to particular trustees and office-bearers of companies and associations in the successors in office of such trustees and office-bearers; the *Cape Municipal Ordinance, 1912*, the *Divisional Councils and Roads Ordinance, 1917*, the *Provincial Immovable Property Tax Ordinance, 1918*, and extensions thereof; the *Village Management Boards Ordinance, 1921*, and the *Local Boards Ordinance, 1921*, *inter alia*, prohibit the transfer of land without the production of proof that the rates and taxes, as the case may be, have been paid. The Registrar is also charged by the *Companies Act, 1892*, with the registration of joint-stock companies and of the returns prescribed thereby, and by the *Special Partnerships Limited Liability Act, 1861*, with the registration of limited partnerships. Other less important Acts and Ordinances affecting the Registry also exist.

Of the laws passed since the establishment of the Union that impose additional responsibilities upon the Deeds Registries, the following may be mentioned: the *Dipping Tanks (Advances) Act, 1911*; the *Irrigation and Conservation of Waters Act, 1912*; the

*Fencing Act, 1912; the Land Bank Act, 1912; the Land Settlement Act, 1912; the Administration of Estates Act, 1912; the Insolvency Act, 1916; the Trading with the Enemy Act, 1916; the Housing Act, 1920; and the Provision of Homes (Municipal) Ordinance, 1920.*

The following tables (a), (b), and (c), give particulars regarding all registrations effected during a series of years, and of the value of land transferred and mortgage bonds passed and cancelled, the amount of the nominal capital of joint-stock companies registered, and the revenue derived by way of fees and duty during the same period:—

**DEEDS REGISTRY AT SAPE TOWN, 1916 TO 1921.—(a) DEEDS REGISTERED.**

Description.	1916.	1917.	1918.	1919.	1920.	1921.
Deeds of Transfer registered.	9,037	9,776	11,542	14,073	17,673	10,853
Certificates of Registered Title	25	30	14	15	6	31
Deeds of Grant.....	—	330	433	271	184	405
Deeds of Grant under the <i>Glen Grey Act, No. 25 of 1894</i> ....	—	1,593	12	—	6	217
Mortgage Bonds registered.....	5,274	4,995	5,285	6,995	8,678	8,053
Mortgage Bonds cancelled.....	5,255	6,028	7,417	7,659	7,952	5,449
Notarial Bonds registered.....	270	357	385	504	571	822
Antenuptial Contracts registered	1,178	1,124	1,162	1,341	1,413	1,322
Servitudes registered.....	75	74	88	141	114	105
Companies registered.....	76	104	132	169	182	128
Sundry registrations.....	3,786	3,414	2,367	4,637	7,481	538

**(b) VALUE OF DEEDS REGISTERED.**

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Value of Property transferred..	5,321,857	7,197,175	9,595,535	13,029,211	20,131,319	12,443,402
Value of Bonds registered (immovable property).....	4,621,501	5,278,094	5,545,880	9,261,052	12,300,852	12,525,052
Value of Bonds cancelled (immovable property).....	3,472,453	3,710,306	5,250,814	6,540,164	7,200,115	5,494,327
Companies registered—Nominal Capital.....	1,235,315	3,422,893	3,063,175	3,358,460	12,151,615	6,522,925

**(c) REVENUE.**

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Fees of Office.....	17,795	17,761	20,267	21,019	25,317	20,268
Stamp Duty on Transfers.....	15,520	17,998	24,857	38,323	50,903	30,739
Stamp Duty on Bonds.....	7,359	7,600	9,301	14,320	21,896	20,800
<b>TOTAL REVENUE.....£</b>	<b>40,674</b>	<b>43,449</b>	<b>54,425</b>	<b>74,562</b>	<b>98,016</b>	<b>71,807</b>

(ii) *Deeds Registry at King William's Town.*—This Registry was established by Proclamation, signed by Sir George Grey as High Commissioner on the 24th July, 1858, and was kept in force by Section 16 of the *British Kaffraria Incorporation and Parliamentary Representation Amendment Act, 1865*, and by section 1 of the *Deeds Registries Act, 1918*.

The following table gives the value of landed property transferred at the Registry at King William's Town during a series of years:—

**LANDED PROPERTY TRANSFERRED, DEEDS REGISTRY, KING WILLIAM'S TOWN, 1912 TO 1921.**

Year.	Value.	Year.	Value.
	£		£
1912.....	311,357	1917.....	484,856
1913.....	455,407	1918.....	758,614
1914.....	479,418	1919.....	1,355,309
1915.....	390,958	1920.....	1,827,754
1916.....	614,968	1921.....	746,744

(iii) *Deeds Registry at Kimberley.*—This Registry was brought into being by Government Notice No. 28 of the 4th July, 1872, issued by the Governor, Sir Henry Barkly, provision being made therein for the appointment of a Registrar of Deeds and for the registration of certain classes of deeds; and has remained effective by virtue of the provisions of Section 27 of the *Grigqualand West Annexation Act, 1877*.

The following table gives the value of landed property transferred at the Registry at Kimberley during a series of years:—

**LANDED PROPERTY TRANSFERRED, DEEDS REGISTRY, KIMBERLEY, 1912 TO 1921**

Year.	Value.	Year.	Value.
	£		£
1912.....	304,788	1917.....	261,174
1913.....	292,238	1918.....	291,844
1914.....	222,120	1919.....	650,460
1915.....	143,602	1920.....	620,804
1916.....	205,790	1921.....	550,490

(iv) *Deeds Registry at Vryburg.*—The appointment of a Registrar of Deeds at Vryburg was provided for by *British Bechuanaland Proclamation No. 66 of 1889*, and the system of registration of the Deeds Registry there established was maintained by Section 19 of the *British Bechuanaland Annexation Act, 1895*, for a period of five years. It now, however, depends for its existence and present system of registration on the *Deeds Registries Act, 1918*.

The following table gives the value of landed property transferred at the Registry at Vryburg during a series of years:—

**LANDED PROPERTY TRANSFERRED, DEEDS REGISTRY, VRYBURG, 1912 TO 1921.**

Year.	Value.	Year.	Value.
	£		£
1912.....	311,626	1917.....	181,544
1913.....	465,494	1918.....	239,754
1914.....	257,350	1919.....	363,530
1915.....	112,594	1920.....	690,228
1916.....	168,841	1921.....	313,458

2. *Scale of Fees.*—During its Session of 1918 the Union Parliament passed an Act to consolidate and amend the laws in force in the Union, relating to the registration of deeds, No. 13 of 1918, termed the *Deeds Registries Act, 1918*, the provisions of which and the regulations thereunder, came into operation on the 1st January, 1919.

By this Act a number of previous enactments in the several Provinces were repealed wholly or in part, and under the new regulations a uniform practice as much as possible is provided for in all Provinces, together with (A) a uniform tariff of fees of office as well as (B) a uniform tariff of fees and charges of conveyancers and notaries public.

The following are the tariffs:—

**A.—SCHEDULE OF FEES OF OFFICE.**

Item.	£	s.	d.
1. For the registration of a deed of grant by the Crown.....	0	5	0
2. For the registration of any deed of transfer of one piece of land.....	0	15	0
For each additional piece of land transferred.....	0	1	0
3. For the registration of a certificate of partition or partition transfer under section eight of the Act.....	0	15	0
4. For the registration of a certificate of registered title under sections six and twenty-six of the Act.....	0	10	0
5. For the registration of a certificate of registered title under section twenty-seven of the Act.....	0	15	0
6. For the registration of a certificate of consolidated title under sections twenty-five or thirty-four of the Act.....	0	15	0
7. For the registration of a certificate of amended title under sections twenty-five or thirty-four of the Act.....	0	15	0
8. For an amendment of title under section twenty-three of the Act.....	0	5	0
9. For the registration of a certificate of rights to minerals under sections thirteen or forty-one of the Act.....	0	15	0
10. For the registration of a certificate of townships title under section thirty-seven of the Act.....	0	10	0
11. For an endorsement made under Chapter V of the Act (Townships).....	0	5	0
12. For the registration of any notarial deed not otherwise provided for.....	0	10	0
13. For the registration of an antenuptial contract and in Natal of a postnuptial contract.....	0	10	0
14. For the registration of a usufruct contained in a deed of grant or transfer.....	0	10	0
15. For the registration of any substitution in connection with each bond made in terms of sections six, ten, eleven, thirteen, fifteen, twenty-four, twenty-six, thirty-four, thirty-seven, or forty-one of the Act.....	0	10	0

Item.	£	s.	d.
16. For the registration of any change of name made in terms of section <i>forty-six</i> of the Act for each deed concerned.....	0	5	0
17. For an amendment of an error in a deed in terms of section <i>forty-three</i> of the Act.....	0	5	0
18. For noting a claim to exercise the renewal of a prospecting contract under section <i>thirty-nine</i> of the Act.....	0	5	0
19. For cancelling a note of the registration of a prospecting contract under section <i>forty</i> of the Act.....	0	5	0
20. For the registration of a mortgage bond.....	0	15	0
21. For the registration of any deed varying the conditions of a bond or rate of interest payable thereunder in terms of section <i>three (m)</i> of the Act.....	0	5	0
22. For every registration of cancellation or cessation of any bond or other document or of release of property from the operation of a bond or of waiver of preference in respect of a bond.....	0	5	0
23. For an endorsement required under the provisions of sections <i>fifty-eight</i> and <i>sixty-one</i> of the Administration of Estates Act, 1913, in respect of one title-deed.....	0	5	0
For each additional title-deed.....	0	1	0
24. For a certificate by a Registrar of any fact (in addition to the fee prescribed in respect of the information contained in such certificate).....	0	2	6
25. For a certified copy of a deed, power, or other document or of the entries on a folio of a register containing not more than 400 words, prepared in a Deeds Registry.....	0	5	0
For every additional 100 words or part thereof.....	0	1	0
For any such certified copy, if prepared by the applicant therefor, one-half of the above fees.			
26. For a copy of a lost, destroyed, or unserviceable deed issued under regulation <i>forty-four</i> , containing not more than 100 words.....	0	10	0
For every additional 100 words or part thereof.....	0	1	0
For any such certified copy, if prepared by the applicant therefor, one-half of the above fees.			
27. For every entry, note, endorsement, or other act made or performed in a Deeds Registry, not being any of the matters or things elsewhere provided for in this schedule or in the regulations.....	0	2	6
28. For each bill of costs taxed: for each £1, or fraction thereof, of the taxed amount.....	0	0	6
29. For each application under section <i>fifty-fee</i> of Act No. 25 of 1909 (Transvaal) made to the Commission referred to therein.....	2	0	0
30. For each objection lodged under section <i>fifty-fee (b)</i> of the said Act.....	0	5	0
31. For a search of an index to any register: for each name searched, whether of person or property.....	0	1	0
32. For an inspection of a register: for each folio, and continuation thereof, inspected.....	0	1	0
33. For an inspection of any deed, bond, power, or other document, or of any diagram separately filed.....	0	1	0
34. For any search not specially provided for.....	0	2	6
35. For a search for information regarding any piece of land or pieces of land contiguous to each other: for the first hour of such search.....	0	10	0
For each additional hour or portion thereof.....	0	5	0
36. For every search made by the Registrar of the Province of the Cape of Good Hope in connection with the issue of a certified copy of a lost, destroyed, or unserviceable deed; for every hour or fraction of an hour.....	0	2	0

But not to exceed £1 in the whole.

Should any of the above-mentioned searches be made by a Registrar, double fees shall be charged therefor, whether the information be furnished verbally or in writing.

### B.—TARIFF OF THE FEES AND CHARGES.

Of conveyancers and notaries public in connection with the preparation, passing, and registration of deeds, bonds, or other documents whatever registrable in a Deeds Registry, and the fees and charges of any other legal practitioners in connection with the preliminary work required for the purpose of any such deed, bond, or document, and as to taxation of any such fees or charges, framed in terms of subsection (1) (b) of section *sixty* of the Deeds Registries Act, 1913 (No. 13 of 1913).

#### I. TRANSFERS AND CERTIFICATES OF TITLE.

Drawing each transfer, including the necessary copy or copies, and attendances on lodgment and execution, when the land is of value—

	£	s.	d.
£200 and under.....	2	2	0
over £200 and up to £500.....	3	3	0
over £500 and up to £1000.....	4	4	0
over £1000 and up to £2000.....	5	5	0
(with an additional fee of £1. 1s. to be added in respect of every £1000, or fraction thereof, over £2000 up to £10,000; thereafter an additional fee of 10s. 6d. in respect of every £1000, or fraction thereof, up to £50,000, and an additional fee of 5s. in respect of every £1000, or fraction thereof, up to £100,000).			

Drawing each of the following deeds, including the necessary copies, and attendances on lodgment and execution—

(1) Partition Transfer or Certificate of Partition under section <i>eight</i> .....	4	4	0
(2) Certificate of Registered Title under sections <i>six</i> and <i>twenty-six</i> .....	2	2	0
(3) Certificate of Registered Title under section <i>twenty-seven</i> .....	3	3	0
(4) Certificate of Title of portion of land comprising portion of a township under section <i>thirty-seven</i> .....	2	2	0
(5) Certificate of Rights to Minerals under sections <i>thirteen</i> and <i>forty-one</i> .....	3	3	0
(6) Certificate of Consolidated Title under sections <i>twenty-five</i> and <i>thirty-four</i> .....	3	3	0
(7) Certificate of Amended Title under sections <i>twenty-five</i> and <i>thirty-four</i> .....	7	7	0
Attendances at Office of Master, Supreme Court, or other proper office and obtaining copies of documents required to complete the conveyance (exclusive of searches).....	0	10	6
Attendances at Office of Master, Supreme Court, or other proper office, obtaining endorsement as to payment of Succession or Estate Duty when previously paid.....	0	10	6
Attendance at Office of Master, Supreme Court, applying for and obtaining any certificate or consent required from him under Act No. 24 of 1913 for registration purposes at a Deeds Registry (including inspection of will, etc.).....	1	1	0
Attendance at a Deeds Registry lodging titles and arranging for endorsement under Act No. 24 of 1913.....	1	1	0



Attendance on behalf of purchaser superintending conveyance to him when deed lodged and prepared by another conveyancer and paying purchase price—	£	s.	d.
when the value of the land does not exceed £500.....	1	1	0
when the value exceeds £500 but does not exceed £3000.....	2	2	0
when the value exceeds £3000.....	3	3	0
Attendance upon Public Officer (e.g. on Receiver of Revenue or Audit Office office, etc.) and B. n. r. s. (Government loans and the like), for any number of attendances at each such office	0	10	6

## II. MORTGAGE BONDS.

Drawing each bond, including the necessary copies and attendances on lodgment and execution—			
when the amount of the bond is £200 and under.....	2	2	0
over £200 and up to £500.....	3	3	0
over £500 and up to £1000.....	4	4	0
over £1000 and up to £2000.....	5	5	0
(with an additional fee of £1. 1s. to be added in respect of every £1000, or fraction thereof, over £2000 up to £10,000; thereafter an additional fee of 10s. 6d. in respect of every £1000 or fraction thereof up to £50,000, and an additional fee of 5s. in respect of every £1000, or fraction thereof, up to £100,000).			
Any act of suretyship whereby immovable property is hypothecated when included in a bond, an additional fee for such suretyship of.....	1	1	0
Attendance on behalf of mortgagor or mortgagee superintending bond where same is being prepared by mortgagee's or mortgagor's conveyancer, as the case may be—			
when the amount of the bond does not exceed £500.....	1	1	0
when the amount exceeds £500 but does not exceed £3000.....	2	2	0
when the amount exceeds £3000.....	3	3	0
Attendances, searching for tacit hypothecations in connection with a bond to be passed in respect of each debtor.....	1	11	6
Attendances, searching titles of land to be hypothecated for existing servitudes, leases, life usufructs, or the like, and searching ante-nuptial contracts, for each half-hour.....	0	10	6

## III. NOTARIAL BONDS.

Drawing the bond, including minute, a signed original for record and another signed original or a grosse or a notarially certified copy, and attendances on execution and attestation—			
when the amount of the bond is £500 and under.....	4	4	0
over £500 and up to £1000.....	5	5	0
over £1000 and up to £2000.....	6	6	0
(with an additional fee of £1. 1s. to be added in respect of every £1000 or fraction thereof, over £2000 up to £10,000; thereafter an additional fee of 10s. 6d. in respect of every £1000 or fraction thereof, up to £50,000, and an additional fee of 5s. in respect of every £1000 or fraction thereof up to £100,000).			
Attendance registering such bond at a Deeds Registry.....	1	1	0
Attendance registering any bond in a Deeds Registry after previous registration in another Deeds Registry (section <i>eighteen</i> ).....	1	1	0
For each duplicate original or grosse, not being a carbon copy, for registration in each additional Deeds Registry (per 100 words).....	0	2	6
Any act of suretyship included in a Notarial Bond, an additional fee for such suretyship.....	1	1	0

## IV. AUXILIARY OR COLLATERAL BONDS.

Drawing bond to be passed as additional or collateral security for an existing bond, including attendances on lodgment and execution in the case of a special mortgage bond.....	3	3	0
Drawing auxiliary or collateral notarial bond, including attendances on execution, attestation, minute, and two copies.....	4	4	0
Attendance registering auxiliary or collateral notarial bond.....	1	1	0

## V. MARRIAGE CONTRACTS.

### (a) Antenuptial Contracts.

Drawing the contract, including minute, a signed original for record, and another signed original or a grosse or a notarially certified copy, attendances on execution, and attestation when no special settlement is made.....	4	4	0
When the contract embodies a settlement of a life insurance policy or policies or household furniture or the like, or embodies a trust, an additional fee of 5s. per 100 words of additional matter necessary to give effect to such settlement or trust for the original, and in respect of each copy of such matter a fee of 2s. 6d. per 100 words.....			
Attendances registering contract at a Deeds Registry.....	1	1	0

### (b) Postnuptial Contracts registrable at the Deeds Registry in the Province of Natal.

Drawing the contract, including the necessary copies.....	2	2	0
Where the contract embodies a settlement of a life insurance policy or policies or household furniture or the like, or embodies a trust, an additional fee as provided under this tariff in respect of antenuptial contracts.....			
Attendances registering a contract at a Deeds Registry.....	1	1	0

## VI. CANCELLATION OF BONDS.

Drawing consent to cancellation and attendance for signature.....	0	10	6
Attendance at a Deeds Registry registering cancellation of bond.....	1	1	0

## VII. CESSION OF BOND AND CONSENT TO REDUCTION OF CAPITAL.

Drawing cession or consent to cancellation of cession or consent to reduction of capital and attendance for signature.....	0	10	6
Attendance on registration of cession or consent.....	1	1	0

## VIII. RELEASES OF PROPERTY UNDER BONDS.

Drawing consent and attendance for signature.....	0	10	6
Attendance on registration thereof.....	1	1	0

**IX. UNDERHAND WAIVERS, CONSENTS OF MORTGAGEES, USUFRUCTUARIES, LESSEES, ETC.**

	f	s.	d.
Obtaining and lodging bond for endorsement <i>re</i> certificate of registered title under section six	1	1	0
Framing renunciation or waiver of preference in regard to the ranking of a bond	0	10	6
Attendance on registration thereof	1	1	0
Framing consent of mortgagee, usufructuary, lessee, or holder of other limited interest under sections ten, eleven, thirteen, twenty-four, twenty-six, thirty-four, thirty-seven, or forty-one, or any other consent of a like nature of herein after mentioned (not notarial)	1	1	0
Attendance on registration thereof	1	1	0
Framing consents under section fifteen, including attendances on mortgagee and new debtor	2	2	0
Attendance on registration thereof	1	1	0
Attendance of agency in the Province of the Cape of Good Hope in connection with the transfer of partition of liability under Government Bonds	1	1	0
Framing agreement or consent to variation of terms of bond, including attendances on mortgagor and mortgagee	1	1	0
Attendance on registration thereof	1	1	0

**X. NOTARIAL DEEDS, PROSPECTING CONTRACTS, LEASES OR CESSIONS OF RIGHTS TO MINERALS, SERVITUDES, ETC.**

(a) Framing any notarial waiver of preference by mortgagee, usufructuary, or other holder of limited interest, or other notarial consent required under the Act or regulations, including minute, signed original for record and another signed original or a grosse or a notariaily certified copy	2	2	0
(b) Framing any notarial servitude, prospecting contract, lease or cession of rights to minerals, donation or other notarial deed for registration (other than those provided for above), including minute, signed original for record and another signed original or a grosse or a notariaily certified copy, according to length and complexity thereof, with a minimum of	4	4	0
(c) Framing notarial cession of any notarial deed mentioned in (b)	2	2	0
Each further signed original, grosse, or notariaily certified copy per 100 words	0	1	5
Attendance on registration of (a), (b), or (c)	1	1	0

**XI. DIAGRAMS AND GENERAL PLANS.**

Attendance on instructions to submit papers to surveyor for framing of sub-divisional or other diagrams for any purpose required under the Act, and instructing surveyor accordingly	1	1	0
Attendance submitting diagram to Surveyor-General for approval	0	10	6
When diagram is required in connection with a deed to be passed in a Deeds Registry elsewhere	1	1	0
When two or more diagrams are to be deducted from the same original and are lodged for approval simultaneously the fee for each diagram after the first shall be	0	5	0
Attendance on municipal or other local authority to obtain approval, in terms of any law, of sub-divisional diagram	0	10	6

**XII. MISCELLANEOUS.**

Attendance on inspecting, checking, arranging, and lodging deeds for endorsement of amendment of title under section twenty-three	1	1	0
Attendance on registration at a Deeds Registry of any certificate of title, claim to renewal or cancellation of prospecting or other contract	1	1	0
Framing any necessary affidavit or declaration or other document not otherwise provided for, per 100 words	0	5	0
Attendance on and lodging title-deed for endorsement <i>re</i> township under section thirty-seven	0	10	6
Attendance on registration of change of name under section forty-six	2	2	0
Attendance on registration of any power	1	1	0
Searches in a Deeds Registry or Master's Office or other office in connection with the preparation or registration of a deed, per half-hour	0	10	6
Drawing cession of any policy of insurance in connection with the preparation or registration of a deed, and attendance on registration thereof at the proper office	0	10	6
Attendances in connection with conversion of leasehold into freehold under the provisions of the Townships Amendment Act, 1908 (Transvaal), for every ten stands or lots or fraction of ten	1	1	0
Drawing cessions of leases in connection with transfer of leasehold property and attendances in respect thereof at a township owner's office (Transvaal), for every ten stands or lots or fraction of ten	1	1	0

**XIII. POWERS, DECLARATIONS, AND OTHER PRELIMINARY WORK.**

*(a) Transfers other than Partition Transfers.*

Framing power to pass transfer in connection with transfers, other than partition transfers, and declarations of transfer duty purposes, paying transfer duty, obtaining divisional council and/or municipal certificate <i>re</i> payment of rates, obtaining quitrent certificate, form or erf tax receipt, or any other necessary certificate or receipt (including transmitting documents to conveyancing centre)	2	2	0
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*(b) Partition Transfers and Certificates of Partition.*

Framing agreement embodying power or agreement and separate power and declarations for transfer duty purposes, paying transfer duty, when necessary, obtaining divisional council and/or municipal certificate <i>re</i> payment of rates, obtaining quitrent certificate and form or erf tax receipt, or any other necessary certificate or receipt (including transmitting documents to conveyancing centre). The fee charged to be according to length and complexity, regard being had especially to the number of persons and properties involved and the number of certificates or transfers to be issued or passed, with a minimum of—			
(a) in the case of an erf or even	2	2	0
(b) in the case of other land	4	4	0

(c) *Bonds.*

Attendance on instructions, framing power, attendance on execution, producing any necessary certificates or receipts (including transmitting documents to conveyancing centre and other formal attendances).....	£	s.	d.
Framing power to insert suretyship in bond.....	2	2	0
Framing tacit declaration.....	0	10	6
Attendance at Office of Master of Supreme Court for obtaining endorsement as to payment of succession duty (Natal).....	0	10	6

(d) *Other Powers.*

Framing a full general power.....	1	1	0
Framing a special power.....	0	10	6

## XIV. CHARGES FOR WORK NOT SPECIFIED.

All fees or charges specified in the above tariff shall, save as otherwise provided, cover the specific respective services set opposite each respective item only. All other attendances, correspondence, or other services may be charged for at rates to be allowed at the discretion of the Registrar.

Attendance on taxation, including drawing bill and notice of taxation, 5 per cent. on the amount of charges allowed.

## XV. ITEM APPLICABLE TO A DEEDS REGISTRY IN THE PROVINCE OF NATAL AND TO THE OFFICE OF THE RAND TOWNSHIPS REGISTRAR.

Where in this tariff provision is made for one fee for drawing, lodging, and executing any deed, and such deed is drawn by one conveyancer and lodged and executed by another conveyancer, one guinea of the fee shall be allocated to the latter and the remainder of the fee to the former.

## XVI. ITEM APPLICABLE TO A DEEDS REGISTRY IN THE PROVINCE OF THE ORANGE FREE STATE AND TO THE DEEDS REGISTRY AT KING WILLIAM'S TOWN.

Where in this tariff provision is made for one fee for drawing, lodging, and executing any deed, and such deed is drawn by one conveyancer and lodged and executed by another conveyancer, one-third of the fee shall be allocated to the latter and the remaining two-thirds of the fee to the former.

**3. Deeds Registry in Natal.**—The *Deeds Registry Office* in Natal was created by Ordinance No. 2 of 1846, power being given to the Governor of Natal to appoint a Registrar of Deeds. In 1846 an amending Ordinance, No. 33, was passed. The first-named Ordinance defines the duties of the Registrar of Deeds and declares that the practice of the Deeds Registry Office at Cape Town should be that to be followed in the Natal Office. By Law No. 16, 1875, further detailed instructions as to the examination of certain deeds were laid down. A further Law, No. 19 of 1884, to amend the Law and practice of registration was passed, which provides for the promulgation of rules and deals with the registration of leases. Though the practice was founded on that of the Cape of Good Hope, it differs therefrom, in minor respects, owing to the difficulty in the early days of ascertaining definite information on the subject and by reason of local legislation and decisions of the Natal Court. The Registry is now governed by the *Deeds Registries Act, 1918*.

Transfer duty is chargeable in respect of freehold property under Laws Nos. 5, 1860, and 19, 1883 (Natal), and Act No. 11, 1913, and in respect of leases under Law No. 19, 1884 (Natal) and Act No. 11, 1913.

Since the constitution of the Union, considerable changes have taken place in the work performed by the Natal Office. In 1911 the collection of transfer duty was undertaken by the Receiver of Revenue, Pietermaritzburg, and the issue of joint stock companies' and conveyancers' licences was transferred to the same office. In 1913 the registration of wills was transferred to the office of the Master of the Supreme Court, Pietermaritzburg, in terms of Act No. 24, 1913, and all wills proved and sealed wills between 1869 and 1913 were transferred to that office. In 1917, the registration of designs, copyrights in books, and works of art and play rights was transferred to Pretoria, together with all registers and records.

The following tables give the number of transactions entered at the Natal Deeds Registry, and the value of transfers, etc., passed during a series of years.

## (i) DEEDS REGISTRY, NATAL—TRANSACTIONS ENTERED, 1917 TO 1921.

Description.	1917.	1918.	1919.	1920.	1921.
Deeds of Transfer.....	3,531	3,950	5,174	5,972	4,945
Deeds of Grant.....	182	152	179	260	164
Mortgage Bonds.....	1,945	2,354	2,648	3,130	2,988
Cancellations of Mortgage Bonds.....	1,832	2,100	2,309	2,697	2,034
Notarial Bonds.....	671	648	784	795	795
Cancellations of Notarial Bonds.....	397	308	469	633	404
Leases and Cessions of Leases.....	230	266	325	438	332
Marriage Contracts.....	342	402	3,737	4,298	3,719
Joint Stock Companies.....	47	48	67	91	66
Services other than Leases.....	24	35	58	56	92
Letters of Exemption (Natives).....	144	48	31	68	72
Special Partnerships.....	—	1	2	3	5
Errors Registered and Changes in Registered Firms.....	423	467	611	828	740
Declarations of Sale and Purchase.....	3,898	4,369	6,428	6,020	5,162
Agricultural Societies.....	1	1	3	1	3
Prospecting Contracts.....	—	—	2	7	2
Miscellaneous and Sundry Registrations.....	1,265	1,403	1,806	1,958	2,000

## (ii) DEEDS REGISTRY, NATAL—VALUE OF TRANSFERS, ETC., 1916 TO 1921.

DESCRIPTION.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Value of property transferred—						
Farm.....	1,270,145	1,747,451	2,158,003	2,867,302	4,050,294	2,887,726
Town.....	784,789	1,296,911	1,940,959	2,556,614	3,277,222	2,333,236
Bonds passed over immovable property.....	1,216,018	1,856,635	1,932,798	2,531,423	3,987,091	4,115,025
Bonds passed over movable property.....	328,782	570,046	496,096	1,013,631	1,524,221	2,366,628
Bonds cancelled over immovable property.....	950,346	1,345,943	1,409,528	1,871,193	2,023,372	2,138,660
Bonds cancelled over movable property.....	287,756	327,016	392,614	552,975	855,238	1,042,467
Liability transferred under Mortgage Bond.....	*	*	*	*	*	250,294

\* No record.

4. **Deeds Registry in Transvaal.**—A Deeds Office for the South African Republic was established in Pretoria by Ordinance No. 3 of 1866. Prior to that Ordinance coming into operation deeds of transfer, bonds, and documents of a similar nature were signed and registered by the landdrosts of the various districts, but there was no central registry. The Ordinance was amended by Law No. 8 of 1880. A further amending Law, No. 5 of 1882, was enacted. That Law and certain other laws and *Volkraad Resolutions*, having reference to the Deeds Office and deeds and documents registered therein, were repealed by Proclamation No. 10 of 1902, which made new provisions regulating the Deeds Office and amended the laws relating to the registration of deeds. The Proclamation of 1902 was amended and amplified by Ordinance No. 65 of 1903, whilst the registration of prospecting contracts was dealt with by Ordinance No. 11 of 1904. The establishment of townships and the registration of lots therein were provided for by Act No. 33 of 1907 and amended by Act No. 34 of 1908. Act No. 25 of 1909 consolidated and amended the law regulating the Deeds Office and Mining Titles' Registration Office and relating to the registration of deeds and mining titles. The final consolidating measure was the Union Act No. 13 of 1918, which is applicable to all the Provinces.

While Proclamation No. 8 of 1902 (the *Transfer Duty Proclamation*) had provided for the registration in the Deeds Office of lots in leasehold townships, Proclamation No. 35 of 1902 (amended by Ordinance No. 6 of 1902) established at Johannesburg an office for the registration, *inter alia*, of leases of lots in townships within the Mining District of Johannesburg. Thus the Deeds Office, which had not included the registration of mining rights and stands, was precluded from registering leasehold lots in townships within the prescribed area. By the *Townships Amendment Act* of 1903, the freehold of lots in townships within the Mining Districts of Johannesburg, Boksburg, Germiston, and Krugersdorp became registrable either in the Deeds Office or in the Office of the Rand Townships Registrar, who is one and the same person as the Registrar of Mining Rights (now Registrar of Mining Titles). The Deeds and Mining Titles Offices were directed by the law to inform each other of transactions within the prescribed area, and thus a system of dual registration was established. Johannesburg obtained the convenience of local registration whilst the value of the Deeds Office was not impaired. Mortgage bonds upon such property, passed before the Rand Townships Registrar, which contain a "General Clause," are specially re-registered in the Deeds Office. The Deeds Office therefore at present contains a complete record of the ownership of all land and of all hypothecations or other encumbrances of such land, but it contains no record of leases of lots in townships within the mining district of Johannesburg, nor of mining titles (other than *mijnrechten*) nor stand titles issued under the Gold Law anywhere in the Province. Act No. 13 of 1918 is the principal law regulating the Deeds Office of the Transvaal.

Various Acts, such as the *Irrigation Act*, the *Administration of Estates Act*, the *Land Bank Act*, *Fencing and Dipping Tank Acts*, and the *Insolvency Act*, impose duties upon the Registrar of Deeds or govern certain practices of his office.

The Registrar of Deeds has also, since 1904, been Registrar of Deeds for Swaziland.

A statement is appended showing the number of deeds registered, value of properties transferred, bonds passed, transfer duty and stamp duty in connection therewith, and fees of office for a series of years. Some of the figures are approximate only, and, moreover, it must be remembered that the figures as to transfers and bonds include certain transfers and bonds passed and bonds cancelled by the Rand Townships Registrar.

## DEEDS REGISTERED IN TRANSVAAL, 1916 TO 1921

## (a) NUMBER.

DESCRIPTION.	1916.	1917.	1918.	1919.	1920.	1921.
Transfers and various certificates of title.....	10,003	10,993	12,327	15,803	17,211	14,042
Deeds of grant.....	360	305	291	349	401	340
Bonds passed.....	6,211	6,075	6,709	8,304	8,918	10,253
Bonds cancelled and part-payments.....	3,170	2,269	3,839	4,239	5,048	3,963
Contracts, leases, and powers of attorney.....	2,188	2,217	2,312	5,112	5,948	4,518

## (b) VALUE.

DESCRIPTION.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Transfers and various certificates of title.....	4,187,670	5,239,019	7,086,503	9,987,051	8,563,533	5,675,544
Deeds of grant.....	22,077	34,369	47,304	52,422	80,966	69,726
Bonds passed.....	3,553,190	5,123,274	5,597,821	11,522,479	10,891,263	13,659,414
Bonds cancelled and part-payments.....	2,793,214	3,286,474	2,987,647	3,028,530	4,763,825	5,476,330

Note.—(1) Total amount of transfer duty, 1910 to 1921..... £1,007,984  
 (2) Amount of stamp duty levied on deeds registered, 1910 to 1921..... 193,228  
 (3) Amount of fees, 1910 to 1921..... 139,647

5. **Deeds Registry in Orange Free State.**—The records of the Orange Free State Deeds Office extend back to the early part of the year 1849, the period of the Orange River Sovereignty. The office was established by the British Resident at the time, and was administered according to the law of the Colony of the Cape of Good Hope. The first legislative enactment establishing a Deeds Office for the Orange Free State was Ordinance No. 5 of 1856, which was passed shortly after the reinstitution of Republican Government. This Ordinance was partly amended by Ordinances Nos. 16 of 1877 and 1 of 1888, and was finally superseded, on the codification of the laws of the State, by Chapter LVII of the Orange Free State Law Book. This was again repealed by Ordinance No. 33 of 1902, which was modified and supplemented by Ordinances Nos. 11 and 20 of 1904. The registration of antenuptial contracts was provided for by Law No. 7 of 1892. These enactments were wholly repealed by the Union *Deeds Registries Act*, No. 13 of 1918, which, with the regulations made thereunder and published in Government Notice No. 1500 of 1918, is now in force.

The registration of companies was placed under the supervision of the Registrar of Deeds by Ordinance No. 5 of 1878, which was supplemented by Ordinance No. 9 of 1883. These Ordinances were subsequently superseded by Chapter C of the Orange Free State Law Book, which, amended and amplified by Ordinance No. 24 of 1904, remains the law of the Province. The liquidation of companies is governed by Law No. 2 of 1892, and the registration of Insurance Companies by Chapter CIII of the Law Book.

By Chapter CXII of the Law Book, provision was made for the registration of Letters Patent in the Deeds Office. This law was repealed by Act No. 9 of 1916, under the provisions of which the registration of Letters Patent was transferred to the Union Patent Office, Pretoria.

By Chapter CXIII of the Law Book the registration of trade marks was placed under the Registrar of Deeds. This law, as amended by Law No. 13 of 1893, was repealed by Act No. 9 of 1916, under the provisions of which the registration of trade marks was transferred to the Trade Marks Office, Pretoria, and the records of the office relating to patents and trade marks were handed over to that office.

The subjoined tables show the number of deeds and other matters registered, the value of property transferred, the amounts of bonds passed and cancelled, and also the total amounts collected in connection with deeds and other matters registered during a series of years:—

### DEEDS REGISTERED IN ORANGE FREE STATE, 1916 TO 1921.

#### (a) NUMBER.

DESCRIPTION.	1916.	1917.	1918.	1919.	1920.	1921.
Transfers, partitions, certificates of title.....	4,410	5,221	5,728	6,568	8,830	4,802
Deeds of grant.....	120	142	173	63	15	18
Bonds passed.....	2,796	2,812	3,094	3,599	4,950	4,967
Bonds cancelled and part-payments.....	3,945	3,596	3,919	4,195	4,916	2,640
Others.....	1,681	1,197	1,209	5,234	6,152	5,974

#### (b) VALUE.

DESCRIPTION.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Transfers, partitions, certificates of title.....	2,672,533	4,050,210	4,959,041	6,958,127	9,763,330	5,010,930
Deeds of grant.....						
Bonds passed.....	1,910,852	2,738,385	2,444,916	4,352,909	5,908,487	4,664,798
Bonds cancelled and part-payments.....	1,473,615	1,811,640	2,184,170	2,911,314	3,587,458	1,853,360

NOTE.—(1) Total amount of transfer duty, 1910 to 1921 ..... £848,453  
 (2) Amount of stamp duty levied on deeds registered, 1910 to 1921. 183,688  
 (3) Amount of fees levied, 1910 to 1921..... 62,069

### § 5. Valuation of Property.—Cape of Good Hope.

1. **First Quinquennial Valuation.**—The subjoined table gives the result of the first complete quinquennial valuation of immovable property in the Cape of Good Hope Province (inclusive of the Transkeian Territories), undertaken in terms of Ordinance No. 7 of 1914, and shows, by divisions, the number of properties, the site values, the values of buildings and beneficial improvements, the total valuation and the rateable values in each case. A *division* is defined by the Ordinance as a rural or divisional council area, including any municipality or village management board area therein, and where there is no rural or divisional council area, a magisterial district or such magisterial districts as may be combined for the purposes of the Ordinance by the Administrator. *Site values* are determined, according to a prescribed procedure, by the ordinary price which a buyer will be willing to give and a seller to accept if the land to be valued were brought at the time of valuation to voluntary sale. The basis of the valuation of *buildings* is the estimated cost of erection at the time of valuation, allowance being made for structural and other depreciation. By *beneficial improvements* are meant those "which increase the value of the land for agricultural purposes, and include structural works, dipping and storage tanks, kraals, fences, irrigation works, dams, boreholes, stables, etc., but not residential buildings."

**VALUATION OF IMMOVABLE PROPERTY, CAPE OF GOOD HOPE PROVINCE  
(INCLUDING TRANSKEIAN TERRITORIES), 1918.**

**NUMBER OF PROPERTIES AND ACTUAL VALUES.**

Division.	Number of Properties.	Site Value.	Buildings.	Beneficial Improvements.	Total Valuation.	Rateable Value.
		£	£	£	£	£
<b>CAPE OF GOOD HOPE.</b>						
<b>EAST CENTRAL—</b>						
Albany.....	3,074	1,202,810	1,099,295	250,517	2,558,022	2,327,718
Bedford.....	525	859,366	203,739	151,064	1,214,109	1,063,204
Cradock.....	1,279	1,107,383	538,020	409,294	2,054,097	1,857,457
Fort Beaufort.....	2,041	879,990	378,229	69,218	1,277,437	1,066,007
Graaff-Reinet.....	1,373	760,906	638,952	290,190	1,690,048	1,409,563
Jansenville.....	861	552,830	184,060	190,803	927,753	737,698
Maraisburg.....	426	378,548	91,771	53,050	523,369	478,066
Middelburg.....	1,002	621,757	355,509	257,988	1,235,254	982,355
Pearston.....	527	409,921	102,470	68,472	580,863	518,047
Somerset East.....	1,045	1,162,107	438,130	470,233	2,070,535	1,805,098
Steynsburg.....	713	394,152	151,504	70,977	616,633	552,200
Steytlerville.....	877	477,577	145,174	101,901	724,652	625,412
Tarka.....	576	871,132	209,647	187,812	1,268,641	1,082,791
<b>TOTAL.....</b>	<b>14,324</b>	<b>9,478,589</b>	<b>4,536,500</b>	<b>2,577,584</b>	<b>16,592,673</b>	<b>14,095,735</b>
<b>EASTERN—</b>						
Cathart.....	542	843,015	191,649	230,021	1,265,285	1,034,604
East London.....	5,618	2,591,102	3,920,186	120,244	6,031,482	5,929,802
Glen Grey.....	235	139,298	112,196	39,807	291,301	253,450
King William's Town.....	6,566	2,400,029	986,912	202,773	3,589,714	3,423,136
Komga.....	435	488,341	78,711	61,681	628,733	569,100
Peddie.....	1,100	282,576	115,892	78,664	477,132	398,503
Queenstown.....	4,057	1,632,416	1,113,580	452,281	3,198,277	2,789,002
Stockenström.....	688	346,222	96,326	132,654	575,202	443,056
Stutterheim.....	1,374	860,623	196,838	158,366	1,215,827	1,059,178
Victoria East.....	2,197	372,886	174,227	66,293	613,406	547,673
<b>TOTAL.....</b>	<b>22,992</b>	<b>9,956,518</b>	<b>6,386,467</b>	<b>1,543,334</b>	<b>17,886,369</b>	<b>16,429,154</b>
<b>GRICUALAND WEST—</b>						
Barkly West.....	1,648	857,452	220,487	123,414	1,201,353	1,082,157
Hay.....	1,302	750,434	131,063	155,186	1,036,683	888,340
Herbert.....	850	574,023	111,449	177,213	862,685	686,480
Kimberley.....	5,702	1,050,121	2,474,030	148,829	3,673,580	3,536,931
<b>TOTAL.....</b>	<b>9,502</b>	<b>3,232,030</b>	<b>2,937,629</b>	<b>604,642</b>	<b>6,774,301</b>	<b>6,193,018</b>
<b>NORTH CENTRAL—</b>						
Britstown.....	1,170	481,895	301,709	252,772	1,036,376	790,192
Colesberg.....	689	770,798	392,731	267,071	1,430,600	1,174,606
Hope Town.....	954	464,933	188,739	99,380	703,058	612,747
Philippstown.....	1,364	642,071	174,778	146,747	964,408	828,061
Prieska.....	759	715,859	185,746	143,332	1,044,937	911,226
<b>TOTAL.....</b>	<b>4,936</b>	<b>3,076,456</b>	<b>1,193,703</b>	<b>609,308</b>	<b>5,179,467</b>	<b>4,317,732</b>
<b>NORTH-EASTERN—</b>						
Albert.....	1,263	865,370	413,165	357,333	1,635,868	1,284,271
Allwal North.....	1,523	1,125,811	695,044	268,071	1,999,856	1,758,607
Barkly East.....	1,000	1,016,379	282,140	237,803	1,540,322	1,336,658
Elliot.....	946	378,436	134,929	135,805	649,200	512,365
Herschel.....	83	11,110	29,330	—	40,440	40,440
Maclear.....	718	422,470	102,144	77,697	602,311	524,644
Molteno.....	558	561,162	217,148	84,135	862,445	782,752
Wodehouse.....	1,463	1,225,797	385,164	277,198	1,888,159	1,635,817
<b>TOTAL.....</b>	<b>7,554</b>	<b>5,636,565</b>	<b>2,169,064</b>	<b>1,439,032</b>	<b>9,244,661</b>	<b>7,876,454</b>

NUMBER OF PROPERTIES AND ACTUAL VALUES—continued.

Division.	Number of Properties.	Site Value.	Buildings.	Beneficial Improvements.	Total Valuation.	Rateable Value.
		£	£	£	£	£
<b>NORTH-WESTERN—</b>						
Calvinia.....	1,726	1,448,229	265,656	122,147	1,836,032	1,718,121
Carnarvon.....	974	624,342	188,053	149,898	962,193	819,408
Ceres.....	718	568,088	239,718	109,861	917,667	809,726
Clanwilliam.....	569	375,615	117,084	125,810	618,509	493,014
Fraserburg.....	970	1,060,506	219,406	215,303	1,495,205	1,288,388
Kenhardt.....	794	888,688	137,863	193,418	1,219,969	1,028,121
Lingsburg.....	530	809,274	155,838	94,359	1,059,471	465,112
Namaqualand.....	764	745,237	215,744	253,450*	1,214,431	1,150,275
Sutherland.....	423	304,108	83,543	57,702	565,353	453,047
Van Rhynsdorp..	704	355,957	92,321	46,430	484,708	439,675
<b>TOTAL.....</b>	<b>8,170</b>	<b>6,738,134</b>	<b>1,706,126</b>	<b>1,368,375</b>	<b>9,812,635</b>	<b>8,604,985</b>
<b>SOUTH-EASTERN—</b>						
Alexandria.....	643	361,968	104,331	35,283	551,500	466,895
Bathurst.....	1,012	420,520	208,945	98,932	728,406	630,170
Humansdorp.....	2,425	676,559	270,006	111,146	1,057,801	949,547
Port Elizabeth.....	7,171	2,179,626	5,143,016	38,453	7,356,099	7,343,419
Uitenhage.....	2,320	1,270,200	886,615	568,892	2,720,707	2,157,465
<b>TOTAL.....</b>	<b>13,571</b>	<b>4,908,820</b>	<b>6,613,003</b>	<b>892,680</b>	<b>12,414,509</b>	<b>11,547,020</b>
<b>SOUTH-WESTERN—</b>						
Bredasdorp.....	1,129	747,058	212,000	119,823	1,076,481	961,730
Caledon.....	1,956	1,717,635	581,734	244,240	2,543,609	2,303,967
Callitzdorp.....	833	547,109	198,209	347,452	1,092,770	745,724
George.....	1,562	476,467	291,620	151,832	919,919	779,391
Koynas.....	942	778,097	162,075	60,435	1,000,607	971,707
Ladismith.....	1,038	524,062	258,064	456,329	1,238,455	782,336
Montagu.....	751	280,813	250,161	213,117	760,091	561,342
Mossel Bay.....	1,114	1,015,772	467,471	254,544	1,737,787	1,087,699
Outdaalhoorn.....	3,357	1,955,861	1,105,620	719,026	3,780,507	3,096,550
Riversdale.....	2,335	877,063	307,696	295,319	1,470,078	1,340,385
Robertson.....	1,213	775,427	447,121	628,252	1,853,800	1,361,240
Swellendam.....	2,254	1,119,273	405,927	442,073	1,967,173	1,762,575
Uniondale.....	1,035	544,375	200,426	85,160	829,960	747,629
Worcester.....	1,268	228,195	574,701	562,890	2,065,776	1,609,144
<b>TOTAL.....</b>	<b>20,787</b>	<b>12,295,807</b>	<b>5,462,824</b>	<b>4,571,382</b>	<b>22,380,013</b>	<b>18,051,442</b>
<b>WEST CENTRAL—</b>						
Aberdeen.....	950	559,956	256,422	271,140	1,087,518	919,430
Banfont West....	1,492	860,895	564,888	303,177	1,728,960	1,465,834
Hanover.....	575	382,527	126,931	116,091	625,449	521,112
Murraysburg.....	453	492,600	141,759	84,723	620,058	546,913
Prince Albert....	755	474,967	219,494	172,326	866,787	698,941
Richmond.....	546	572,723	163,171	114,233	850,137	738,958
Victoria West....	1,133	665,451	320,858	116,794	1,003,103	895,619
Wilowinore.....	999	612,174	206,690	246,722	1,065,576	824,631
<b>TOTAL.....</b>	<b>6,812</b>	<b>4,431,309</b>	<b>2,000,173</b>	<b>1,425,406</b>	<b>7,856,888</b>	<b>6,514,477</b>
<b>WESTERN—</b>						
Cape.....	46,481	14,476,757	22,253,137	699,175	37,429,069	37,143,319
Malmesbury.....	2,600	2,524,816	1,044,373	356,470	3,928,659	3,586,272
Panri.....	3,073	1,359,983	1,565,839	663,745	3,594,567	2,893,155
Plintheberg.....	805	597,152	243,693	195,005	1,040,850	849,176
Stellenbosch.....	2,458	1,185,638	1,651,785	339,364	3,076,787	2,741,168
Tulbahz.....	569	292,705	187,410	64,030	544,205	483,192
<b>TOTAL.....</b>	<b>56,046</b>	<b>20,437,111</b>	<b>26,851,237</b>	<b>2,325,789</b>	<b>49,814,137</b>	<b>47,736,272</b>
<b>TOTAL FOR CAPE PROVINCE.....</b>	<b>164,604</b>	<b>80,101,339</b>	<b>59,856,726</b>	<b>17,657,588</b>	<b>157,705,658</b>	<b>142,027,195</b>

\* £188,973 represents improvements in connection with Railways.



NUMBER OF PROPERTIES AND ACTUAL VALUES—*continued.*

Division.	Number of Properties.	Site Value.	Buildings.	Beneficial Improvements.	Total Valuation.	Rateable Value.
		£	£	£	£	£
<b>BECHUANALAND.</b>						
Gordons.....	1,131	735,441	230,973	190,969	1,157,383	969,928
Kuruman.....	1,053	586,226	130,475	99,082	815,783	719,674
Mafeking.....	715	543,186	231,649	282,483	1,057,318	864,300
Vryburg.....	1,627	1,302,556	331,372	307,765	1,941,693	1,760,524
<b>TOTAL FOR BECHUANALAND.....</b>	<b>4,526</b>	<b>3,167,421</b>	<b>924,469</b>	<b>880,249</b>	<b>4,972,139</b>	<b>4,404,826</b>
<b>TRANSKEIAN TERRITORIES.</b>						
<b>EAST GRICQUALAND—</b>						
Matatiele.....	663	732,778	217,399	88,870	1,039,047	905,352
Mount Ayliff.....	80	17,777	42,358	1,618	61,753	61,753
Mount Currie.....	1,017	918,849	295,668	104,335	1,318,852	1,215,791
Mount Fletcher.....	118	14,935	31,979	2,156	49,069	4,973
Mount Frere.....	129	27,506	52,975	2,830	83,311	83,311
Qumbu.....	126	21,591	31,229	1,107	53,927	53,712
Tsolo.....	264	42,365	35,973	6,579	84,917	79,667
Umsinkulu.....	399	495,373	84,970	80,849	661,192	581,147
<b>TOTAL.....</b>	<b>2,790</b>	<b>2,271,174</b>	<b>792,551</b>	<b>288,343</b>	<b>3,352,068</b>	<b>3,089,576</b>
<b>PONDOLAND—</b>						
Bizana.....	111	7,862	32,020	1,724	41,606	41,606
Flagstaff.....	112	9,933	18,315	601	28,849	28,849
Libode.....	78	8,665	21,217	559	30,441	30,251
Lusikisiki.....	128	13,043	28,275	1,122	42,440	42,217
Ngqeleni.....	92	9,895	27,920	1,809	39,724	38,864
Port St. John's.....	337	94,678	61,030	7,860	163,568	155,208
Tabankulu.....	106	9,796	25,658	867	36,321	36,321
<b>TOTAL.....</b>	<b>964</b>	<b>153,872</b>	<b>214,435</b>	<b>14,642</b>	<b>382,949</b>	<b>373,906</b>
<b>TEMBULAND—</b>						
Elliotdale.....	76	11,170	31,743	110	43,023	43,023
Engcobo.....	—	—	—	—	—	—
Mqanduli.....	117	23,100	29,985	1,523	54,608	54,608
St. Mark's.....	173	73,351	62,468	2,096	137,915	136,192
Umtata.....	1,041	196,350	346,619	13,378	556,347	544,269
Xalanga.....	774	75,411	79,090	31,500	186,001	161,248
<b>TOTAL.....</b>	<b>2,181</b>	<b>379,382</b>	<b>549,905</b>	<b>48,607</b>	<b>977,894</b>	<b>939,340</b>
<b>TRANSKEI—</b>						
Butterworth.....	230	47,922	128,300	9,174	185,396	178,178
Idutywa.....	233	32,367	85,458	3,102	120,927	120,927
Kentani.....	110	30,015	45,140	3,516	78,671	78,796
Nqamakwe.....	77	39,999	47,705	2,890	90,594	90,594
Tsomo.....	91	27,836	42,493	1,929	72,258	72,243
Willowdale.....	110	18,623	61,305	2,006	81,934	81,934
<b>TOTAL.....</b>	<b>860</b>	<b>196,762</b>	<b>410,401</b>	<b>22,617</b>	<b>629,780</b>	<b>620,672</b>
<b>TOTAL FOR TRANSKEIAN TERRITORIES.....</b>	<b>6,801</b>	<b>3,001,190</b>	<b>1,967,292</b>	<b>374,209</b>	<b>5,342,691</b>	<b>5,023,494</b>
<b>GRAND TOTAL.....</b>	<b>176,021</b>	<b>86,359,950</b>	<b>62,748,487</b>	<b>18,912,046</b>	<b>168,020,483</b>	<b>151,455,015</b>

## CHAPTER XV.

### IRRIGATION AND WATER CONSERVATION.

#### § 1. Irrigation.

**1. Legislation.**—In the Cape of Good Hope no attempt was made to control questions of water conservation and irrigation until 1906, when an *Irrigation Act* was passed. This law was, however, mostly concerned with questions of administration, and the law of irrigation and water-rights was in the main controlled by the common law based upon the Roman-Dutch law. This had so complicated matters and had created so many vested rights that any drastic departure from common law became impossible. The principle of water conservation was entirely ignored, whereas in a country with large arid and semi-arid tracts this formed the most essential factor of a water law. Except in the Oudtshoorn district of the Cape Province, irrigation, until a few years ago, was a trifling affair, but during recent years irrigation development has taken place on a large scale in parts of the Cape Province, having problems of totally different characters, and the old pioneer irrigation districts, such as Oudtshoorn, Worcester, and Stellenbosch, are being rapidly overtaken by other irrigated districts of the Province.

In the Transvaal an *Irrigation Act* was passed in 1908, but irrigation in this Province has not yet greatly developed. The position is similar in the Orange Free State, which contains, especially in its southern portions, considerable possibilities in respect of irrigable areas. The total absence of a water law has, however, hitherto greatly hampered development. Natal, owing to topographical, physical, and climatic conditions, differs somewhat from the other Provinces as regards irrigation, but none the less stood in need of a proper law, as, apart from irrigation, domestic water supplies and the development of water power had necessarily to be controlled.

Subsequent to the constitution of the Union it was not found possible to frame a law approximating even remotely to an ideal water law for the Union, as regard had obviously to be paid to the very large vested interests which had accrued throughout the Union during previous generations. All that could be done was to make the most of the old common law principles, which had controlled the situation previously. Furthermore, it was found that no water law could be framed which would work with mechanical precision and provide a clear and ready solution for every case which might arise. Owing to the conditions of the country water legislation must of necessity be elastic to a full degree and its practical value necessarily depends on the efficiency of the administrative machinery created by legislation. The *Union Irrigation and Conservation of Waters Act* was passed in 1912. This Act provides first for a national law regulating the use of water in public streams. Further, it provides special judicial machinery, for dealing with the definition of water rights along public streams, the settlement of disputes, the granting of servitudes and permits and other matters. It also contains a variety of provisions designed to promote the development of irrigation in the Union. In principle the Act is an effort to realize the following main objects:—

- (a) Preservation, to the fullest extent possible, of all vested rights so far as they are of practical value to riparian owners.
- (b) Provision for a rational and practical method of effecting an equitable distribution of water flowing in defined channels of a permanent character.
- (c) Provision of equitable and practical means for the conservation and use of that portion of the flow in South African streams which cannot be immediately and beneficially used and may run to waste.
- (d) Provision of machinery for bringing these objects into effect.

The subject-matter of the Act is as follows, giving an indication of the scope of the law :—  
*Chapter.*

- I. General control, including provision for hydrographic surveys, preparation of schemes, engineering services, water-boring.
- II. Use of public and private water.
- III. Use of subterranean water.
- IV. Constitution of *Water Courts* and their jurisdiction, powers, and authorities.
- V. Constitution of *River Districts* and *Boards*.
- VI. Constitution of *Irrigation Districts* and *Boards*.
- VII. Expropriation of land and acquisition of servitudes.
- VIII. Irrigation loans to private persons and to *Irrigation Boards*.
- IX. General and miscellaneous matters relating to right of entry upon land for irrigation purposes, service of notices and documents, exemption of irrigated lands from rates, offences and penalties, etc.

Seven sections of regulations have been framed under the law dealing with various matters in detail.

**2. Administration.**—(i) *Irrigation Department.*—The administration of the *Irrigation Act* is vested in an Irrigation Department under a Director of Irrigation with a staff of engineers and other administrative officers. The principal activities of the department may be summarized as follows :—

- (a) A special branch of the department is engaged in the systematic collection and compilation of hydrographic data throughout the Union, the chief practical results being the determination of the absolute run-off of surface drainage from a number of clearly defined typical catchment areas; the relation of such run-off to the rainfall over the catchment; the determination of the maximum intensity of run-off during storms; the gauging of permanent springs, etc.
- (b) Closely allied to the hydrographic survey as regards the character of its investigations is the meteorological service of the Union, as to which particulars will be found in Chapter I of this Year Book.
- (c) Systematic reconnaissance surveys, together with hydrographic statistics indicate where and how irrigation development can take place, and the carrying out of these surveys is a function of the department hardly less in importance than the collection of hydrographic data. Arising out of these reconnaissance surveys irrigation projects are elaborated; these are either laid before the riparian owners interested with the object of inducing them to form an irrigation district under the Act for the purpose of undertaking the scheme as a co-operative work financed under an irrigation loan, or the project is taken up, if circumstances are favourable, as a Government work and may be constructed by departmental agency.
- (d) Government irrigation settlements are maintained and to a large extent administered by the Irrigation Department.
- (e) An elaborate system exists under which bona fide farmers, irrigation boards, and river boards may obtain professional assistance from the department. Such services are charged for at prescribed fees.
- (f) An important section of the department is the water-boring branch, the work of which falls into the following main sections :—
  - (i) Boring for farmers in certain areas of the Union on a scale of charges more or less approximating to the actual cost to the department;
  - (ii) boring for water on vacant and waterless Crown lands to make such lands fit for settlement; and
  - (iii) boring for water at school sites, hospitals, gaols, and other similar public institutions.
- (g) The department acts as the adviser of Provincial Administrations on all matters relating to water supply, drainage, sewerage, or irrigation within the areas controlled by municipalities and public bodies; and it advises and more or less controls irrigation and river boards.

(ii) *Water Courts.*—The Water Court is an institution which was in existence in the Cape for many years and a similar court was created under the Transvaal Irrigation Act, No. 27 of 1908. In the Union Act the Water Court occupies a stronger and more important position than under the Cape or Transvaal law. A Water Court is constituted by an itinerant Water Court judge as president and two assessors, one of them a competent hydraulic engineer attached to the Irrigation Department, and the other a person selected from a number nominated by the Governor-General for each proclaimed Water Court District. The Union has been divided into twenty-two Water Court Districts for that purpose.

3. **Government Expenditure on Irrigation.**—Particulars are given hereunder as to (i) expenditure on the Department of Irrigation and (ii) irrigation loans for a series of years:—

(i) **IRRIGATION—GOVERNMENT EXPENDITURE, 1915-16 TO 1920-21.**

HEADING.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<b>EXPENDITURE FROM LOAN FUNDS—</b>						
Government Schemes.....	34,527	153,388	141,367	167,948	128,415	119,477
Labour Colonies.....	—	—	—	—	—	—
Irrigation Loans.....	198,735	153,652	224,908	185,166	295,074	447,554
Boring on Crown Lands.....	1,656	2,902	14,604	21,954	38,825	48,550
Miscellaneous.....	—	—	—	—	—	—
Boring Equipment.....	—	—	—	—	—	81,798
<b>TOTAL.....£</b>	<b>234,918</b>	<b>309,942</b>	<b>380,879</b>	<b>378,068</b>	<b>462,914</b>	<b>790,379</b>
<b>EXPENDITURE FROM REVENUE—</b>						
Irrigation.....	61,962	67,873	88,865	102,442	107,512	128,357
Boring.....	21,725	22,976	43,624	45,291	62,248	71,708
<b>TOTAL.....£</b>	<b>83,687</b>	<b>90,849</b>	<b>132,489</b>	<b>147,733</b>	<b>169,760</b>	<b>200,065</b>
<b>GRAND TOTAL.....£</b>	<b>318,605</b>	<b>400,791</b>	<b>513,368</b>	<b>525,801</b>	<b>632,674</b>	<b>990,444</b>

(ii) **APPLICATIONS FOR IRRIGATION LOANS, 1910 TO 1920-21.**

Year and Area.	Under Consideration at Beginning of Year.		Received during Year.		Granted during Year.		Refused, Withdrawn, or Cancelled during Year.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.

(a) **UNION, 1910 \* to 1920-21.**

	No.	£	No.	£	No.	£	No.	£
*1910.....	34	52,415	73	86,789	41	17,645	27	42,780
*1911.....	39	78,720	64	92,946	33	105,665	43	45,994
†1912-13.....	27	20,016	177	359,576	49	251,990	64	46,517
‡1913-14.....	91	81,085	201	420,000	104	381,894	65	39,078
1914-15.....	123	80,113	130	179,614	47	109,710	204	147,817
1915-16.....	2	2,200	31	73,692	12	60,000	12	10,692
1916-17.....	9	5,200	152	353,813	76	177,075	38	21,838
1917-18.....	47	160,100	80	465,308	51	581,680	30	17,984
1918-19.....	37	25,744	68	1,025,500	33	90,701	83	17,593
1919-20.....	34	942,951	47	496,090	21	862,712	12	4,390
1920-21.....	48	571,939	76	748,003	40	989,970	36	179,822

(b) **PROVINCES, 1920-21.**

	No.	£	No.	£	No.	£	No.	£
Cape.....	26	434,774	39	652,080	30	851,670	13	104,344
Natal.....	—	—	2	650	1	500	1	150
Transvaal.....	16	82,015	24	22,298	5	80,300	16	9,102
Orange Free State.....	6	55,150	11	72,975	4	57,500	6	65,925
<b>UNION.....</b>	<b>48</b>	<b>571,939</b>	<b>76</b>	<b>748,003</b>	<b>40</b>	<b>989,970</b>	<b>36</b>	<b>179,822</b>

\* Cape of Good Hope only.

† 1st January, 1912, to 31st March, 1913.

‡ Financial Years from 1913-14.

4. **Water-boring.**—The following table gives particulars of boring operations undertaken in the Union since the year 1903-04, when the first boring branch was established in the Transvaal. Prior to the date of the constitution of the Union no figures are available for the other three Provinces. The total number of borcholes drilled by the department from 1904 to the 31st March, 1921, was 7,288, principally in the Transvaal, the reason being that boring operations were not actively carried out in that Province before 1904, whereas in the other Provinces boring branches had been in existence for many years and a great deal of work had already been done at that date. It is to be noted that the costs of boring for the periods given are not comparable, owing to the varying conditions applying to the different groups of operations.

#### IRRIGATION DEPARTMENT—WATER-BORING, 1903 TO 1921.

Financial Year.	Number of Drills in Commission.	Number of Applications Received.	Number of Borcholes Completed.	Total Footage Drilled.	Annual Working Cost.			Estimated Yield of Water in 1,000 Gallons per diem.
					From Revenue Vote.	From Loan Vote.	Total.	
(a) TRANSVAAL TO 31ST MAY, 1910.*								
1903-04.....	1	3	1	481	£ 718	—	£ 718	2
1904-05.....	3	18	24	3,019	1,582	—	4,582	175
1905-06.....	10	123	78	8,189	12,600	—	12,600	814
1906-07.....	18	181	143	18,440	22,200	—	22,200	2,843
1907-08.....	16	323	229	25,469	16,800	—	16,800	5,900
1908-09.....	21	318	294	35,744	22,411	—	22,411	6,564
1909 (July 1)–1910 (May 31).....	31	310	376	51,371	34,243	—	34,243	8,300
(b) UNION FROM 1ST JUNE, 1910.								
1910 (June 1–Dec. 31).....	45	225	351	45,771	£ 25,072	—	£ 25,072	7,830
1911.....	48	405	616	83,987	53,699	—	53,699	11,281
1912 (Jan. 1–Mar. 31).....	49	111	150	20,385	14,090	£ 5,651	£ 19,741	2,589
1912–13.....	58	700	593	88,309	48,734	£ 26,959	£ 75,693	9,422
1913–14.....	64	584	830	116,366	44,505	£ 36,956	£ 81,461	11,272
1914–15.....	49	337	664	87,689	42,204	£ 18,897	£ 61,101	9,784
1915–16.....	21	164	253	37,129	25,244	£ 1,778	£ 27,022	4,654
1916–17.....	27	356	389	46,300	28,306	£ 2,902	£ 31,208	6,315
1917–18.....	41	474	551	69,424	36,932	£ 14,427	£ 51,359	9,802
1918–19.....	43	382	469	70,916	39,142	£ 24,613	£ 63,755	8,720
1919–20.....	59	1,061	602	87,456	51,590	£ 39,199	£ 90,789	8,848
1920–21.....	67	972	675	107,961	77,300	£ 48,552	£ 125,852	9,418

\* Records for other Provinces not available.

5. **Irrigation Districts.**—At the 31st March, 1921, 82 Irrigation Districts had been constituted, controlled by Irrigation Boards. These Districts and Boards are constituted in terms of Chapter VI of the Union Irrigation Act for the purpose of carrying out and controlling co-operative Irrigation Schemes. Any three riparian owners can petition the Minister for an Irrigation District to be formed, and if, on inquiry, it is found that the owners of not less than two-thirds of the total irrigable area under the projected scheme are in favour of the constitution of this District, it may be constituted by the Governor-General-in-Council by proclamation. All the irrigable area in the district then becomes liable to rating by the Board, and these rates are a preferent charge on the land, ranking prior to all other mortgages. An irrigation board can obtain irrigation loans from the Government or other sources on the security of its rates.

Most of the irrigation development in the Union has been done through the medium of Irrigation Boards, especially in the Cape Province.

Of the 82 Irrigation Boards established at 31st March, 1921, 67 were in the Cape Province, 1 (drainage works) in Natal, 10 in the Transvaal, and 4 in the Orange Free State. Of the schemes proposed, 47 were completed, 11 were under construction, 10 were under investigation, and 14 were boards dormant for the time. The cost of the completed schemes was £1,080,379 approximately, the rateable area being 133,548 acres. Approximate figures for works under construction are: cost £3,206,500, rateable area 219,521 acres.

Since 1910 great progress has been made with irrigation based upon conservation schemes, and the following table embodies some of the more important of these:—

**STORAGE WORKS CONSTRUCTED, UNDER CONSTRUCTION, OR AUTHORIZED.**

Name of Scheme and District.	Storage Capacity, million cubic feet.	Actual or Estimated Cost of Scheme.
<b>CAPE PROVINCE.</b>		
Bellair; Ladismith and Swellendam.....	426	£ 45,300
Blyde River; Pearston.....	80	29,500
Brandvlei; Swellendam, Robertson, Worcester, and Tulbagh.....	1,055	160,000
Calitzdorp; Oudtshoorn.....	205	168,053
Grass Ridge (Great Fish River); Cradock.....	2,757	100,000
Kamanassie; Calitzdorp and Oudtshoorn.....	1,355	600,000
Lake Meutz (Sundays River); Titenhage and Jansenville.....	4,121	520,000
Leeuw Gamka; Prince Albert.....	346	72,000
Prinz River; Ladismith.....	144	22,000
Stoltz River; Beaufort West.....	49	32,000
Tarka (Great Fish River); Cradock.....	3,061	550,000
Van Rhyneveld's Pass; Graaff-Reinet.....	2,358	435,500
<b>TRANSVAAL.</b>		
Bon Accord; Pretoria.....	413	75,000
Hartebeestpoort; Pretoria and Rustenburg.....	5,369	1,125,000
Klipdriif; Potchefstroom.....	448	84,000
Klerksdorp; Klerksdorp.....	197	26,000
<b>ORANGE FREE STATE.</b>		
Kaffir River; Bloemfontein.....	1,375	77,000
Kopjes; Vredetort.....	542	77,000
Upper Modder River; Thaba 'Nchu and Boshoff.....	2,225	535,000

The following table gives particulars regarding Irrigation Districts established in the Union on the 31st March, 1921:—

**IRRIGATION DISTRICTS ESTABLISHED AT 31st MARCH, 1921.**

Name and District.	Source of Water Supply.	Area to be Rated.	No. of Voters 31st March, 1921.	Cost of Works.	Works Completed or Otherwise.
<b>CAPE OF GOOD HOPE.</b>		Acres.		£	
Angora; Robertson and Swellendam	Breede River.....	1,272	19	1,500	Complete.
Baroda; Cradock.....	Great Fish River	9,118	20	72,500	Complete.
Bellair; Ladismith and Swellendam	Brak River.....	4,203	23	45,000	Complete.
Blyde River; Pearston.....	Blyde River.....	1,077	11	29,500	Under construction.
Boschjesmanrivier; Robertson	Boschjesmanrivier	2,121	12	—	Under investigation.
Breede River; Robertson.....	Breede River.....	5,216	33	35,150	Complete.
Breede River Conservation; Swellendam, Robertson, Worcester, and Tulbagh	Breede River.....	20,466	152	116,000	Construction.
Botha's Hill.....	Botha's Hill River	—	4	—	Dormant board.
Buffelsfontein; Ladismith.....	Groot River.....	350	22	8,850	Complete.
Buffelsvlei-Gamka; Oudtshoorn	Gamka River.....	913	42	15,000	Complete.
Calitzdorp; Oudtshoorn.....	Nels River.....	2,103	48	168,053	Complete.
Congha Poort; Humansdorp.....	Gamtoos River.....	1,684	16	28,140	Complete.
Doorn River; Worcester.....	Doorn River.....	2,449	11	5,700	Complete.
Drennan; Cradock and Bedford	Fish River.....	3,660	4	—	Dormant board.
Duivenhoks River; Swellendam	Duivenhoks River	2,508	44	40,600	Complete.
Du Plessis; Humansdorp.....	Gamtoos River.....	—	5	—	Dormant board.
Elands River; Stockenroos.....	Elands River.....	392	47	—	Complete.
Great Fish River; Cradock and Bedford	Brak and Tarka Rivers	58,617	120	720,000	Under construction.
Groothoek; Worcester.....	Groothoek Str.....	1,018	12	8,220	Complete.
Hankey; Humansdorp.....	Gamtoos River.....	—	98	—	Dormant board.
Hex River; Worcester.....	Hex River.....	5,040	45	7,500	Complete.
Hoops River; Robertson.....	Hoops River.....	437	15	1,950	Complete.
Hougham Abrahamson; Somerset East	Great Fish River	9,542	21	56,260	Complete.

## IRRIGATION DISTRICTS ESTABLISHED AT 31st MARCH, 1921—

continued.

Name and District.	Source of Water Supply.	Area to be Rated.	No. of Voters 31st March, 1921.	Cost of Works.	Works Completed or Otherwise.
<b>CAPE OF GOOD HOPE—contd.</b>					
Jan Fourie's Kraal; Oudtshoorn	Oliphants River..	Acres. 3,414	57	£ 7,500	Complete.
Kaferkulla River; Riversdale..	Kaferkulla River..	1,067	8	14,000	Complete.
Kamaansle; Oudtshoorn.....	Kamaansle River..	20,400	249	600,000	Under construction.
Kengna River; Montagu.....	Kengna River....	980	10	7,350	Dormant board.
Klein Klans Voogds; Robertson	Klein Klans Voogds River	—	10	2,900	Complete.
Klipfontein; Somerset East and Bedford	Great Fish River	3,515	4	28,500	Complete.
Le Chasseur and Goree; Worcester	Breede River....	3 028	29	70,462	Complete.
Leeuw Gamka; Prince Albert..	Leeuw and Gamka Rivers	5,250	11	72,000	Complete.
Loerie River; Uitenhage.....	Loerie River....	90	23	—	Complete.
Louisvale; Kenhardt.....	Orange River....	1,008	57	—	Complete.
Lower Seacow River; Colesberg	Seacow River....	840	10	9,828	Complete.
Maraisburg; Maraisburg.....	Vlekpoort River..	6,354	12	22,000	Complete.
Marlow; Cradock.....	Fish River.....	4 000	10	—	Under investigation.
McGregor; Robertson.....	Hout Baal River..	1,753	6	6,969	Complete.
Meerlust; Jansenville.....	Sundays River....	10,800	88	—	Under investigation.
Middletown; Bedford and Somerset East	Great Fish River	5,701	12	78,000	Under construction.
Miller; Willowmore and Aberdeen	Plessis and Hope Rivers	1,575	13	—	Dormant board.
Mortimer; Cradock and Bedford	Great Fish River	3,509	20	34,500	Complete.
Nonna River; Worcester.....	Nonna River....	4,025	9	6,380	Complete.
Norree; Robertson.....	Two small kloofs	1,980	9	4,137	Complete.
Nuy River; Worcester.....	Nuy River.....	3,381	15	15,762	Complete.
Oliphants River; Van Rhynsdorp	Oliphants River..	31,500	79	523,500	Under construction.
Peninsula; Albany.....	Great Fish River	8,427	34	—	Under investigation.
Poortfontein; Ladismith.....	Doorn River....	1,609	6	—	Under investigation.
Prins River; Ladismith.....	Prins River....	2,748	20	22,000	Complete.
Rademeyer; Humansdorp.....	Gamtoos River... 3,171	24	30,000	Complete.	
Reenen; Humansdorp.....	Gamtoos River... 2,541	50	36,900	Complete.	
Ritchie; Kimberley.....	Riet River.....	103	26	1,250	Complete.
Seal-in; Cradock.....	Fish River.....	5,640	17	—	Under investigation.
Smallfontein; Tarka.....	Vlekpoort River..	10,302	9	36,000	Complete.
Somerset East; Somerset East.	Little Fish River	4,034	21	29,000	Complete.
Stoltz River; Beaufort West..	Stoltz River....	1,050	7	32,000	Construction.
Sundays River; Uitenhage.....	Sundays River... 37,989	291	520,000	Construction.	
Tabankulu; Pondoland.....	Caba River....	106	67	—	Dormant board.
Tarka Bridge; Cradock.....	Tarka River....	4,666	13	15,787	Complete.
Toverfontein; Steytlerville.....	Groot River....	2,887	13	15,000	Dormant board.
Toverkop; Ladismith.....	Groot River....	6,864	74	—	Under investigation.
Van Rhynveld's Pass; Graaff-Reinet	Sundays River... 16,800	21	435,500	Under construction.	
Verkeerde Vlei; Worcester and Ceres	Verkeerde Vlei..	1,341	22	300	Complete.
Vink River; Robertson.....	Vink River....	1,470	5	6,800	Complete.
Willem Nel's River; Robertson	Willem Nel's River	019	10	7,750	Complete.
Windsorton; Barkly West.....	Vaal River.....	11,541	73	—	Dormant board.
Zanddrift; Robertson.....	Breede River....	5,871	42	51,981	Complete.
Zwartrivier; Prince Albert.....	Zwart River....	—	—	—	Dormant board.
<b>NATAL.</b>					
Umfolosi; Umfolosi.....	Umfolosi River..	23,282	65	5,500	Drainage works (dormant).
<b>TRANSVAAL.</b>					
Bon Accord; Pretoria.....	Aaples River....	2,940	27	75,000	Under construction.
Broederstroom; Pretoria.....	Spring.....	317	24	—	Dormant board.
George Impala; Barberton.....	Crocodile River..	68,161	9	—	Under investigation.
Klerk-dorp; Potchefstroom.....	Schoonspruit....	1,331	88	20,600	Complete.
Lower Kaap; Barberton.....	Kaap River....	2,362	3	15,000	Complete.
Pienaars River; Pretoria.....	Pienaars River... —	—	—	—	Under investigation.
Rauch Karino; Barberton.....	White River....	3,150	18	10,500	Complete.
Tzaneen; Pietersburg.....	Magoebas River..	1,906	11	—	Complete.
Warmbaths; Waterberg.....	Plat River.....	—	11	—	Complete.
Zand-pruit; Pretoria.....	Zand-pruit.....	94	10	560	Complete.
<b>ORANGE FREE STATE.</b>					
Kafr River; Bloemfontein.....	Kafr River....	4,951	14	77,000	Under construction.
Shannon Valley; Bloemfontein.	Rhenoster Spruit.	—	75	—	Dormant board.
Upper Modder River; Bloemfontein	Modder River....	16,800	75	535,000	Under investigation.
Zoupan-drift; Boshof.....	Vaal River.....	268	8	—	Dormant board.

## § 2. Conservation of Water.

1. **Waterworks and Storage in Urban Areas.**—The following table gives particulars of the cost of installation, storage capacity, and consumption of the principal Municipal Waterworks in the Union for the year 1920-1921:—

## URBAN WATERWORKS, 1920-21.

TOWN.	Cost of Installation.	Maximum Storage Capacity (in Thousands of Gallons).	Maximum Working Capacity per diem (in Thousands of Gallons).	CONSUMPTION.	
				Annual (in Thousands of Gallons).	Average Daily (in Thousands of Gallons).
	£				
Cape Town.....	2,740,661	522,000	7,500	1,723,000	4,720
East London.....	105,625	96,500	750	205,908	564
Grahamstown.....	111,348	180,000	300	64,323	176
Kimberley Waterworks.....	527,565	1,300,000	2,250	303,298	831
King William's Town.....	142,172	106,500	600	195,412	535
Port Elizabeth.....	622,268	339,000	2,000	662,691	1,810
Queenstown.....	133,148	1,555,000	†	†	†
Wynberg.....	212,729	108,000	†	182,500	500
Durban.....	810,234	349,500	5,000	1,833,279	4,611
Pietermaritzburg.....	238,977	6,000	3,000	990,000	2,718
Benoni.....	18,224	—	—	72,675	199
Boksburg.....	18,303	—	—	46,098	126
Germiston.....	34,555	—	—	—	—
Johannesburg.....	499,530	6,446	—	1,500,317	4,110
Krugersdorp.....	50,701	6,000	400	120,000	320
Pretoria.....	288,830	3,500	6,000	1,642,500	4,500
Rodepoort-Maralsburg.....	13,844	—	—	25,057	68
*Rand Water Board.....	4,020,106	26,182	12,300	4,129,880	11,315
Springs.....	14,006	—	—	27,461	75
Bloemfontein.....	468,074	450,000	1,300	365,000	1,000
Other Towns.....	1,451,134	4,224,883	33,878	5,084,993	10,785

\* Supplies Benoni, Boksburg, Germiston, Johannesburg, Krugersdorp, Rodepoort-Maralsburg, and Springs.

† Particulars not available.



## CHAPTER XVI.

### AGRICULTURE AND FISHERIES.

#### § 1. General.

1. **Development of Agriculture in South Africa.**—The early settlers on the shores of Table Bay were compelled by the circumstances in which they found themselves to commence at once to grow vegetables and fruit for their own consumption. Though at first they experienced difficulty in adapting their efforts to the seasons, they were ultimately successful, and were thus enabled not only to supply their own requirements but to provision the ships of the Netherlands East India Company, and at a later date other ships also calling at the port on their voyages to and from the East. Cattle were in the early days of settlement mainly procured by barter with the natives; but stock-breeding was an early development of the activities of the settlers. The culture of the vine was undertaken with immediate success and wine was in fact one of the earliest exports of South Africa. It was found possible also to produce wheat. From these early beginnings eventually developed the main industry of South Africa, which until the discovery and rapid development of the diamond and gold mines was exclusively agricultural and pastoral, and which, despite the importance of the mining industry and the initiation and development in recent years of manufacturing industries, remains the staple industry of the country.

One of the first and principal products exported by the farmers of South Africa was wool. Many parts of the country were particularly well suited to sheep farming, and the exports of wool and, later, of mohair, as well as of hides and skins, formed for many years by far the most important exports. The ostrich feather industry followed, and in recent years the maize, fruit, and wattle-bark export trades have reached considerable dimensions. Apart, however, from these products, and the export of wine and of various other products of agriculture on a comparatively small scale, South Africa was content to do little more than supply itself; was content indeed to import such articles as eggs, butter, bacon, meat, and sugar—commodities which recent experience has shown that the country is fully capable of producing, not alone for local consumption but for what bears evidence of development into a considerable export trade. The pressure of conditions resulting from the War undoubtedly greatly influenced this activity, and gave practical demonstration of the productivity of the Union.

2. **Statistics of Production.**—Notwithstanding the fact that the importance of the pastoral and agricultural industries in the Union has been recognized, it is a deplorable fact that since the early days of the Cape Colony when annual returns were obtained from farmers, no systematic statistical record has been kept of the production in the various States which now form the Union, and no attempt was made until the year 1918 to obtain any complete data for the Union. Certain particulars were obtained when the periodical population censuses were taken, but it has been realized that the figures were incomplete, inadequate, and in some respects misleading. The first complete census of the agricultural and pastoral activities of the Union was undertaken in June, 1918, under the *Statistics Act*. Annual censuses of a simpler kind were taken in 1919 and 1920. The second complete agricultural census of the Union was taken in 1921, and a summary of the results is embodied in the present issue. It is proposed to take similar censuses at quinquennial intervals, and further to collect statistics annually relative to certain main crops and live stock. The work of enumeration in connection with the census is performed by the police organization. Information is furnished under the *Statistics Act*, which provides penalties for non-compliance, for failing to answer questions put by authorized officers, for refusing to permit authorized officers to enter upon any land, etc., for hindering or obstructing authorized officers, for giving wrong information, and for other breaches of the provisions of the Act.

Other countries have long realized the vital importance of placing themselves in possession of accurate statistics as to every detail of their industries, for comparative purposes within their own countries from year to year, as well as for comparison between themselves and other countries; also as a basis for calculating the anticipated crop production from season to season. The Union has had no such record, and the only

approximate indication as to progress and development prior to the period covered by the 1918 agricultural census has been found in the export and import returns at the ports, an incomplete and obviously unsatisfactory means of computation. In dealing with the various classes of industry in this chapter, therefore, it has been found impossible in many cases to give comparative figures for a series of years indicating the progress of the particular industry or the amount of production from time to time. This defect is, however, being steadily overcome, and in the present publication it has been possible to furnish information which in the first three issues was not available. In some cases statistics are available giving partial information, but these only serve to accentuate the general paucity of the data.

**3. Union Department of Agriculture.**—Under the *South Africa Act* Parliament has the power itself to administer agricultural affairs or to delegate the whole or any part of the work to the Provinces. When the Union was established the Government decided to exercise that power itself, at all events until the Commissions appointed under the Act to make recommendations for the reorganization of the Departments of the Public Service and as to the financial relations which were to exist between the Union and the Provinces had presented their reports. Accordingly a Minister of Agriculture was appointed for the Union, also an Acting Secretary for Agriculture and certain other officers, pending the reports of the Commissions referred to.

In August, 1911, the Public Service Commission issued its report on the Departments, and specified a list of subjects relating to agriculture which it considered should be dealt with by Parliament, and of others which might be delegated to the Provinces later, but which it considered should be vested in the Union Government for some time to come. The view of the Commission closely accorded with that held by the Government, and steps were at once taken to complete the organization of the Department, which was constituted practically on the lines suggested by the Commission. This involved the abolition of the Provincial Departments as such and their absorption into the Union Department. The Financial Relations Commission, in its report published in January, 1912, endorsed what had been done, and recommended that matters relating to agriculture should continue—at any rate for the present—to be dealt with by the Union Government. As the result of the findings of these Commissions provision was made in the *Financial Relations Act, 1913*, whereby the control and the power to legislate in respect of the destruction of noxious weeds and vermin, the experimental cultivation of certain crops, and the administration of grants-in-aid to agricultural societies could be transferred to the Provinces if considered desirable; and these powers were shortly afterwards delegated to the Provinces.

The Department is organized on similar lines to those which characterized the late Transvaal Department, the latter having been modelled largely upon the Department of Agriculture of the United States of America. At the head of the Department is the Minister, who is responsible to Parliament for the policy and acts of the Department, and next in authority is the Secretary, who is the permanent head of the Department and Accounting Officer, and is responsible to the Minister for the work of the Department. The Secretary is assisted by two Under-Secretaries, one of these being in charge particularly of Agricultural Education.

The activities of the Department are maintained by a number of Divisions and Offices presided over by scientific and technical officers. The Secretary, Under-Secretaries, and the Chiefs of the various Divisions and Offices are stationed at Pretoria, with the exception of the Viticulturist and the Superintendent of the Gannet Islands, who are established at Elsenberg and at Cape Town respectively.

The Divisions and their functions are as follow :—

(i) *Veterinary Division.*—This Division deals with the prevention of the introduction of contagious diseases of live stock into the Union, with the eradication of such diseases as are present, and with the protection of live stock against zoonotic diseases by inoculation and other means. So far as it is able to do so without interfering with its other duties the Division advises and assists farmers with respect to diseases of stock generally and endeavours to enlighten them upon veterinary hygiene and the care of live stock. For veterinary purposes the Union is divided into five areas in charge of Senior Veterinary Surgeons, who are responsible for the control of disease within those areas.

(ii) *Division of Veterinary Education and Research.*—The duties of this Division are divided into (a) Veterinary Education, and (b) Veterinary Research and Routine. The educational side comprises the School of Veterinary Science recently established at Onderstepoort as a Faculty of the Transvaal University College in the University of South Africa; and provisions have now been made for the granting of diplomas in that science to successful students. The research and routine duties of the Division relate to the investigation of diseases of live stock with a view to discovering methods of suppressing them or of protecting animals against their ravages. The Division examines and reports upon pathological specimens forwarded by the Veterinary Division and by farmers, and prepares and supplies vaccines, sera, and diagnostic agents.

(iii) *Division of Sheep and Wool.*—This Division is charged with the eradication of scab, the promotion of sheep and goat industries by advising upon the grading and management of sheep and goats, and the preparation and marketing of wool and mohair.

(iv) *Division of Entomology.*—This Division deals with all matters relating to insects. It is charged with the administration of the regulations relative to the introduction of plants, beeswax, and foundation comb, to the inspection and quarantine of plant nurseries, and to restrictions on the removal of plants (inclusive of fruits) from place to place within the Union.

(v) *Division of Botany and Plant Pathology.*—This Division is engaged in the investigation and control of diseases of plants produced by fungous and physiological causes, and the study and collection of fungi of economic importance. The Division is also concerned with the investigation of the merits of indigenous plants of economic importance and of poisonous plants and noxious weeds, the identification of plants, the introduction and testing of economic plants from abroad and the improvement of farw crops by breeding.

(vi) *Division of Tobacco and Cotton.*—The object of this Division is to promote the tobacco and cotton industries. Experiments are conducted in the breeding and growth of tobacco and in the curing, fermentation, and preparation of tobacco for the market. Approved varieties of tobacco and cotton seed are distributed amongst farmers and advice is given to them personally and by correspondence and publications. Students are taken at the Rustenburg Station.

(vii) *Division of Dairying.*—This Division deals with all matters connected with the advancement of the dairying industry.

(viii) *Division of Horticulture.*—This Division advises farmers on the growing and marketing and export of fruit.

(ix) *Division of Viticulture.*—This Division is charged with the duty of advising farmers in all matters relating to the culture of the vine and the manufacture of wine, brandy, and vinegar. It conducts field investigations into the suitability of various stocks, the use of fertilizers, modes of cultivation, and kindred matters, investigates diseases of the vine, and conducts both cellar and laboratory experiments in the making of wine and brandy. It examines pathological specimens and furnishes reports thereon, and examines, chemically and bacteriologically, specimens of the products mentioned with a view to furnishing advice thereon to farmers. This Division also includes the Government Wine Farm at Groot Constantia, where advice can be obtained by residents in the Wynberg and Hout Bay areas.

(x) *Office of the Guano Islands.*—This office undertakes the conservation, collection, shipment, and sale to the public of the guano, seal skins, etc., obtained on the various islands belonging to the Union, and is charged with the administration of all matters connected therewith.

(xi) *Division of Co-operation.*—This Division is engaged in promoting co-operation for the sale and purchase of agricultural products and necessities amongst farmers, and in organizing and supervising co-operative societies.

(xii) *Division of Chemistry.*—This Division investigates problems of general or special importance, and undertakes the analysis of soils, manures, and foodstuffs for farmers in the Transvaal, the analysis of similar matters in the other Provinces being conducted in the chemical laboratories at the Agricultural Schools and Experiment Stations.

(xiii) *Division of Fencing and Brands.*—This Division administers the laws relating to fencing and brands, and publishes the *Brands Directory* required by the *Transvaal Brands Act*.

(xiv) *Office of Household Science.*—The duties of this office are to promote the study of household science by means of lectures, demonstrations, and correspondence.

(xv) *Division of Dry-Land Farming.*—This Division conducts experiments and disseminates information on dry-land farming.

(xvi) *Division of Grain Inspection.*—This Division undertakes the grading of grain at the ports prior to export, and, if requested to do so, determines the amount of moisture present in grain intended for export.

(xvii) *Division of Publications.*—This Division edits *The Journal of the Department of Agriculture* and other departmental publications.

(xviii) *Library.*—The object of the Library is to provide as complete a collection of agricultural literature as possible for the purpose of reference. The library is open to the public during official hours; and books may be borrowed on certain conditions.

4. **Revenue and Expenditure.**—The following is a statement of the revenue and expenditure of the Department for the financial year April, 1920, to March, 1921 :—

**DEPARTMENT OF AGRICULTURE—REVENUE AND EXPENDITURE, APRIL, 1920, TO MARCH, 1921.**

Classification.	Expenditure.	Revenue.	Classification.	Expenditure.	Revenue.
	£	£		£	£
Administration.....	43,271	2,670	Entomology.....	16,206	82
Veterinary.....	179,557	2,440	Chemical Laboratory	6,029	0
Veterinary Research.	126,361	47,224	Publications.....	7,571	—
Sheep Division.....	278,955	674	Co-operation.....	3,721	—
Dairy Industry.....	10,840	1	Dry-land Farming..	4,300	297
Botany.....	26,623	381	Guano Islands.....	69,530	86,063
Tobacco and Cotton.	11,465	1,547	Grain Inspection...	3,830	3,208
Horticulture.....	3,666	1,141			
Viticulture.....	6,914	4,819			
			TOTAL.....£	800,928	150,406

5. **Veterinary Education and Research.**—(i) *Laboratories.*—The Veterinary Research Laboratories of the Union Department of Agriculture comprise a central laboratory in the Transvaal and three provincial laboratories, one at Pietermaritzburg, Natal, a second at Grahamstown, Cape Province, and a third at Vryburg, in Bechuanaland, Cape. The central laboratory consists of a large block of buildings on the farm Onderstepoort, situated eight miles to the north of Pretoria. The site was chosen on account of its central position, being in the vicinity of Pretoria, the capital of the Transvaal. The laboratory is in close touch with the headquarters of the Department of Agriculture and the Government. It is also well served by the railway, Pretoria being a junction for the eastern line to Delagoa Bay, the northern line to Pietersburg, and the western line to Rustenburg. On the south by the line via Germiston it is connected up with the south-eastern line to Natal, the south-western line via Johannesburg to Potchefstroom and the Cape border, and by the direct southern line to the Orange Free State border at the Vaal River. A railway siding at the laboratory makes it possible for animals from infected areas to be sent through in quarantine with the least possible delay, and a good service of local trains runs between the siding and Pretoria.

(ii) *Initiation and Development of Onderstepoort Laboratory.*—In July, 1906, the Transvaal Crown Colony Government voted £1,500 as a first instalment towards the founding of a new laboratory. The Onderstepoort site was purchased, and plans for the new building were at once taken in hand. In March, 1907, the administration of the Colony by the Crown was superseded by a responsible Colonial Government, and General Louis Botha, the first Prime Minister of the Transvaal as well as Minister of Agriculture, gave his whole-hearted support to the project, so that in the first session of the new Parliament a further sum of £40,000 was voted for the completion of the buildings. From that time the work was rapidly pushed forward, and by the 1st October, 1908, the buildings were ready for occupation. The architect was Mr. P. Eagle, then Chief Architect of the Public Works Department, who is responsible for the fine edifice which now stands not only as a landmark in the surrounding country, but as a laboratory complete and perfectly equipped in every detail. Although the new laboratories are built on a scale that will compare with similar institutions in Europe, and are fitted up with every requisite for research into tropical diseases, it was not always under such auspicious circumstances that the work of the Division was carried on, and it was in very humble surroundings that scientific veterinary research in the Transvaal was first started. When in the year 1896 rinderpest devastated South Africa and caught the Transvaal farmer almost by surprise so that thousands of cattle died, the preventive inoculation then introduced first showed to the farming community of this country the value of scientific treatment. After the pest had finally been successfully dealt with, the Government of the late South African Republic decided to continue to keep up a small laboratory for scientific research into other diseases of the country, and accordingly a small sum of money was voted to fit up a temporary laboratory on the town lands of Pretoria. The equipment was, however, altogether deficient.

Until the conclusion of the war in 1902, both the laboratory and the rinderpest station formed a subordinate branch of the Public Health Department; but with the establishment of a Department of Agriculture they were both transferred to the latter Department, and the laboratory, which had hitherto received but half-hearted support as a merely temporary institution, was then organized as a Veterinary Bacteriological Division of the Department of Agriculture. From that time onward a steady policy of progress has been pursued.

The preparation of rinderpest serum was continued until 1903, when the country was considered free from the disease. It was then thought advisable to close down the serum depot, as the keeping of infected animals at a place where the facilities for segregation were by no means perfect created a quite unnecessary risk of starting a new outbreak in the immediate neighbourhood of the laboratory.

Meanwhile, at the close of the war, importations of stock on a large scale began, not only from neighbouring Colonies and States in South Africa, but also from overseas; and as a result of these unrestricted importations, both during the war and after, many diseases, before not known in the Transvaal, were introduced. Amongst these was a new disease of cattle, which at one time seemed as if it would rival rinderpest in destruction and sweep off the last head of cattle that rinderpest and the war had left. The story of the introduction of East Coast fever and the methods taken to combat it are now a matter of history, but the South African farmer has need to congratulate the Department of Agriculture on its foresight in establishing a laboratory which was ready at once to take up research into the nature of the disease and so arrive at the best means of attacking it and preventing its spread.

From the first inception of the laboratory, horse-sickness, which is a disease peculiarly prevalent in South Africa, and which annually takes a heavy toll of horses and mules, was naturally studied; but at first the facilities were scanty. As, however, with a more progressive policy the laboratory increased in size, and funds were more liberally supplied, more attention was paid to this disease, and it was possible to enter upon a systematic course of experiments, which eventually culminated in the introduction in the autumn of 1905 of the preventive serum inoculation of mules which is now practised with most successful results. It was a matter of good fortune no doubt that the Division in its early days should have had the opportunity of bringing such practical evidence of the value of scientific work before the people of the Colony, so that the laboratory has gradually become to be looked upon not only as a necessity for the prevention of the introduction of diseases from other countries, but also as the farmer's best friend and adviser.

As more and more work was thrust upon the Division the time came when it was impossible any longer to attempt to meet the demands in the temporary and inconvenient quarters of the existing laboratory; and the wise course was decided upon to establish an institution which compares favourably with the best of such institutions in other countries.

(iii) *Other Laboratories.*—The laboratory at Grahamstown, which came under the control of the Research Division at the constitution of the Union, is the oldest of the South African veterinary laboratories. This institution was founded in 1891 by the Cape Colony Government as a bacteriological laboratory. Subsequently the name was changed to that of "Veterinary Laboratory," and as such it continued until it was incorporated in the Union research laboratories in 1910. The laboratory at Pietermaritzburg was established in 1897 for the preparation of rinderpest serum. In both of these laboratories very useful pioneer work was carried out at a time when veterinary research in South Africa was still in its infancy.

The laboratory at Vryburg was completed in 1919 in order to conduct researches into the disease *Gallamziekte*, which had caused havoc among the cattle in the Bechuanaland and surrounding areas for many years. The institution was first originated as a field station, but later, as it was realized that all the forces of science would have to be brought to bear upon the disease before its cause was elucidated, a permanent laboratory and staff quarters were built, and placed under the charge of Sir Arnold Theiler, K.C.M.G., who was specially engaged for the conduct of investigations into this disease. Within three months the actual cause of the disease had been found, and, although several scientific questions have yet to be settled, sufficient information has been obtained to enable preventive measures to be taken by farmers.

(iv) *Veterinary Education.*—At the end of 1919 the Government decided to establish a School of Veterinary Science, and an agreement was arrived at for the Veterinary College to be an integral part of the Transvaal University College, with Sir Arnold Theiler as Dean of the Veterinary Faculty. The Veterinary course is one of five years' duration, of which the first two years can be taken at a university college and the last three at Onderstepoort. The teaching staff is selected from the research officers of the institute, who thus hold dual positions, and can bring for the benefit of the students the results of investigations undertaken by them in their capacity of research officers.

(v) *Staff and Functions of Division of Veterinary Education and Research.*—The staff of the Division consists of the Director of Veterinary Education and Research (also Professor of the Veterinary Faculty), Sub-Directors (also Professors of the Faculty), and senior and junior research officers (some of whom are professors and lecturers of the Faculty), with a clerical and lay staff.

In addition to the educational duties of the Division, investigations are undertaken into the diseases of live stock with a view to discovering methods of diagnosing and suppressing them, and affording protection against their ravages. The Division also prepares numerous sera and vaccines for the prevention of communicable diseases of stock, examines and reports on blood-smears and pathological and chemical specimens submitted by Government veterinary officers, farmers, and others. When requested, advice is given in all matters appertaining to stock, this being not the least important function of the Division. Opportunities are offered to visiting scientists and post-graduate students for carrying out special investigations.

Investigations are carried out mainly at the various laboratories, but the Division also, when necessity arises, provides field experimental stations in charge of qualified officers for local investigations. The reaction of plants in the veld to diseases of doubtful origin is studied by an ecologist attached to the Division. Vaccine, sera, etc., for the prevention of the following diseases, are prepared and issued by the Division: anthrax, quarter-evil, blue-tongue, redwater and gallsickness, horse-sickness (mules), horse-sickness (horses); wire-worm remedy and mallein are also prepared.

The dealings with the public, and office administration, necessitate the keeping of a large clerical staff, the majority of whom are concentrated in the Central Laboratory at Onderstepoort. The Division issues reports in which are published articles by the staff on research work which has been completed. A very complete set of pamphlets, dealing with diseases in general, and those peculiar to South Africa in particular, is prepared by the Division, and kept on hand for distribution on request to all applicants. In this way an endeavour is made to educate the stockowner, and to bring to his notice the practical application of the discoveries which veterinary science in South Africa and elsewhere has brought within his reach.

**6. Division of Entomology\*.**—(i) *Organization of Division.*—Except that town councils under local government legislation have in some instances secured by-laws in connection with the keeping of bees, the suppression of noxious insects, and the employment of hydrocyanic acid gas as an insecticide within their respective municipalities, the Union Department of Agriculture is the Government body on which devolves the administration of all regulations in respect of insects, the investigation of insect problems, and all public matters pertaining to the suppression of pest insects. The Department divides its insect work between the Division of Entomology and its several agricultural schools. The entomologist at each school, aside from his teaching duties, is expected to give attention to insect queries that arise in the area served by the school, and to conduct insect investigations which can most conveniently be dealt with at his particular centre. The Division of Entomology has broader functions. In addition to conducting studies on economically important insects and disseminating information on the control of pest species by correspondence, publications, experiments, and demonstrations, it gives effect to the Union Government legislation concerning insects. The latter feature comprises measures for the suppression of locusts, for preventing the introduction of pests with imported plants, fruit, and apiary products, and for checking the dissemination of pests with traffic in plants and fruit within the country.

(ii) *Headquarters of Officers.*—The public is privileged to seek information on any injurious insect at the agricultural school, or office of the Division of Entomology, with which it is most convenient to communicate. Any inquiry sent to a school should be addressed to the Principal. The schools are located, respectively, at Elsenburg (P.O. Mulders Vlei, Cape); Grootfontein (P.O. Middelburg, Cape); Glen (Orange Free State); Cedara (Natal); and Potchefstroom (Transvaal). The central office of the Division is in Pretoria (P.O. Box 513). The addresses of branches are: P.O. Box 3, Cape Town; P.O. Box 597, Port Elizabeth; P.O. Box 16, East London; and Botanic Garden, Durban. In each case the officer in charge may be addressed as "Government Entomologist." It is sometimes advantageous for a correspondent to address a particular school for information on a certain subject irrespective of the part of the country from which he writes. The entomologist at Elsenburg has made a special study of the codling moth; the entomologist at Cedara, of wattle insects and of weevils in peas and beans; and the entomologist at Potchefstroom, of the potato tuber moth. Inquiries on any insect subject, however, may safely be addressed to the Division of Entomology, P.O. Box 513, Pretoria, and only this office deals with matters arising from the legislative requirements in regard to locust suppression, nursery inspection, and the importation and removal of plants.

A post office regulation requires that postage be paid on any letter of inquiry and on any parcel of specimens that may be sent by one of the general public to a Government officer for report, if the object in view is to secure information for private advantage. Donations of specimens may, however, be sent without postage to the Division of Entomology (and to various other Government institutions) when labelled "O.H.M.S.," and described as "Natural History Specimens" on the wrapper; and it is accepted that letters

\* By C. P. Lounsbury, Chief of Division of Entomology

and specimens may also be sent to Government Entomological officers "O.H.M.S." without postage when the object is purely for the public good, and not a private interest.

(iii) *Plant Import Regulations.*—The introduction of plants from overseas, and also from South-West Africa and from Portuguese East Africa, is allowed only under special permission given at the discretion of the Department. Certain kinds of plants are absolutely prohibited, and, in general, only ten plants of any woody kind are admitted for any one person. The introduction of peach stones is prohibited, and the introduction of lucerne, cotton, maize, and barley seed is allowed only in small quantities and under conditions. Plants on which any insect or disease is found are liable to exclusion, and all woody plants are fumigated with poisonous gas as a matter of routine. These various precautions are designed to minimize the risk of getting new pests. Bulbs, and seeds other than the aforementioned kinds, are admitted without special permission. Any person who desires to introduce plants should, before he places his order, apply to the Division for a permit for their admission, giving their varietal names and the number of each kind, and stating who is to supply them, where they will be grown, and how they will come. Many nurserymen now refuse to consign plants to South Africa unless they are assured that a permit for them has been or will be issued.

(iv) *Fruit and Potato Import Regulations.*—Fruit is admitted without the formality of a special permit, but is subject to inspection and to treatment, or even to exclusion, should it be found diseased or infested with insects considered pestiferous. Most difficulty arises from *Fusicladium* (scab or black spot) on Canadian and Australian apples; and importers of such fruit do well to caution consignors against sending any that is not very carefully selected. Lemons and oranges from southern Europe commonly have to be fumigated because of scale insects. The introduction of peaches, plums, cherries, and other stone fruits is prohibited.

Prospective importers of potatoes are advised to obtain from the Division particulars of documents required from the country of origin, as consignments are not admitted until prescribed certificates are produced. The regulations concerning overseas fruit and potatoes apply also to the produce of South-West Africa and of Portuguese East Africa.

(v) *Bee Import Regulations.*—The right to introduce bees, and used apiary appliances, is strictly reserved to the Government, and none have been imported since the constitution of the Union. The introduction of honey is absolutely prohibited; while the introduction of foundation comb and of beeswax is allowed only under special permit. The regulations apply to South-West Africa and to Portuguese East Africa, and to territory north of the Zambesi, as well as to overseas countries. By these precautions the Government hopes to keep out American foul brood, Isle of Wight disease, and other bee-maladies. European foul brood and sacbrood occur in all four Provinces of the Union, but do not seem to cause serious losses.

The Department has no officer specially deputed to give attention to apiculture; but lectures in the subject are given by officers at several of the agricultural schools; while the Division of Entomology plant inspector for the port of Cape Town chances to be a bee expert. The Government has wide powers, not at present exercised, in respect of the keeping of bees and of measures for the eradication or suppression of bee diseases.

(vi) *Nursery Regulations.*—On the assumption that plants from nurseries are the most serious potential disseminators of certain classes of insect pests and plant diseases, the registration of plant nurseries is required, and such places are quarantined should the conditions appear to warrant this drastic action. Every nurseryman who sells fruit trees is compelled to have a cyanide fumigation chamber fulfilling specified requirements, and the fumigation of every fruit tree therein before it is allowed to leave the nursery is obligatory upon him. The registration of carnation nurseries, and of vine nurseries within, and confining their business to, the main viticultural area of the Cape Province, is not necessary, but any person who grows other kinds of perennial plants for sale is required to effect registration.

(vii) *Plant Removal Regulations.*—The requirements in connection with nursery stock are supplemented by requirements in respect of plants that are sent by rail or post by persons who are not nurserymen. The inclusion of any plant in a parcel must be divulged on the label or consignment note, and railway and postal officials are under instructions to see that consignments of plants with certain exceptions go to a plant inspector at the sender's expense for examination. The inspector may return diseased plants to the sender and fruit trees are fumigated whether apparently free of pests or not. A fumigation fee of 2s. 6d. or more is charged.

The removal of vines into the Graaff-Reinet district, and also into a large area comprising the main viticultural districts in the south-west of the Cape Province, is strictly prohibited. The removal of mango trees into Swaziland without the express permission of the Swaziland Government is also prohibited; while the Transkeian Territories and Natal and certain districts of the Transvaal are closed to the introduction of apple, pear, and quince fruits.

Because of citrus canker, the removal of any citrus trees from a limited section of the Transvaal lying to the north and west of Pretoria, is forbidden; and the planting of any citrus tree, and even the growing of any citrus seedlings, within the same area, is illegal unless special authority is obtained from the Secretary for Agriculture.

(viii) *Locust Suppression*.—The occupiers of property are under the necessity of reporting to the magistrate, or to some other prescribed official, the laying of eggs by migratory locusts or the appearance of swarms of *voelganger* migratory locusts on their holdings; and also are required to destroy *voelgangers*. The Division employs officers to instruct farmers and others how best to deal with the pest, and to see that the provisions of the law are carried out. Poison is supplied free of charge. It is a mixture of molasses with arsenite of soda solution, prepared by the Division.

Cycles of serious trouble with migratory locusts seem practically certain to occur for a series of seasons from time to time; but if the efforts to keep the pest suppressed are well maintained, there is little reason to fear that the country will ever again be ravaged by such swarms as used to be experienced. The cycles in the case of the brown locust, which is much the most important species, appear to follow severe droughts in areas where the pest seems to occur permanently, although for years together unnoticed by farmers. The great drought of 1919, which particularly affected the Karroo and north-western districts of the Cape, was followed by extensive outbreaks of the pest in 1920 and 1921.

(ix) *Orchard Insects*.—The important orchard pests of the Union are chiefly a limited number that are practically cosmopolitan in countries comparable in climate. On the whole the orchard pests in the Union are no worse than, if as severe as, they are in most other countries. Those of California, for instance, may safely be said to be much more numerous and more potentially dangerous; but California has a temporary advantage in that its closer settlement and far more advanced industrial conditions simplify the problem of combating pests by spraying and fumigation.

The Department possesses legal authority to inspect orchards and to impose quarantines thereon if insect pests or plant diseases are found, and also has authority to take effective steps for the eradication of any insect pest or disease in an orchard. These powers are held in reserve for special cases, as for example in an effort to exterminate citrus canker. There is no systematic inspection of all orchards, as there is of nurseries, and no special obligation on the public to suppress fruit pests. The time seems to be near at hand, however, when legislation will be required to make the efficient control of the principal pests compulsory in localities where fruit culture is an important industry.

The codling moth is the most serious pest of the pome fruits. Commercial fruit growers find arsenical spraying quite a satisfactory remedy, and not a few hold the view that this pest has benefited the fruit industry of the country through necessitating greater care. It is not yet known to occur in Natal and the Transkeian Territories, nor in some districts of the Transvaal; but it is almost ubiquitous in the Cape Province and the Orange Free State.

The woolly aphid of the apple is very widespread, and is a really grave pest in the high veld following hailstorms. Daubing the isolated patches with raw linseed oil or other strong contact insecticide, and spraying much infested trees repeatedly with tobacco extract sheep dip, are the most generally applicable remedies. Almost all the apple trees propagated in the country during the last fifteen years have been worked on "blight-proof" stocks, chiefly Northern Spy, to protect the roots from the insect.

The notorious oyster-shell bark louse or mussel scale of the apple is nowhere known in South Africa, and the even more dreaded pernicious San José scale has only a limited distribution, not being known anywhere at all in the Cape Province, and being chiefly an urban pest elsewhere. It is found to yield readily to spraying. The red and a few less important scale insects occasionally trouble deciduous fruit trees; but they, too, are readily controlled by proper sprays.

The pear slug was accounted a pest in the south-western Cape districts twenty years ago; but the spraying that has since become necessary to control codling moth incidentally almost exterminates this insect. Bryobia mite and pear leaf blister mite are not uncommon; but they are easily checked by spraying. The highly noxious pear psylla is not found in South Africa, nor is any particularly troublesome thrips.

Fruit flies are prevalent. In the exceptional commercial orchards where control measures are deemed necessary, satisfaction follows the proper employment of the baiting remedy devised by the Division of Entomology. The common so-called "Mediterranean" fruit fly is a highly serious fruit pest; but its ravages are far worse in town gardens and in farm gardens of mixed fruits than in commercial orchards. Even where the conditions favour it most, the early fruits are almost exempt from attack, and, as it chances, in those sections it is early fruits that pay best for other reasons.

The red scale is much the worst pest of citrus trees, and has a wider distribution in the country than any of the other scale pests of these trees, excepting the ubiquitous and rarely very harmful soft scale. The mussel purple, circular purple, and small circular purple



scales rank next in importance to the red scale as citrus pests. These insects are chiefly combated by spraying; but the Division strives to persuade commercial growers to adopt fumigation with hydrocyanic acid gas.

The false codling moth, a native insect that spreads into citrus orchards from wild fruits in the vicinity, causes material losses in some summer rainfall areas. It attacks guavas, various deciduous fruits, walnuts and acorns, as well as citrus fruits. In some seasons it is much more in evidence than in others. Experiments by the Division have shown that the infestation of oranges may be minimized by arsenical spraying; but it is questionable if the loss of fruit is anywhere serious enough in the average season to warrant systematic spraying.

(x) *Vine Insects*.—Phylloxera ravaged the vineyards in the principal vine districts twenty to thirty years ago. For many years past, however, comparatively little has been heard of this pest owing to the use of phylloxera-proof stocks on which to graft the commercial varieties of vines. The pest has found its way to many localities in the Transvaal, and is suspected to be in Natal; but it occasions little loss in these sections owing to the non-importance of viticulture in them. The pest has never been reported in Graaff-Reinet district, where there are some extensive vineyards. The introduction of vines into this area is strictly prohibited.

The calandra, a native, stout, non-flying, dirt-coloured snout beetle, about a quarter of an inch in length, has from early days troubled vineyards in the Cape and adjoining districts. It is combated chiefly by trapping the creatures in rolls of leaves, but under some conditions it is cheaper and better to spray with an arsenical mixture. Similar beetles are troublesome in most vine-growing countries.

Mealy bugs are troublesome in a few vineyards, and are chiefly feared by growers of table grapes owing to their fouling the clusters. The Division has demonstrated that fumigation with hydrocyanic acid gas is an efficient remedy, but growers have not yet adopted the treatment owing to its expense under present conditions.

Erinose, a distortion of the foliage by a mite, is sometimes very prevalent in some Cape vineyards that are not sulphured early in the season. It is spread chiefly by cuttings from infested vineyards, and the Division has demonstrated that the cuttings may be readily disinfected by fumigation, and also by dipping in certain solutions.

Leaf beetles are commonly very troublesome in small plantings of vines in the northern parts of the Union. They can be combated by arsenical sprays, and also by collecting the beetles by hand. They hide in the soil beneath the vines by day.

(xi) *Maize Insects*.—Cutworms sometimes do great havoc to young maize in common with other plants; but it is exceptional for them to be very bad in lands that are ploughed in the winter, and therefore practically free of food for the cutworms for a considerable interval before the young maize shows itself.

The maize-stalk borer is the worst maize pest. It is a native insect that tunnels in the stalk, also at the base of the cob, and to some extent among the grains. The Division has given much attention to the insect, and believes that the control measures advocated by it are efficient and sound in practice. The pest occurs practically all over the country where maize is grown; but it is at its worst where maize culture has become most extensive. It will doubtless wane in importance as methods of farming are improved.

In some years ground snout beetles, akin to the calandra of the vine, eat down young maize, in common with many other crops, over small areas. Such troubles are experienced in most countries.

(xii) *Wheat Insects*.—The worst wheat pest is the wheat aphid, an insect that is well known in America and Europe. It is not heard of in the south-western districts; but is so frequently highly destructive in the east of the Free State and in some districts of the Transvaal as to bring the profitableness of wheat growing there into question. As its prevalence depends upon climatic conditions, farmers are advised to have their wheat grow as thriftily as possible so that it may have the best chance for surviving should the aphid attack it.

The grain bug, or stinkvlieg, a small insect closely allied to the notorious chinch bug of America, is occasionally troublesome in many localities; yet it does not seem to be considered a very severe pest.

An epilachna ladybird, commonly referred to as *skilpadje*, is not infrequently complained of by growers of wheat, oats and barley, in districts near the coast in the south and west of the Cape Province. This pest is now being given special study by the Division. It may prove practicable to attack it during the long interval that it spends away from its cultivated food plants.

(xiii) *Wattle Insects*.—Insects injurious to the black wattle, which is largely cultivated for its bark in Natal, were the subject of their entire attention by two of the Division entomologists stationed at a special field laboratory at New Hanover, Natal, for four years. The chief wattle pest is an indigenous bagworm that has spread to the wattles from the common thorn tree of the country. It is chiefly troublesome on wattles grown in

non-misty areas, and its cycles of abundance alternate with periods when it gives little or no trouble. The Division has demonstrated that the caterpillars may be combated by dusting the trees with an arsenical compound, a power duster having been used in the demonstration.

(xiv) *Cotton Insects*.—There are indications that the cultivation of cotton will become a highly important branch of farming in the Union, and consequently special attention is being given to insect pests of the cotton plant. The highly destructive cotton boll weevil and the equally serious pink boll worm of some other countries are quite unknown in South Africa; but the growing plant is subject to attack to such an extent by other insects that the growers are likely to get discouraged if effective remedies are not demonstrated. One entomologist on the Division's staff makes a special study of insects injurious to cotton. The chief pests are three species of boll worms and lint-staining bugs.

(xv) *Tobacco Insects*.—The tobacco insects of the Union are not particularly serious. They include cutworms, *miel* or split worms (potato tuber moth and also an allied species), *risper* (tomato fruit worm), and tobacco leaf beetle. The root gallworm is common, and renders the sterilization of the soil in seed beds advisable in many sections. The leaf beetle, or tobacco slug, is an accidental introduction from South America, which is spreading, and which in time threatens to be of much greater seriousness than all the other pests together. It now occurs in all four provinces, but has not reached the more important tobacco area. Spraying with arsenate of lead has been demonstrated to be a satisfactory remedy.

(xvi) *Potato Insects*.—The potato tuber worm is probably the most serious pest of potatoes. For several years it has been the subject of special study by the entomologist at the School of Agriculture, Potchefstroom. The root gallworm is also common, and the use of infested tubers as seed is considered to be the chief means by which this pest is spread about the country. The worms are almost microscopic, but their presence in a tuber is clearly indicated by nodular swellings on the surface. The trouble is greatly aggravated by growing potatoes or other susceptible crops year after year in the same ground. There should be alternation with grain crops. The closest approach to the Colorado potato beetle found in South Africa is one of the leaf-feeding ladybirds. It is, as a rule, only occasionally troublesome on any particular farm, and is easily combated with arsenicals.

(xvii) *Termites, or White Ants*.—Termites, or white ants, which are ants in name only, are more or less troublesome in most districts of the Union, and particularly troublesome in parts of Natal and the Transvaal. In all there are about thirty species in the country, and about ten of these give rise to serious complaints. Fourteen species, inclusive of six of the destructive ones, are known to the Division in Pretoria alone, and termite trouble is much more severe in many places than at Pretoria. Certain species devour the woodwork of buildings, and play havoc with stored hay and grain. Certain others eat the roots of plants, and are sometimes serious pests in newly set orchards and plantations; while others again cut off growing plants, such as grass and lucerne, bit by bit, and drag the pieces into underground burrows. The preventive and remedial measures satisfactory for some species are almost useless for others; and owing to the importance of an accurate knowledge of the different kinds in tendering advice as to treatment, a senior officer of the Division of Entomology has for years spent much of his time in learning the characteristics of the various species, and in determining the suitability of measures for the eradication or suppression of the noxious ones. The Division is now thought to be in a better position for advising the public on white ant problems than any other institution in the world. It is not intended to imply by these remarks that white ants are a pest with which farmers in general have to reckon. The great majority of people in the country are never concerned with the creatures; yet the aggregate damage, both in town and country, must be considerable.

(xviii) *Stored Produce Insects*.—Most of the cosmopolitan pests of stored produce are to be found in South Africa; but owing to the dryness of the climate they are not as highly destructive as in many other countries. The grain weevil and the grain moth are very widespread, but not much complained of except near the coast, and then only in grain that is kept on hand for an exceptionally long period.

The Mediterranean flour moth is an old pest in most parts of the country, and while a source of much annoyance to millers, it does not seem to be so serious a pest as in America.

Pea and bean weevils have been the subject of special investigation by the Division. The pea weevil is still only common in the extreme south-western districts of the Cape; but the common bean weevil is now to be found in most parts of the country. It seems probable that it would be profitable for buyers of large quantities of beans and such-like produce from farmers to instal a seed-heating or fumigating device in order to destroy the insects in the seed before they put it in storage. The Division is in a position to advise produce merchants and others in regard to heating and fumigating devices.

As dried fruit is being produced in larger and larger quantities in the Union, the entomologist at the Elsenburg School of Agriculture is giving special attention to the problem of dealing with the insects that infest dried fruit. Scrupulous cleanliness in and around packing houses, and in the stores, is the greatest consideration; and efficient sterilization at the time of packing the fruit the next.

(xix) *Plantation and Shade Tree Insects*.—Because so many of them are exotics that have been brought to the country only in the seed state, the plantation and shade trees of South Africa are much less troubled with insects than the plantation and shade trees of older countries.

The eucalyptus borer has created alarm in the drier sections of the country as being responsible for the death of many eucalyptus trees. This insect is an accidental introduction from Australia, and, largely through the traffic in mine props, has been rapidly spread about the country. It is unable to live in thrifty trees, but is capable of causing the speedy death of trees that are seriously weakened by drought. The infested trees should be effectively disposed of during the winter or early spring.

The pustular oak scale has become a serious pest to the common oak in the south-western districts of the Cape and along the Witwatersrand. The Division is now endeavouring to disseminate a European parasite that preys upon it; but it seems probable that, in future, it will be found advisable to substitute some other species of oak for the one now almost universal in the country. The pest does not seem to trouble some of the kinds of oak that might take the place of the common one. The pest is thought to have got into the country with importations of oak trees that took place just after the South African war. The common oak also suffers considerably from the oak aphid and the oak phylloxera—both European insects. The oak suffers also at the Cape from the common red scale. These several pests do not seem seriously to trouble other kinds of oaks.

The Ross scale, an introduction from Australia, disfigures many kinds of shade and ornamental trees and hedge plants in the northern areas. It occurs abundantly on the Pinaster pine in some plantations, and to a less extent on Monterey pines. The Chinese privet, a small tree very desirable about public buildings because of its shapeliness, unfortunately is a favourite food plant of the insect. The common oleander scale is also widely prevalent on ornamental plants; but neither of these scale insects has the killing effect on its food plant which is so noticeable in the case of the red scale.

(xx) *Household Insects*.—At one time the sleeping coaches on the South African railways had an unsavory reputation for bed bugs; but owing to hydrocyanic acid fumigation, started before the South African war by the Division of Entomology, the trouble has been almost entirely forgotten. The Railway Administration has ever since had the sleeping coaches periodically fumigated. Fumigation for the suppression of vermin in dwellings was also taken up in South Africa as the outcome of work of Division entomologists; and it is thought that house fumigation for vermin is carried on in South Africa on a relatively larger scale than anywhere else in the world. The fumigation of dwellings should be carried out only by persons skilled in the use of the gas, and several cities in South Africa now have by-laws restricting such work to licensed fumigators.

Cockroaches are a very common household nuisance in most South African towns but this pest can be very effectively kept down by sodium fluoride powder, the use of which has been persistently advocated by the Division for many years.

(xxi) *Extension of Service*.—The entomological service of the Union is considerably understaffed, largely owing to conditions that arose out of the world war. Numerous important insect problems await technical attention. Aside from the replenishment and augmentation of the staff of expert investigators, the more pressing need in rendering Government activities more effective in minimizing loss through insect agencies is for a large corps of itinerant instructors. The officers needed would be intermediaries between the Department's investigators in various lines on the one hand, and the practical farm is on the other. A tremendous development in the employment of such men, with markedly beneficial results, has come about in America during recent years. Quite commonly a large share of the expense is borne by local taxation. The men employed are almost invariably graduates of an agricultural college; and it is considered essential that they should have special supplementary training for a period, and considerable practical experience in farming, before they can be expected to prove successful instructors. It is only through its own agricultural schools and colleges that the Union can hope to get suitable men for such a project in this country, and hence an efficient corps can only be built up gradually and somewhat slowly. Until one is built up, however, the teachings of the Departmental specialists in entomology and in sundry other lines are likely to be largely lost upon a heavy proportion of the farmers for whom they are intended.

7. *Grading of Agricultural Products*.—It has been generally recognized that the success of South African agriculture in relation to the great overseas markets depends largely upon the existence of a proper system of Government supervision and grading, with the object of ensuring that a satisfactory standard of quality in regard to staple products exported is

generally maintained. Various laws have been passed and regulations made in this connection, principally in respect of dairy produce, fruit, grain, wool, meat, and hides and skins. Act No. 16 of 1922 provided that any agricultural product could be submitted to the authorities for inspection and grading on payment of a fee, and fees collected for any such product were to be placed to a special account, which could be utilized for the development of the particular branch of agriculture concerned.

**8 Agricultural Organization in the Union.**—The importance of agriculture to the Union is reflected in the activities of the rural community in safeguarding and furthering their many interests through the medium of societies of farmers formed for the purpose of co-operation with the Government and generally for mutual assistance in coping with the problems of the industry. Organizations of this nature were in operation in the two Dutch Republics and the British South African Colonies in earlier years, and their activities played an important part in the gradual removal of the difficulties which retarded the advancement of agriculture in their respective areas, with the result that the machinery whereby the interests of agriculturists in the Union of South Africa are promoted is now represented by a well-organized body exercising paramount influence in agricultural matters in the Union.

There are in each of the four Provinces of the Union a number of Agricultural Societies and Farmers' Associations, some four hundred in all, having as members a great many farmers representing the most influential and progressive section of the agricultural community. An important function of these bodies is the promotion of the various agricultural shows, of which those organized by the following Societies at the places mentioned are the most popular:—Western Province Agricultural Society (held at Rosebank about the end of February); Port Elizabeth Agricultural Society (held at Port Elizabeth in March); Central Agricultural Society (held at Bloemfontein in March); Witwatersrand Agricultural Society (held at Johannesburg at Easter); Pretoria Agricultural Society (held at Pretoria at the end of May); Royal Agricultural Society (held at Pietermaritzburg at the end of June); and Durban and Coast Agricultural Society (held at Durban about the beginning of July).

Most of the Societies are affiliated to one or other of the four provincial Agricultural Unions. The names and addresses of the respective secretaries of these provincial Unions are as follows:—

- Cape Province Agricultural Union: James Woodin, P.O. Box 502, Port Elizabeth.
- Natal Agricultural Union: D. M. Eadie, P.O. Box 572, Durban.
- Orange Free State Agricultural Union: A. v. d. Post (Acting Secretary), "Wolvekop," Philippolis.
- Transvaal Agricultural Union: J. T. Kleynhans, P.O. Box 937, Pretoria.

For each of these provincial Unions there is a *Standing Committee*, meeting at least four times in the calendar year, and there is an annual general meeting of each Union, attended by the delegates from the various affiliated bodies. From each of the provincial Unions ten delegates are chosen to form what is termed the *South African Agricultural Union*, which meets annually for the purpose of deliberating on matters affecting agriculture generally throughout the Union. A President is elected annually at each congress for the ensuing year and there is also an Executive Committee. The Secretary of the South African Agricultural Union is James Woodin, P.O. Box 502, Port Elizabeth. In addition to the delegates from the four provincial Unions, the adjoining territories of Rhodesia and Mozambique are also represented. The organization described has resulted in the creation of a system properly co-ordinated in such a manner that every interest of the agricultural industry is served thereby. Matters of local or parochial concern are dealt with by a network of organized bodies of farmers throughout the country. For purposes of wider but still provincial interest representatives are sent by these bodies to an annual congress, from which again a delegation is chosen for the final deliberative council at which general principles are considered. At all these congresses Government officers, for the most part experts on the subjects coming under discussion, are in attendance for the purpose of furnishing information on the work of the Government and advice generally on technical and other matters. The funds for carrying on the activities of these organizations are provided by subscriptions supplemented by grants from the Union Government and the Provincial Councils of the Cape and Transvaal.

An *Agricultural Advisory Board* was appointed by the Minister of Agriculture in February, 1920, to advise him on matters relating to agriculture. The Board consists of the Executive Committee of the South African Agricultural Union, the members of which are representative of the various provinces of the Union, and are elected at the annual conference of the Union. The members of the Board are called together from time to time by the Minister of Agriculture for the purpose of consultation, and to afford them an opportunity of submitting their views on matters relating to agriculture and any proposed legislation in connection therewith. The Secretary of the Board is Mr. James Woodin, P.O. Box 502, Port Elizabeth.

The following is a representative list of bodies serving particular phases of the agricultural industry:—

- (i) South African Stud-book Association (Secretary, A. A. Persse, P.O. Box 703, Capetown).  
This organization has the following Societies affiliated to it:—
- (a) The Friesland Cattle Breeders' Association (Jas. Woodin, P.O. Box 544, Bloemfontein).
- (b) The Shorthorn Society of South Africa (Cuthbert A. Pope, P.O. Box 173, Queenstown).
- (c) The Afrikaner Cattle Breeders' Society (A. Smuts, P.O.\* Box 5, Ermelo, T.P.).
- (d) The Devon Cattle Breeders' Society of South Africa (R. Ovendale, P.O. Box 611, Bloemfontein).
- (e) The South Devon Breeders' Society of South Africa (Claude W. Forder, Alexandra Road, Pietermaritzburg).
- (f) The Ayrshire Cattle Breeders' Society of South Africa (J. G. Torrance, P. O. Box 4344, Johannesburg).
- (g) The Aberdeen - Angus Cattle Breeders' Society of South Africa (G. Wilson, Zandfontein, Parys, O.F.S.).
- (h) The Hereford Breeders' Society of South Africa (J. G. Torrance, P.O. Box 4344, Johannesburg).
- (i) The Hackney Horse Society of South Africa (R. Ovendale, P.O. Box 611, Bloemfontein).
- (j) The Clydesdale Horse Society of South Africa. (R. Ovendale, P.O. Box 611, Bloemfontein).
- (k) The Merino Stud Breeders' Association of South Africa (A. A. Persse, P.O. Box 703, Capetown).
- (l) The Pig Breeders' Society of South Africa (A. A. Persse, P.O. Box 703, Capetown).
- (m) The Sussex Cattle Breeders' Society of South Africa (J. G. Torrance, P.O. Box 4344, Johannesburg).
- (n) Angora Goat Breeders' Society of South Africa (A. A. Persse, P.O. Box 703, Cape Town).
- (ii) Stud-book of Thoroughbred Horses of South Africa (per Jockey Club of South Africa; Major F. J. Henley, Secretary, P.O. Box 183, Johannesburg).
- (iii) The Nurserymen's and Seedman's Association of South Africa (Secretary, E. T. Tidmarsh, Box 120, Bloemfontein).
- (iv) The Western Province Beekeepers' Association (Secretary, A. J. Hopper, "Belmont," 64 Kloof Street, Capetown).  
The South African Association of Beekeepers, P.O. Box 6057, Johannesburg.
- (v) The Co-operative Wine Farmers' Association of South Africa, Ltd., Paarl.
- (vi) The South African Sugar Association, P.O. Box 572, Durban.  
The South African Sugar Planters' Union, Durban.
- (vii) The South African Maize Breeders', Growers', and Judges' Association (P.O. Box 3609, Johannesburg).
- (viii) The South African Poultry Association (P. H. Taylor, P.O. Box 692, Pretoria).  
(To which 63 Poultry Clubs are affiliated.)
- (ix) The South African Co-operative Creameries Agency, Ltd. (P.O. Box 1022, Johannesburg).  
The Secretary, East Griqualand, Cheese Manufacturers' Association, Kokstad, Cape.
- (x) South African Fruit Growers' Exchange (F. W. Patten, P.O. Box 414, Johannesburg).  
Transvaal Fruit Growers' Association (P.O. Box 1800, Johannesburg).  
Natal Fruit Growers' Association (Wm. Cotts & Co., Durban).  
Bathurst Farmers' Union, P.O. Box 90, Grahamstown.  
Groot Marico Farmers' Association (P.O. Box 83, Zeerust).  
Paarl Farmers' Association (J. Gribble, Paarl).  
Low Veld N.E. Farmers' Association (Secretary, P.O. Nelspruit).  
Wolhuters Kop Citrus Growers' Association (Secretary, Wolhuters Kop).  
Constantia Fruit Growers' Association (T. F. Smuts, Constantia).  
Western Province Fruit Growers' Co-operative Association, Ltd. (P.O. Box 622, Capetown).
- (xi) The Meat Producers' Exchange, Ltd. (P.O. Box 7582, Johannesburg).

In connection with the above list, it is to be noted that in recent years the distinctive tendency in the sphere of agricultural organization in the Union has been the growth of co-operative effort in the shape of farmers' associations and exchanges for the marketing of agricultural and pastoral products. Exchanges have been formed in the fruit and meat industries, and a project for the establishment of a produce exchange was mooted in 1922. ]

## § 2. Live Stock and Pastoral Production.

1. **Horses, Mules, and Asses.**—(i) *History of Horse-Breeding.*—The horse is not indigenous to South Africa, but was, on the other hand, the first domestic animal to be imported nearly three centuries ago, and subsequently played an important part in establishing the supremacy of the white race and furthering its extension and development. The first horses were imported from Java, and were the descendants of *Arabian* and *Persian* horses sold to the Eastern nations by Arabian traders during the fifteenth and sixteenth centuries. From time to time new blood was obtained from Arabia (1689), South America (1778), North America (1782), England (1782), and Spain (1807). Notwithstanding all the fresh blood obtained from these quarters, a close study of the horse stock of those countries at the times of importation indicates that *Arabian* blood was nevertheless predominant. A little over a century after the arrival of the first horses the industry of horse-breeding had flourished so well that the first shipment of remounts was exported to India, thus opening a remunerative trade which brought the horse from the Cape fame not only in India but in Egypt, and even in the Crimea. Further particulars as to the history of South African horse-breeding will be found in previous issues of this Year Book.

(ii) *Natural Suitability of the Country for Horse-Breeding.*—The suitability of the Union for horse-breeding has been recognized since the earliest times. The climate, the pastures, and soils, combine to produce a horse with a good constitution, strong bone, tendon, and hoof. The localities naturally best adapted to the profitable rearing of horses are those where soils of the Karroo system of rock formation prevail. Soils of this nature are generally rich in lime and such constituents as are required to yield nutritious pastures. The comparatively small size attained by the South African horse is largely due to deficient nutrition of the young stock during the winter months and prolonged periods of drought. The Karroo system in varying formation spreads over almost the whole of the Union, and wherever such soils appear horse-breeding can be taken up with success. With the exception of the coastal regions of Natal and immediately south of Natal, the parts north of the districts adjacent to the Vaal River in the Transvaal and the extreme barren parts of Bechuanaland, the Union throughout is eminently suited for horse-breeding. Mules do well wherever horses flourish and the ass thrives well even where horses cannot exist. Generally it may be observed that horses do well wherever conditions are best suited for sheep.

(iii) *Export of Horses.*—The export of South African horses, apart from the export of thousands of remounts which began as early as 1769, was continued for breeding purposes in 1810, when Australia obtained from South Africa the first horses introduced into that country. Importations were repeated until Australia's horse-breeding was firmly established. Many stallions and other horses were bought by the rich Nabobs of India, and for a time South African horses were famous in India as racers. Throughout the nineteenth century horses were exported in varying numbers and quality to distant parts of the world, and in large quantities to Mauritius, Ceylon, Bourbon, South America, and various parts of India. The foundation stock of the late German Colonies and of Portuguese territories, as well as of the whole of Central Africa where horses can exist, is by preference based on the *Cape Horse*.

(iv) *Present Type of Horse.*—Whatever foreign blood may be in the veins of the horse stock of the Union, that stock still forms a type by itself. The type is still predominantly of *Thoroughbred* strain, while the *Arab* and improved blood of the last century has not quite disappeared. None of the other breeds of horses has established itself to any important extent, although small studs of good animals of other types exist throughout the Union. The tendency at present is to breed from heavy sires in order to increase the size, and to produce a type for general utility.

(v) *Mules.*—The ass was imported into South Africa at a very early date from the Cape Verde Islands. Most probably these asses were of Spanish origin and of Andalusian stock. Early in the eighteenth century the area now known as the Malmesbury District was settled, and grain farming became a special feature of the rich live stock farmers. The most famous studs, as well as the Government Experimental and Stud Farm, were situated here, and mule-breeding seems to have been taken up at an early date, in order to supply faster draught animals than the ox to cope with the ever-expanding corn fields. This supply has always been insufficient, and the studs in the north, in the old and new Hantam, took up the breeding of mules. Ultimately the industry became general throughout the country with intensive areas in the best districts. The South African mule, although somewhat light, is a most useful animal, very hardy, of excellent constitution, willing, and capable of much work to an advanced age. Good mules are always in demand and fetch high prices.

(vi) *Statistics.*—The following tables, (a) and (b), give particulars of horses, mules, and asses in the Union, and (c) and (d) imports and exports of such live stock from the year 1911:—

(a) HORSES, MULES, AND ASSES IN EACH PROVINCE AT GENERAL CENSUSES OF 1904 AND 1911, AND AGRICULTURAL CENSUSES, 1918 TO 1921.

## HORSES.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904.....	255,060	66,574	51,654	76,251	449,539
1911.....	333,962	75,567	89,160	220,725	719,414
1918.....	367,605	65,839	106,698	240,880	781,022
1919.....	279,371	54,372	105,199	256,196	695,138*
1920.....	268,776	57,798	114,601	248,949	690,124*
1921.....	417,131	85,651	147,248	270,066	920,468‡

## MULES.

1904.....	64,433	4,450	43,917	21,934	134,734
1911.....	47,059	15,602	25,275	5,995	93,931
1918.....	52,086	6,983	13,818	11,672	84,559
1919.....	55,254	4,208	6,911	14,777	81,150†
1920.....	61,861	4,222	9,107	17,605	92,795†
1921.....	71,727	6,301	19,298	19,253	116,789‡

## ASSES.

1904.....	100,470	2,418	32,496	6,546	141,930
1911.....	191,086	28,018	106,048	11,558	336,710
1918.....	315,333	48,905	149,411	40,667	554,316
1919.....	311,157	36,071	103,741	37,647	498,616†
1920.....	319,125	38,407	128,101	37,917	523,550†
1921.....	391,522	54,502	229,620	46,446	722,238‡

\* Excluding horses in Native Locations, etc., which numbered 103,138 in 1918 and 155,853 in 1921, and also horses in urban areas.

† Excluding mules in Native Locations, etc., which numbered 1,790 in 1918 and 1,619 in 1921, and also mules in urban areas.

‡ Excluding asses in Native Locations, etc., which numbered 80,729 in 1918 and 123,220 in 1921, and also asses in urban areas.

§ Including 372 horses, 210 mules, and 148 asses on rail.

(b) HORSES.—NUMBER AND CLASSIFICATION AS TO AGE, ETC., ON 30th APRIL, 1921.

Province.	Under 1 Year.	1 Year and under 3 Years.	Stallions (3 Years and over).	Mares (3 Years and over).	Geldings (3 Years and over).	†Urban Horses (including Foals).	Total.
Cape of Good Hope	30,770	43,928	11,571	95,890	81,270	28,846	282,275
Natal.....	7,642	9,748	2,058	18,654	19,745	4,587	62,434
Transvaal.....	16,199	21,984	6,074	40,164	39,333	20,610	144,364
Orange Free State..	37,169	45,130	8,715	98,499	64,940	10,717	265,170
Native Locations, Reserves, etc.....	•	•	•	•	•	•	155,853
On rail.....	•	•	•	•	•	•	372
TOTAL.....	91,780	120,790	28,418	253,207	205,288	64,760	920,468

\* Not enumerated.

† No detailed classification obtained in urban areas.

(c) IMPORTS, LESS RE-EXPORTS, OF HORSES, MULES, AND ASSES, 1911 TO 1921.

Year.	Horses, Mares, and Geldings.		Mules.		Donkeys and Jackasses.	
	No.	£	No.	£	No.	£
1911.....	814	60,500	3,179	55,263	137	9,015
1912.....	560	38,859	2,560	37,987	97	6,193
1913.....	885	49,308	3,933	68,160	140	9,053
1914.....	316	17,507	1,825	20,668	71	5,098
1915.....	244	26,779	947	6,112	23	2,070
1916.....	60	16,525	79	3,635	27	2,447
1917.....	124	11,164	67	2,280	271	3,036
1918.....	174	15,000	—	—	47	1,951
1919.....	203	20,835	2	75	20	100
1920.....	306	37,885	66	1,083	—	—
1921.....	227	28,602	44	650	—	—

(d) EXPORTS OF HORSES, MULES, AND ASSES, 1911 TO 1921.

Year.	Horses, Mares, and Geldings.		Mules.		Donkeys and Jackasses.	
	No.	£	No.	£	No.	£
1911.....	1,254	34,781	774	20,432	491	3,667
1912.....	574	14,525	364	9,214	543	4,101
1913.....	604	15,127	419	11,186	317	2,123
1914.....	758	17,434	192	4,153	1,048	8,570
1915.....	1,115	25,833	296	6,593	447	2,188
1916.....	382	5,786	146	2,491	330	2,288
1917.....	662	10,596	253	6,429	283	1,806
1918.....	956	21,855	314	8,315	543	3,343
1919.....	1,169	27,950	503	11,003	436	2,485
1920.....	2,082	45,418	1,085	23,116	1,002	5,024
1921.....	1,733	32,110	499	9,703	707	3,811

2. Cattle.—(i) *History of Cattle-Breeding.*—The first colonists who landed at Table Bay found large herds of cattle in the possession of the nomadic native tribes. The resources of the country in respect of the supply of fresh meat induced the Dutch East India Company to provision its ships trading with India and the East with supplies of this kind from the Cape of Good Hope. At a later stage, during the days of the pioneer colonists, cattle had to be relied upon, in the absence of railway communication, for the transport services required for the development of the country. As a consequence cattle were bred chiefly for draught purposes, and in the course of time there was created a distinct type which came to be known as the *Afrikander*. It possessed the quality of hardihood, and is to-day unsurpassed for draught purposes.

Until within comparatively recent times the introduction of European breeds was confined to the importation of *Friesland* cattle from Holland. Not until the nineteenth century were importations of British breeds made. As far as is known the earlier animals consisted chiefly of *Shorthorns* and *North Devons*. The outbreak of rinderpest in 1896 decimated the herds of cattle which had by that time become established in considerable numbers in the northern provinces and in the eastern Cape Colony, and a few years later the numbers of cattle were further depleted through the ravages of the Anglo-Boer War.

Since then a notable advance has been made in cattle-breeding. The prevention and control of stock diseases, now extended to all parts of South Africa, have reduced the risks previously involved, and farmers and others are now disposed to invest money in cattle-breeding operations. Reliable statistics are not available for the period prior to 1902. The census returns taken in 1904 show that the cattle of South Africa numbered 3,500,000 head. In 1911 the number had increased to 5,797,000 head in the Union, in 1918 to 6,852,000, and in 1921 to 8,557,000. By far the larger proportion of these animals is of mixed breed, possessing a marked infusion of *Afrikander* and native blood, though large numbers show the influence of several of the improved European breeds. During the last decade in particular a marked improvement has been noticeable in the herds throughout the country, brought about by importations of sires and by the establishment of pure-bred herds, from which bulls in considerable numbers are now bred and used for the grading up of ordinary herds. A great part of the impetus was due to importations by the Government and object lessons in management at the Experiment Farms. The



formation of the South African Stud-Book Association in 1905, and, at a later stage of natural development, of different Breed Societies affiliated thereto, which are enumerated elsewhere in this chapter, has promoted the breeding of pure-bred stock and protected and fostered the interests of breeders. Each of the following breeds has its Breed Society: *Friesland, Shorthorn, Hereford, South Devon, Aberdeen-Angus, Ayrshire, Afrikaner, and Sussex*. Other breeds to be found in the country, though in comparatively small numbers, are *North Devon, Red Polls, Brown Swiss, and Jerseys*. The records of the Stud-Book Association indicate the progress which is being made in the breeding of pure-bred cattle. In the first volume of the Stud-Book the entries numbered about 400, while in Volume XV, 6,917 head were registered. This may be taken as approximately the number of pedigree cattle bred and imported during the previous year.

Under the Ocean Mail Contract of 1912 pedigree cattle are conveyed to South Africa free of freight. The number of cattle introduced up to the 31st December, 1921, as the result of this provision was 3,699.

(ii) *Number of Cattle in the Union.*—The figures given in the tables hereunder represent the number of cattle in the Union as returned at the general censuses of 1904 and 1911, and at the censuses of pastoral production commenced in 1918, and their age classification at the census of 1921.

(a) **CATTLE IN EACH PROVINCE, 1904, 1911, AND 1918 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904 (General Census).....	1,954,390	666,903	515,956	363,204	3,500,453
1911 ".....	2,715,330	456,087	1,339,208	1,286,234	5,796,860
1918 (Census of "Agriculture")..	2,410,934	977,252	1,888,443	1,575,295	6,851,924
1919 " " ..	1,631,084	729,994	1,554,938	1,659,472	5,575,488*
1920 " " ..	1,610,982	828,573	1,898,572	1,636,675	5,974,802*
1921 " " ..	2,810,003	1,451,553	2,560,800	1,732,005	8,557,089†

\* Excluding cattle in Native Locations, etc., which numbered 1,680,270 in 1918 and 2,355,078 in 1921, and also cattle in urban areas.

† Including 2,728 cattle on rail.

(b) **CATTLE.—NUMBER AND CLASSIFICATION AS TO AGE, ETC., 30th APRIL, 1921.**

Province.	Under 1 Year.	1 Year and under 2 Years.	Bulls, 2 Years and over.	Cows and Heifers, 2 Years and over.	Oxen, 2 Years and over.	Total.
Cape of Good Hope.....	304,428	257,993	31,495	656,383	470,553	1,720,852
Natal.....	146,821	137,694	14,540	330,963	247,880	877,898
Transvaal.....	282,156	202,086	40,787	678,202	634,698	1,807,929
Orange Free State.....	267,883	246,433	20,277	598,230	563,201	1,702,004
Native Locations, Reserves, etc.	•	•	•	•	•	2,355,678
On rail.....						2,728
Total.....	1,001,268	904,206	113,099	2,263,778	1,916,332	8,557,089

\* Not enumerated.

(iii) *Imports and Exports of Beef.*—For some time after the Anglo-Boer war the herds were so depleted in numbers and the demands for cattle for breeding purposes and transport work were so considerable that large quantities of frozen meat had to be imported to supply

the requirements of the population, military and civilian. The following figures indicate the progress of the cattle industry :—

**BEEF—IMPORTS AND EXPORTS (OVERSEA TRADE), 1910 TO 1921.**

YEAR.	IMPORTS.			EXPORTS (SOUTH AFRICAN PRODUCTS).		
	Weight.	Declared Value.		Weight.	Declared Value.	
		Total.	Per 100 lb.		Total.	Per 100 lb.
	lb.	£	£ s. d.	lb.	£	£ s. d.
1910.....	2,989,044	30,553	1 0 5	5,027	98	1 19 2
1911.....	8,092,316	73,976	0 18 3	229,498	4,844	2 2 3
1912.....	9,023,605	88,284	0 19 7	296,834	6,729	2 5 4
1913.....	8,949,753	80,516	0 18 0	121,264	3,161	2 12 1
1914.....	737,950	10,960	1 9 8	463,767	10,089	2 3 3
1915.....	16,957	365	2 2 11	5,971,727	106,112	1 15 6
1916.....	6,950	139	1 19 9	19,260,612	392,832	2 0 9
1917.....	5,680	142	2 0 10	49,997,410	1,111,954	2 4 6
1918.....	—	—	—	21,185,367	542,101	2 11 4
1919.....	—	—	—	46,363,180	1,138,272	2 9 1
1920.....	83,862	1,119	1 6 8	14,435,455	367,573	2 10 11
1921.....	9,033	177	1 19 2	3,395,469	92,483	2 14 6

(iv) *Improvement of Methods.*—During recent years the prospects of an export trade have stimulated breeders to improve the type of cattle bred for beef purposes, and the fattening of cattle is receiving increasing attention. The Department of Agriculture has at its Agricultural Schools and Experiment Farms conducted upon oxen of different types and ages a large number of feeding experiments which have proved of value to breeders and feeders, and experimental shipments of the meat of these oxen to the London market have provided useful information. The *Agricultural Produce Export Act* of 1917 provides for the inspection and grading of meat exported, and a promising industry in the export of beef is now being established. Good breeding stock is in considerable demand, but with the general fall in values prices are lower. Cows of the common mixed-breed type realize £8 and upwards, and heifers and young oxen £5 and upwards. Slaughter oxen fetch £12 to £15, according to weight and quality. The price of first class beef ranged from 35s. to 40s. per 100 lb. at the close of the year 1921. The progress of dairy cattle and their produce is referred to in the following paragraph 3.

(v) *Marketing of Meat.*—The organization of the meat trade within the Union, more especially in the Johannesburg market, has formed the subject of inquiry by various Government Commissions since 1918, when attention was first drawn to the matter by the Cost of Living Commission. A Meat Trade Investigation Commission, appointed in 1919, made several recommendations, and the question was in March, 1922, taken up by the Board of Control under the Profiteering Act, 1920, which confined its inquiry to the conditions in the Johannesburg market. In May, 1921, a Meat Producers' Exchange was formed in Johannesburg, with a membership embracing farmers in all parts of the Union. The Board of Control examined the relations between this body and other interests, some of whom had manifested hostility towards the Exchange. Criticisms were directed by the Board against certain features of the organization of the Johannesburg meat trade. The subject of the meat trade in general was further inquired into by a Select Committee of the House of Assembly in 1922, which approved of the co-operative principle underlying the Meat Producers' Exchange, and made a number of recommendations as to the organization of the internal meat market and the export trade.

3. *Dairying.*—Instruction in dairying was first given in the Cape of Good Hope after a brief visit by an officer of the Cape Department of Agriculture to Australia to inquire into the dairying industry in that country. As it was desirable that the new branch should get into close touch with the farmers the work was carried on by means of a travelling dairy, this pioneer labour being performed for some years. As the outcome a co-operative dairy was established by private enterprise in the District of Queenstown, followed soon after by a co-operative dairy at Bedford and by another at Darling. In the meantime a dairy expert had been engaged by the Government of Natal and the first two years' work of this officer consisted principally of lecturing and demonstrating modern methods of dairying in that Colony. The expert was deputed by his Government to visit the two creameries established in the Eastern Province of the Cape Colony, and as a result of his investigations

two creameries were started in Natal almost simultaneously, one at Nels Rust, known as the Nels Rust Creamery, and the other at Mooi River, known as the Natal Creameries, Limited. The movement in the Cape of Good Hope was further encouraged in 1905 by loans granted under the authority of Parliament, followed by propaganda work by a specially engaged expert in co-operation. As a result, several additional creameries were established in that Province: some of these failed, but a certain measure of success attended the movement.

In the Orange Free State a dairy expert was appointed during the Crown Colony administration. In 1907 a system of loans to co-operative creameries was inaugurated, under which nine creameries and one bacon factory were established between that year and 1913. Of these two were liquidated, while the efforts of the remainder have been attended with a fair amount of success. In the Transvaal a Dairy Division of the Department of Agriculture was created in 1904. With the co-operative movement inaugurated by the passing of the *Co-operative Societies Act* in 1908 two co-operative creameries were started, which, however, were unsuccessful. After the establishment of the Union two dairies, commenced by the Government in the Transvaal, were completed and leased. The Union Department of Agriculture includes a Division of Dairying, consisting of a Superintendent of Dairying, Assistant Superintendent of Dairying, six Inspectors, and two cheese graders.

A Dairy Inspector is stationed in each of the four Provinces of the Union, and it is his duty to travel among the farmers and give advice and instruction in approved methods of production, and in all matters appertaining to dairying and dairy farming, as well as to administer the provisions of the *Dairy Industry Act*, and grade all butter and cheese for export overseas. Lectures and demonstrations are given by officers of the Division at suitable centres and at agricultural shows on butter and cheese making, as well as on milk and cream testing. Six Milk Recorders are attached to the Division, and are kept continually employed in carrying out check and butter-fat tests for the official milk record scheme.

*Creameries.*—The establishment of creameries has been a notable means of developing the dairy industry. At the end of 1921 there were seventy-one creameries working in the Union, while forty-nine cream collecting depots also were in existence. Several of the creameries were started with the aid of grants from public funds, and are run on co-operative lines, in so far as the dividends which they are allowed to pay to shareholders are limited to 10 per cent. Any balance must be refunded to the cream suppliers in proportion to the quantity they have supplied. Government loans (now no longer made) were secured by a general bond over the assets of the society.

*Cheese Factories.*—At the end of 1921 there were one hundred and thirty-one cheese factories working in the Union, and in addition a considerable number of private cheeseries, owned by farmers making cheese from the milk of their own cows only. New factories are, however, being continually started, and the above figures are no doubt now exceeded. Both the *Cheddar* and *Gouda* types of cheese are successfully made, most of the cheeseries preferring the latter.

Arrangements have been made for the grading of Cheddar cheese for local consumption or any cheese factory in the Union at the nominal figure of 4d. per lb, and it was with a view to making grading general that a Federation was formed in East Griqualand. To undertake the work of grading, two cheese graders have already been appointed.

The dairy industry in South Africa has assumed a position of considerable importance. Whereas very large quantities of butter and cheese were previously imported, during the years 1916 and 1917 not only was sufficient butter made in the Union for all local requirements, but a surplus was exported overseas [see Table (i) below]. During the 1921 season a very greatly increased quantity of butter was exported, and it may be taken that the export trade in this commodity is now fairly well established. Regulations governing the export of butter and cheese have been brought into operation, and neither of these products can leave the Union before being placed in the different grades according to quality. Farm butter, if marked "Ungraded farm butter," can be exported, as also can "cooking butter" (butter below third grade). Experience has thus shown that a very considerable portion of the Union is well adapted to dairy farming. The climate is mild, and cattle thrive well on the natural veld from six to eight months of the year. Dairying is no longer looked upon as a side-line by farmers; large numbers are now specializing in dairy farming and improving their cattle, with a view solely to increasing their output of milk and cream, while the arable portions of their farms are devoted entirely to the production of foodstuffs for the feeding of their cows.

The principal crops grown for the feeding of dairy cattle are mealies, lucerne, oats, tef-grass, millet, mangolds, rye, and cow-peas, all of which do well in most of the areas devoted to dairy farming. Considerable quantities of mealies are grown for silage and mealie hay, the use and value of which are being increasingly realized.

It may be said with confidence that the outlook for the dairy industry in South Africa is very bright, and if the present rate of progress is maintained a great future is assured.

**Legislation.**—During the 1918 session of Parliament the *Dairy Industry Act* was passed, operating from the 1st January, 1919. The Act provides for the registration of dairy premises, and the owners and occupiers thereof; for the marking of dairy produce and the registration of marks thereon, and generally for the regulation of the dairy industry.

**Cattle.**—In the year 1911 there were shown to be 1,900,230 cows in the Union. At the next census (in 1918) the number was 1,924,925, exclusive of cattle in native locations, reserves, etc. Generally speaking the cows in the Union produce a rather small quantity of milk, which is nevertheless of very good quality. No statistics are available to enable figures to be given, but it may be said that in recent years great improvement has been brought about both as regards quantity and quality. Large numbers of pure-bred cattle have been, and still are being, imported; their progeny is becoming spread, and is having a marked influence for good on the ordinary cattle of the country. This is undoubtedly largely responsible for the increased output of dairy produce. Among dairy farmers generally there is a growing appreciation of the value of keeping milk records as a means of improving herds by selected breeding from the largest producers. This is chiefly carried out by individuals, the introduction of cow-testing associations not having as yet made much progress, doubtless largely due to the difficulty experienced in finding sufficient dairy farmers within easy reach of one another to make such propositions feasible.

Most dairy breeds do well in South Africa. *Frieslands* and *Ayrshires* are probably the most popular, though *Jerseys*, *Dairy Shorthorns*, *South Devons*, and *Red Polls* are to be found in considerable numbers. The bulk of the dairy herds are what may be called *Utility Dairy Animals* in which *Friesland* and *Shorthorn* blood predominates. There are also large numbers of pure-bred herds of each breed. A scheme for the keeping of official records has recently been devised by the Dairy Division of the Department of Agriculture in conjunction with the Breed Societies. The owners of the cows entered have to weigh the milk at each milking, while a recorder (a Government official) makes a check test of weights, and also a butter-fat test, on two consecutive days every thirty days. The whole scheme is under the supervision of the Superintendent of Dairying, who issues the certificates at the end of the lactation period of each cow. If desired, the record is entered in the Stud-Book. The entire cost of the scheme is borne by the owners of the cows entered, in a pro rata share per cow. The keeping of milk records is greatly on the increase. Many breeders and dairy farmers, having realized its vast importance, are coming under the scheme. One feature, which is calculated to give a considerable impetus to this important phase of dairying, is the fact that it has been possible to export to Great Britain a number of pure-bred animals, taken from herds in all parts of the Union: animals whose dams have qualified on the standard laid down by the British officials—viz., 12,000 lb. of milk, containing a minimum of 3.3 per cent. butter-fat. These animals were sold by auction in June, 1922, and realized very satisfactory prices.

The following tables will serve to illustrate the position of the industry and the advance which has taken place since 1910-11:—

(i) **BUTTER—PRODUCTION, IMPORTATION AND CONSUMPTION,  
1910-11 TO 1920-21.**

YEAR.	PRODUCTION.			Imports (less Re-Exports).	Production. (less Exports).	Consumption.
	Creamery Butter.	Farm Butter.	Total.			
	lb.	lb.	lb.	lb.	lb.	lb.
1910-11...	5,190,514	6,158,779	11,349,293	3,510,308	11,101,563	14,611,871
1911-12...	6,253,818*	4,314,519*	10,568,337	4,176,982	10,249,178	14,426,160
1912-13...	7,659,748	3,081,907	10,741,745	4,160,073	10,383,876	14,543,943
1913-14...	6,566,873	4,155,135	10,722,008	3,718,702	10,403,967	14,122,669
1914-15...	8,323,125	5,084,015	13,407,140	2,783,713	13,177,502	15,961,215
1915-16...	7,877,271	5,104,549	12,981,820	• 946,645	12,022,948	12,969,563
1916-17...	11,390,666	5,713,490	17,110,156	92,856	14,635,053	14,727,909
1917-18...	12,014,229	8,079,100	20,093,329	68,872	17,584,869	17,653,741
1918-19...	13,732,776	7,960,680	21,693,456	156,011	20,517,215	20,673,826
1919-20...	10,864,464	6,944,823	17,809,287	665,114	17,432,298	18,097,412
1920-21...	11,517,533	7,445,540	18,963,073	— 27,911	17,653,505	17,625,594

\* Estimated.

(ii) CHEESE—PRODUCTION, IMPORTATION AND CONSUMPTION,  
1910-11 TO 1920-21.

YEAR.	PRODUCTION.			Imports (less Re-Exports).	Production (less Exports).	Consumption.
	Factory Cheese.	Farm Cheese.	Total.			
	lb.	lb.	lb.	lb.	lb.	lb.
1910-11...	225,309	319,981	545,290	4,660,131	523,892	5,184,023
1911-12...	373,079*	401,656*	774,735	4,907,495	751,891	5,659,386
1912-13...	520,849	504,180*	1,025,029	5,208,784	1,000,308	6,209,042
1913-14...	605,686	632,372*	1,238,558	5,244,759	1,217,804	6,462,563
1914-15...	1,098,784	794,443*	1,893,227	4,601,422	1,877,155	6,478,577
1915-16...	878,301	997,186	1,975,487	3,049,899	1,920,742	4,970,441
1916-17...	2,369,305	1,906,743	4,266,048	1,206,906	4,140,562	5,347,468
1917-18...	4,277,227	1,745,500	6,022,727	302,419	5,641,529	5,943,948
1918-19...	5,152,830	366,410	5,519,240	94,327	4,382,174	4,476,501
1919-20...	3,782,065	272,222	4,054,287	795,548	3,123,273	3,918,821
1920-21...	4,346,624	272,090	4,618,714	170,471	4,063,773	4,234,244

\* Estimated.

4. **Sheep and Wool.**—(i) *History of Sheep-Breeding.*—Of the agricultural and pastoral industries of the Union the breeding of woolled sheep is the oldest and most important. The original Cape sheep, still bred to a large extent in South Africa, is a light, somewhat leggy animal covered with hair of varying hue, and with long, lopping ears. Another characteristic is a broad tail, composed principally of fat, and varying in weight from six to over ten pounds. In order to improve the native sheep, importations of rams and ewes from the best flocks in Holland were made by the Dutch East India Company in 1664, and numerous introductions of high-class stock from oversea subsequently took place. The next importation was in 1689, also by the Company, but this time from Spain. In 1790, Colonel Gordon, an officer in the Company's service, introduced a number of fine merino sheep of the *Escorial* breed. Other importations occurred at about this period, and later the breeding of woolled sheep was undertaken seriously. Introductions of sheep of *English* breeds were effected by the settlers of 1820, and purchases were afterwards made in Saxony and, still later, in France. Of late years there have been fairly large importations, chiefly from Australia. The present wool industry of the Union has been built up by the careful selection of rams and the breeding of pure merinos.

(ii) *Number of Sheep in the Union.*—The following tables show the number of sheep (woolled and others) in the country in the census years 1904 and 1911 and in succeeding years:—

SHEEP IN THE UNION, 1904 TO 1921.  
WOOLLED SHEEP.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904.....	8,465,398	504,798	413,838	2,436,801	11,820,635
1911.....	11,051,836	1,105,023	2,330,304	7,355,052	21,842,215
1912.....	13,239,067	1,583,659	3,098,785	9,409,656	27,331,167
1913.....	13,396,765	1,666,019	3,797,395	9,467,728	28,327,907
1915.....	12,372,544	1,938,113	3,467,206	8,166,143	25,943,806
1916.....	12,712,107	1,927,746	3,615,821	8,234,850	26,490,524
1918.....	13,301,826	1,279,833*	2,868,425	7,608,834	25,058,718
1919.....	11,402,670	1,176,330	2,877,620	8,091,510	23,548,130*
1920.....	10,436,070	1,188,790	2,963,440	7,714,990	22,303,290*
1921.....	14,187,905	1,383,279	3,368,317	8,811,147	27,757,213†

## OTHER SHEEP.

1904.....	3,353,521	163,580	422,111	562,658	4,501,868
1911.....	6,082,677	414,235	1,084,916	1,232,588	8,814,444
1912.....	6,022,147	295,090	1,206,251	1,034,266	8,557,754
1913.....	5,188,939	357,866	1,220,563	712,725	7,480,093
1915.....	3,896,732	406,034	811,786	385,672	5,490,274
1916.....	3,817,311	372,547	877,596	392,727	5,490,181
1918.....	3,572,316	326,545	614,404	348,052	4,853,317
1919.....	4,060,790	82,160	367,220	493,200	4,943,370*
1920.....	3,093,470	68,390	379,480	424,330	3,965,670*
1921.....	3,105,897	221,173	407,549	233,075	3,972,290†

\* Excluding sheep in Native Locations, etc., which in 1918 numbered 3,016,281 (2,283,282 woolled; 732,999 other); in 1921, 3,005,572 (2,406,004 woolled; 599,568 other).

† Including 6,565 woolled sheep on rail.

‡ Including 4,605 other sheep on rail.

The following table gives particulars of the average number of sheep per square mile in the several Provinces:—

**AVERAGE NUMBER OF SHEEP PER SQUARE MILE, 1904 TO 1921.**

Province.	1904.	1911.	1916.	1918.	1921.
Cape of Good Hope.....	42·67	61·87	59·79	60·92	62·44
Natal.....	18·94	43·05	65·18	45·35	45·46
Transvaal.....	7·57	30·92	40·68	31·53	34·19
Orange Free State.....	59·53	170·43	171·22	157·91	179·49
UNION.....	34·50	64·80	67·60	63·23	67·07

(iii) *Sheep Flocks in Various Countries.*—The following table gives figures, extracted from a number of sources, showing the size of the sheep flocks of various countries at the most recent dates available in each case:—

**SHEEP FLOCKS OF VARIOUS COUNTRIES.**

Country.	Year.	Number of Sheep (Thousands).	Country.	Year.	Number of Sheep (Thousands).
Australia.....	1920	77,900	Algeria.....	1919	9,140
Argentine Republic.....	1920	45,303	Rumania.....	1920	8,690
United States.....	1922 (Jan.)	36,048	Bulgaria.....	1920	8,632
UNION OF SOUTH AFRICA	1921	31,730	Morocco (French).	1920	6,709
United Kingdom.....	1920	26,993	Germany.....	1921 (Dec.)	5,882
New Zealand.....	1921 (Jan.)	23,236	Greece.....	1920	5,811
British India.....	1919-20	21,984	Chile.....	1919	4,500
Spain.....	1920	19,337	Portugal.....	1920	3,851
Russia*.....	1921	18,200	Canada.....	1921 (June)	3,676
Italy.....	1921	12,060	Tunis.....	1920	2,183
Uruguay.....	1916	11,473	Hungary.....	1920	1,817
Brazil.....	1920	10,633	Sweden.....	1919	1,564
Jugo-Slavia.....	1920	9,772	Norway.....	1920	1,208
France.....	1920	9,406	Mexico.....	1920	1,090

\* European and Asiatic Russia (excluding the Ukraine).

(iv) *Wool Production.*—Almost the whole of the Union wool clip is shipped overseas and the export returns, therefore, reflect practically the total production of the country. In the year 1814 the wool exported from the Cape of Good Hope amounted to 660 lb.; in 1835 to 215,868 lb.; in 1855 to 12,016,415 lb.; in 1875 to 40,339,674 lb.; in 1895 to 65,632,613 lb.; and in 1909 to 102,347,000 lb. Similar comparative figures for the other Provinces are not available, but it will be seen from the figures given in the following table that the industry in the Cape of Good Hope during the years 1890 to 1905 did not maintain its previous rate of progress, due principally to the effects of locusts, disease, and drought:—

**WOOL EXPORTED FROM CAPE OF GOOD HOPE, 1885 TO 1905.**

Year.	Quantity.	Year.	Quantity.
	lb.		lb.
1885	34,432,582	1900*	27,671,000
1890	65,655,917	1905	63,474,000
1895	65,632,613		

\* South African War.

The table given hereunder shows the quantity and value of wool exported from the Union since 1910 :—

**WOOL EXPORTED FROM UNION—QUANTITY AND VALUE, 1910 TO 1921.**

YEAR.	IN GREASE.			WASHED AND SCOURED.			TOTAL.	
	Quantity.	Declared Value.		Quantity.	Declared Value.		Quantity.	Value.
		Total.	Average per lb.		Total.	Average per lb.		
	1,000 lb.	£	s. d.	1,000 lb.	£	s. d.	1,000 lb.	£
1910.....	117,445	3,574,521	0 7	4,223	256,298	1 3	121,668	3,830,819
1911.....	126,893	3,592,878	0 6	5,314	306,950	1 2	132,207	3,899,829
1912.....	157,762	4,527,099	0 7	4,213	253,495	1 2	161,975	4,780,594
1913.....	173,243	5,444,524	0 7	3,729	274,764	1 6	176,972	5,719,288
1914.....	129,524	3,900,557	0 7	4,457	337,648	1 6	133,981	4,238,205
1915.....	161,253	4,753,202	0 7	8,750	626,829	1 5	170,003	5,380,031
1916.....	125,895	5,583,971	0 11	10,500	1,017,405	1 11	136,395	6,601,376
1917.....	105,710	6,977,065	1 4	11,947	1,805,215	3 0	117,657	8,782,280
1918.....	100,391	6,897,506	1 5	15,243	2,792,124	3 8	115,634	9,689,630
1919.....	158,263	12,940,170	1 7	26,665	4,972,918	3 9	184,928	17,919,088
1920.....	106,396	12,990,055	2 5	13,109	2,998,048	4 7	119,505	15,988,103
1921.....	218,893	7,210,485	0 8	11,529	1,026,350	1 0	230,422	8,236,835

The following table gives the production of wool in the Union as returned at the agricultural censuses for the years 1917-18, 1919-20, and 1920-21 :—

**PRODUCTION OF WOOL—AGRICULTURAL CENSUSES, 1917-18, 1919-20, and 1920-21.**

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Native Reserves, etc.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
1917-18.....	55,618,000	5,042,000	13,369,000	40,359,000	9,348,200	124,336,200
1919-20.....	58,069,450	5,682,830	14,457,250	44,478,150	*	122,687,680
1920-21.....	59,563,630	5,734,300	15,778,200	47,078,700	7,754,189	135,929,019

\* Not enumerated.

(v) *Trade in Wool.*—Prior to the War the bulk of the wool was shipped to the United Kingdom, where a large proportion was marketed and distributed. During the War the usual trade channels were disturbed, and the produce was to a large extent diverted to other centres, notably Japan and the United States. The present distribution of South African wool is shown in the following table, which indicates a return to pre-War conditions, with Germany as the second largest buyer of South African wool. The United States and Japan, however, purchased a considerably greater quantity than they had done before the War :—

**WOOL EXPORTED FROM UNION—DESTINATION, 1919 TO 1921.**

Destination.	Quantity.			Value.		
	1919.	1920.	1921.	1919.	1920.	1921.
	1,000 lb.	1,000 lb.	1,000 lb.	£	£	£
United Kingdom.....	78,021	42,024	101,878	7,035,065	5,253,473	3,589,138
Canada.....	420	—	54	71,890	—	3,124
United States.....	54,339	16,257	16,607	5,365,071	2,566,310	979,755
Japan.....	33,701	31,902	7,321	3,706,420	5,004,714	398,275
France.....	8,582	1,240	21,094	649,476	91,534	605,223
Italy.....	43	1,532	2,371	5,700	167,319	84,800
Holland.....	352	2,023	3,412	56,426	108,693	115,488
Belgium.....	9,409	16,579	27,757	1,029,005	1,540,860	820,108
Germany.....	—	7,398	49,853	—	352,068	1,636,865
Other.....	1	10	75	35	2,232	4,119
TOTAL.....	184,928	119,505	230,422	17,919,088	15,988,103	8,236,835

(Further details as to export of wool are given in Chapter XIX.)

(vi) *Export of Sheep Skins.*—A considerable trade in sheep skins also is carried on. The following table shows the quantity and value of sheep skins exported from the year 1911 :—

**SHEEP SKINS EXPORTED, 1911 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1911	23,996,966	574,457	1917	24,941,141	1,431,854
1912	29,029,147	724,196	1918	25,284,318	1,329,236
1913	32,196,400	880,611	1919	39,775,368	2,827,053
1914	30,353,731	753,273	1920	24,066,098	2,141,027
1915	37,226,422	827,590	1921	27,949,822	713,341
1916	30,410,386	1,084,042			

(vii) *Mutton.*—It was formerly necessary to import large quantities of mutton for consumption within the Union, but the importations during the period of the war dwindled to negligible dimensions, as will be seen from the following table ; and though the imports in 1920 almost reached the pre-War level, the upward movement was subsequently not maintained. There has been a notable increase in the export of mutton since 1910.

**MUTTON—IMPORTS AND EXPORTS (OVERSEA TRADE), 1910 TO 1921.**

YEAR.	IMPORTS.			EXPORTS (SOUTH AFRICAN PRODUCE).		
	Weight.	Declared Value.		Weight.	Declared Value.	
		Total.	Per 100 lb.		Total.	Per 100 lb.
	lb.	£	£ s. d.	lb.	£	£ s. d.
1910.....	2,775,702	25,282	0 18 2	357	18	0 10 0
1911.....	3,463,899	32,308	0 18 8	60,909	1,308	2 2 11
1912.....	2,641,790	25,450	0 19 3	128,686	2,577	2 0 0
1913.....	2,114,384	24,448	1 3 2	26,382	619	2 6 11
1914.....	781,675	11,005	1 8 4	107,963	2,266	2 2 0
1915.....	8,881	238	2 13 6	319,897	7,516	2 7 0
1916.....	5,822	179	3 1 9	543,765	14,875	2 14 8
1917.....	17,581	441	2 10 1	1,937,740	30,027	2 17 10
1918.....	—	—	—	774,061	26,757	3 9 2
1919.....	173,483	4,396	2 10 8	713,810	28,187	3 19 10
1920.....	1,973,742	46,976	2 7 7	479,217	21,158	4 8 4
1921.....	3,157	106	3 7 2	380,216	16,684	4 7 9

References to the organization of the South African meat trade generally will be found in paragraph 2 (v) above.

**5. Goats and Mohair.**—(i) *Number and Classification of Goats.*—The tables hereunder give information as to the number of goats in the Union, distinguishing Angora goats from others :—



As dried fruit is being produced in larger and larger quantities in the Union, the entomologist at the Elsenburg School of Agriculture is giving special attention to the problem of dealing with the insects that infest dried fruit. Scrupulous cleanliness in and around packing houses, and in the stores, is the greatest consideration: and efficient sterilization at the time of packing the fruit the next.

(ix) *Plantation and Shade Tree Insects.*—Because so many of them are exotics that have been brought to the country only in the seed state, the plantation and shade trees of South Africa are much less troubled with insects than the plantation and shade trees of older countries.

The eucalyptus borer has created alarm in the drier sections of the country as being responsible for the death of many eucalyptus trees. This insect is an accidental introduction from Australia, and, largely through the traffic in mine props, has been rapidly spread about the country. It is unable to live in thrifty trees, but is capable of causing the speedy death of trees that are seriously weakened by drought. The infested trees should be effectively disposed of during the winter or early spring.

The pustular oak scale has become a serious pest to the common oak in the southwestern districts of the Cape and along the Witwatersrand. The Division is now endeavouring to disseminate a European parasite that preys upon it; but it seems probable that, in future, it will be found advisable to substitute some other species of oak for the one now almost universal in the country. The pest does not seem to trouble some of the kinds of oak that might take the place of the common one. The pest is thought to have got into the country with importations of oak trees that took place just after the South African war. The common oak also suffers considerably from the oak aphid and the oak phylloxera—both European insects. The oak suffers also at the Cape from the common red scale. These several pests do not seem seriously to trouble other kinds of oaks.

The Ross scale, an introduction from Australia, disfigures many kinds of shade and ornamental trees and hedge plants in the northern areas. It occurs abundantly on the Pinaster pine in some plantations, and to a less extent on Monterey pines. The Chinese privet, a small tree very desirable about public buildings because of its shapeliness, unfortunately is a favourite food plant of the insect. The common oleander scale is also widely prevalent on ornamental plants; but neither of these scale insects has the killing effect on its food plant which is so noticeable in the case of the red scale.

(xx) *Household Insects.*—At one time the sleeping coaches on the South African railways had an unsavory reputation for bed bugs; but owing to hydrocyanic acid fumigation, started before the South African war by the Division of Entomology, the trouble has been almost entirely forgotten. The Railway Administration has ever since had the sleeping coaches periodically fumigated. Fumigation for the suppression of vermin in dwellings was also taken up in South Africa as the outcome of work of Division entomologists; and it is thought that house fumigation for vermin is carried on in South Africa on a relatively larger scale than anywhere else in the world. The fumigation of dwellings should be carried out only by persons skilled in the use of the gas, and several cities in South Africa now have by-laws restricting such work to licensed fumigators.

Cockroaches are a very common household nuisance in most South African towns but this pest can be very effectively kept down by sodium fluoride powder, the use of which has been persistently advocated by the Division for many years.

(xxi) *Extension of Service.*—The entomological service of the Union is considerably understaffed, largely owing to conditions that arose out of the world war. Numerous important insect problems await technical attention. Aside from the replenishment and augmentation of the staff of expert investigators, the more pressing need in rendering Government activities more effective in minimizing loss through insect agencies is for a large corps of itinerant instructors. The officers needed would be intermediaries between the Department's investigators in various lines on the one hand, and the practical farmer on the other. A tremendous development in the employment of such men, with markedly beneficial results, has come about in America during recent years. Quite commonly a large share of the expense is borne by local taxation. The men employed are almost invariably graduates of an agricultural college; and it is considered essential that they should have special supplementary training for a period, and considerable practical experience in farming, before they can be expected to prove successful instructors. It is only through its own agricultural schools and colleges that the Union can hope to get suitable men for such a project in this country, and hence an efficient corps can only be built up gradually and somewhat slowly. Until one is built up, however, the teachings of the Departmental specialists in entomology and in sundry other lines are likely to be largely lost upon a heavy proportion of the farmers for whom they are intended.

7. *Grading of Agricultural Products.*—It has been generally recognized that the success of South African agriculture in relation to the great overseas markets depends largely upon the existence of a proper system of Government supervision and grading, with the object of ensuring that a satisfactory standard of quality in regard to staple products exported is

generally maintained. Various laws have been passed and regulations made in this connection, principally in respect of dairy produce, fruit, grain, wool, meat, and hides and skins. Act No. 16 of 1922 provided that any agricultural product could be submitted to the authorities for inspection and grading on payment of a fee, and fees collected for any such product were to be placed to a special account, which could be utilized for the development of the particular branch of agriculture concerned.

**8 Agricultural Organization in the Union.**—The importance of agriculture to the Union is reflected in the activities of the rural community in safeguarding and furthering their many interests through the medium of societies of farmers formed for the purpose of co-operation with the Government and generally for mutual assistance in coping with the problems of the industry. Organizations of this nature were in operation in the two Dutch Republics and the British South African Colonies in earlier years, and their activities played an important part in the gradual removal of the difficulties which retarded the advancement of agriculture in their respective areas, with the result that the machinery whereby the interests of agriculturists in the Union of South Africa are promoted is now represented by a well-organized body exercising paramount influence in agricultural matters in the Union.

There are in each of the four Provinces of the Union a number of Agricultural Societies and Farmers' Associations, some four hundred in all, having as members a great many farmers representing the most influential and progressive section of the agricultural community. An important function of these bodies is the promotion of the various agricultural shows, of which those organized by the following Societies at the places mentioned are the most popular:—Western Province Agricultural Society (held at Rosebank about the end of February); Port Elizabeth Agricultural Society (held at Port Elizabeth in March); Central Agricultural Society (held at Bloemfontein in March); Witwatersrand Agricultural Society (held at Johannesburg at Easter); Pretoria Agricultural Society (held at Pretoria at the end of May); Royal Agricultural Society (held at Pietermaritzburg at the end of June); and Durban and Coast Agricultural Society (held at Durban about the beginning of July).

Most of the Societies are affiliated to one or other of the four provincial Agricultural Unions. The names and addresses of the respective secretaries of these provincial Unions are as follows:—

Cape Province Agricultural Union: James Woodin, P.O. Box 502, Port Elizabeth.

Natal Agricultural Union: D. M. Endie, P.O. Box 572, Durban.

Orange Free State Agricultural Union: A. v. d. Post (Acting Secretary), "Wolvekop," Philippolis.

Transvaal Agricultural Union: J. T. Kleynhans, P.O. Box 937, Pretoria.

For each of these provincial Unions there is a *Standing Committee*, meeting at least four times in the calendar year, and there is an annual general meeting of each Union, attended by the delegates from the various affiliated bodies. From each of the provincial Unions ten delegates are chosen to form what is termed the *South African Agricultural Union*, which meets annually for the purpose of deliberating on matters affecting agriculture generally throughout the Union. A President is elected annually at each congress for the ensuing year and there is also an Executive Committee. The Secretary of the South African Agricultural Union is James Woodin, P.O. Box 502, Port Elizabeth. In addition to the delegates from the four provincial Unions, the adjoining territories of Rhodesia and Mozambique are also represented. The organization described has resulted in the creation of a system properly co-ordinated in such a manner that every interest of the agricultural industry is served thereby. Matters of local or parochial concern are dealt with by a network of organized bodies of farmers throughout the country. For purposes of wider but still provincial interest representatives are sent by these bodies to an annual congress, from which again a delegation is chosen for the final deliberative council at which general principles are considered. At all these congresses Government officers, for the most part experts on the subjects coming under discussion, are in attendance for the purpose of furnishing information on the work of the Government and advice generally on technical and other matters. The funds for carrying on the activities of these organizations are provided by subscriptions supplemented by grants from the Union Government and the Provincial Councils of the Cape and Transvaal.

An *Agricultural Advisory Board* was appointed by the Minister of Agriculture in February, 1920, to advise him on matters relating to agriculture. The Board consists of the Executive Committee of the South African Agricultural Union, the members of which are representative of the various provinces of the Union, and are elected at the annual conference of the Union. The members of the Board are called together from time to time by the Minister of Agriculture for the purpose of consultation, and to afford them an opportunity of submitting their views on matters relating to agriculture and any proposed legislation in connection therewith. The Secretary of the Board is Mr. James Woodin, P.O. Box 502, Port Elizabeth.

The following is a representative list of bodies serving particular phases of the agricultural industry:—

- (i) South African Stud-book Association (Secretary, A. A. Persse, P.O. Box 703, Capetown).  
This organization has the following Societies affiliated to it:—
- (a) The Friesland Cattle Breeders' Association (Jas. Woodin, P.O. Box 544, Bloemfontein).
- (b) The Shorthorn Society of South Africa (Cuthbert A. Pope, P.O. Box 173, Queenstown).
- (c) The Afrikander Cattle Breeders' Society (A. Smuts, P.O.\* Box 5, Ermelo, T.P.).
- (d) The Devon Cattle Breeders' Society of South Africa (R. Ovendale, P.O. Box 611, Bloemfontein).
- (e) The South Devon Breeders' Society of South Africa (Claude W. Forder, Alexandra Road, Pictermaritzburg).
- (f) The Ayrshire Cattle Breeders' Society of South Africa (J. G. Torrance, P. O. Box 4344, Johannesburg).
- (g) The Aberdeen - Angus Cattle Breeders' Society of South Africa (G. Wilson, Zandfontein, Parys, O.F.S.).
- (h) The Hereford Breeders' Society of South Africa (J. G. Torrance, P.O. Box 4344, Johannesburg).
- (i) The Hackney Horse Society of South Africa (R. Ovendale, P.O. Box 611, Bloemfontein).
- (j) The Clydesdale Horse Society of South Africa. (R. Ovendale, P.O. Box 611, Bloemfontein).
- (k) The Merino Stud Breeders' Association of South Africa (A. A. Persse, P.O. Box 703, Capetown).
- (l) The Pig Breeders' Society of South Africa (A. A. Persse, P.O. Box 703, Capetown).
- (m) The Sussex Cattle Breeders' Society of South Africa (J. G. Torrance, P.O. Box 4344, Johannesburg).
- (n) Angora Goat Breeders' Society of South Africa (A. A. Persse, P.O. Box 703, Cape Town).
- (ii) Stud-book of Thoroughbred Horses of South Africa (per Jockey Club of South Africa; Major F. J. Henley, Secretary, P.O. Box 183, Johannesburg).
- (iii) The Nurserymen's and Seedman's Association of South Africa (Secretary, E. T. Tidmarsh, Box 120, Bloemfontein).
- (iv) The Western Province Beekeepers' Association (Secretary, A. J. Hopper, "Belmont," 64 Kloof Street, Capetown).  
The South African Association of Beekeepers, P.O. Box 6057, Johannesburg.
- (v) The Co-operative Wine Farmers' Association of South Africa, Ltd., Paarl.
- (vi) The South African Sugar Association, P.O. Box 572, Durban.  
The South African Sugar Planters' Union, Durban.
- (vii) The South African Maize Breeders', Growers', and Judges' Association (P.O. Box 3609, Johannesburg).
- (viii) The South African Poultry Association (P. H. Taylor, P.O. Box 692, Pretoria).  
(To which 63 Poultry Clubs are affiliated.)
- (ix) The South African Co-operative Creameries Agency, Ltd. (P.O. Box 1022, Johannesburg).  
The Secretary, East Griqualand, Cheese Manufacturers' Association, Kokstad, Cape.
- (x) South African Fruit Growers' Exchange (F. W. Patten, P.O. Box 414, Johannesburg).  
Transvaal Fruit Growers' Association (P.O. Box 1800, Johannesburg).  
Natal Fruit Growers' Association (Wm. Cotts & Co., Durban).  
Bathurst Farmers' Union, P.O. Box 90, Grahamstown.  
Groot Marico Farmers' Association (P.O. Box 83, Zeerust).  
Paarl Farmers' Association (J. Gribble, Paarl).  
Low Veld N.E. Farmers' Association (Secretary, P.O. Nelspruit).  
Wolhuters Kop Citrus Growers' Association (Secretary, Wolhuters Kop).  
Constantia Fruit Growers' Association (T. F. Smuts, Constantia).  
Western Province Fruit Growers' Co-operative Association, Ltd. (P.O. Box 622, Capetown).
- (xi) The Meat Producers' Exchange, Ltd. (P.O. Box 7582, Johannesburg).

In connection with the above list, it is to be noted that in recent years the distinctive tendency in the sphere of agricultural organization in the Union has been the growth of co-operative effort in the shape of farmers' associations and exchanges for the marketing of agricultural and pastoral products. Exchanges have been formed in the fruit and meat industries, and a project for the establishment of a produce exchange was mooted in 1922. 1

## § 2. Live Stock and Pastoral Production.

1. **Horses, Mules, and Asses.**—(i) *History of Horse-Breeding.*—The horse is not indigenous to South Africa, but was, on the other hand, the first domestic animal to be imported nearly three centuries ago, and subsequently played an important part in establishing the supremacy of the white race and furthering its extension and development. The first horses were imported from Java, and were the descendants of *Arabian* and *Persian* horses sold to the Eastern nations by Arabian traders during the fifteenth and sixteenth centuries. From time to time new blood was obtained from Arabia (1689), South America (1778), North America (1782), England (1782), and Spain (1807). Notwithstanding all the fresh blood obtained from these quarters, a close study of the horse stock of those countries at the times of importation indicates that *Arabian* blood was nevertheless predominant. A little over a century after the arrival of the first horses the industry of horse-breeding had flourished so well that the first shipment of remounts was exported to India, thus opening a remunerative trade which brought the horse from the Cape fame not only in India but in Egypt, and even in the Crimea. Further particulars as to the history of South African horse-breeding will be found in previous issues of this Year Book.

(ii) *Natural Suitability of the Country for Horse-Breeding.*—The suitability of the Union for horse-breeding has been recognized since the earliest times. The climate, the pastures, and soils, combine to produce a horse with a good constitution, strong bone, tendon, and hoof. The localities naturally best adapted to the profitable rearing of horses are those where soils of the Karroo system of rock formation prevail. Soils of this nature are generally rich in lime and such constituents as are required to yield nutritious pastures. The comparatively small size attained by the South African horse is largely due to deficient nutrition of the young stock during the winter months and prolonged periods of drought. The Karroo system in varying formation spreads over almost the whole of the Union, and wherever such soils appear horse-breeding can be taken up with success. With the exception of the coastal regions of Natal and immediately south of Natal, the parts north of the districts adjacent to the Vaal River in the Transvaal and the extreme barren parts of Bechuanaland, the Union throughout is eminently suited for horse-breeding. Mules do well wherever horses flourish and the ass thrives well even where horses cannot exist. Generally it may be observed that horses do well wherever conditions are best suited for sheep.

(iii) *Export of Horses.*—The export of South African horses, apart from the export of thousands of remounts which began as early as 1789, was continued for breeding purposes in 1810, when Australia obtained from South Africa the first horses introduced into that country. Importations were repeated until Australia's horse-breeding was firmly established. Many stallions and other horses were bought by the rich Nabobs of India, and for a time South African horses were famous in India as racers. Throughout the nineteenth century horses were exported in varying numbers and quality to distant parts of the world, and in large quantities to Mauritius, Ceylon, Bourbon, South America, and various parts of India. The foundation stock of the late German Colonies and of Portuguese territories, as well as of the whole of Central Africa where horses can exist, is by preference based on the *Cape Horse*.

(iv) *Present Type of Horse.*—Whatever foreign blood may be in the veins of the horse stock of the Union, that stock still forms a type by itself. The type is still predominantly of *Thoroughbred* strain, while the *Arab* and improved blood of the last century has not quite disappeared. None of the other breeds of horses has established itself to any important extent, although small studs of good animals of other types exist throughout the Union. The tendency at present is to breed from heavy sires in order to increase the size, and to produce a type for general utility.

(v) *Mules.*—The ass was imported into South Africa at a very early date from the Cape Verde Islands. Most probably these asses were of Spanish origin and of Andalusian stock. Early in the eighteenth century the area now known as the Malmesbury District was settled, and grain farming became a special feature of the rich live stock farmers. The most famous studs, as well as the Government Experimental and Stud Farm, were situated here, and mule-breeding seems to have been taken up at an early date, in order to supply faster draught animals than the ox to cope with the ever-expanding corn fields. This supply has always been insufficient, and the studs in the north, in the old and new Hantam, took up the breeding of mules. Ultimately the industry became general throughout the country with intensive areas in the best districts. The South African mule, although somewhat light, is a most useful animal, very hardy, of excellent constitution, willing, and capable of much work to an advanced age. Good mules are always in demand and fetch high prices.

(vi) *Statistics.*—The following tables, (a) and (b), give particulars of horses, mules, and asses in the Union, and (c) and (d) imports and exports of such live stock from the year 1911:—

(a) **HORSES, MULES, AND ASSES IN EACH PROVINCE AT GENERAL CENSUSES OF 1904 AND 1911, AND AGRICULTURAL CENSUSES, 1918 TO 1921.**

**HORSES.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904.....	255,060	66,574	51,634	76,251	449,529
1911.....	333,982	75,567	89,160	220,725	719,414
1918.....	367,605	65,839	106,698	240,880	781,022
1919.....	279,371	54,372	105,199	256,196	695,138*
1920.....	268,776	57,798	114,601	248,949	690,124*
1921.....	417,131	85,651	147,248	270,066	920,468‡

**MULES.**

1904.....	64,433	4,450	43,917	21,934	134,734
1911.....	47,059	15,602	25,275	5,995	93,931
1918.....	52,086	6,983	13,818	11,672	84,559
1919.....	55,254	4,208	6,911	14,777	81,150†
1920.....	61,861	4,222	9,107	17,605	92,795†
1921.....	71,727	6,301	19,298	19,253	116,789‡

**ASSES.**

1904.....	100,470	2,418	32,496	6,546	141,920
1911.....	191,086	28,018	106,048	11,558	336,710
1918.....	315,333	48,905	149,411	40,667	554,316
1919.....	3,1157	36,071	103,741	37,617	498,611‡
1920.....	319,125	38,407	128,101	37,917	523,550†
1921.....	301,522	54,502	229,620	46,440	722,238‡

\* Excluding horses in Native Locations, etc., which numbered 103,138 in 1918 and 155,853 in 1921, and also horses in urban areas.

† Excluding mules in Native Locations, etc., which numbered 1,790 in 1918 and 1,610 in 1921, and also mules in urban areas.

‡ Excluding asses in Native Locations, etc., which numbered 80,729 in 1918 and 123,220 in 1921, and also asses in urban areas.

§ Including 372 horses, 210 mules, and 148 asses on rail.

(b) **HORSES.—NUMBER AND CLASSIFICATION AS TO AGE, ETC., ON 30th APRIL, 1921.**

Province.	Under 1 Year.	1 Year and under 3 Years.	Stallions (3 Years and over).	Mares (3 Years and over).	Geldings (3 Years and over).	†Urban Horses (including Fools).	Total.
Cape of Good Hope	39,770	43,928	11,571	95,800	81,270	28,846	202,275
Natal.....	7,642	9,748	2,058	18,634	19,745	4,587	62,434
Transvaal.....	16,199	21,984	6,074	40,164	39,333	20,610	144,364
Orange Free State..	37,169	45,130	8,715	98,499	64,940	10,717	265,170
Native Locations, Reserves, etc.....	•	•	•	•	•	•	155,853
On rail.....	•	•	•	•	•	•	372
TOTAL.....	91,780	120,790	28,418	253,207	205,288	64,760	920,468

\* Not enumerated.

† No detailed classification obtained in urban areas.

## (c) IMPORTS, LESS RE-EXPORTS, OF HORSES, MULES, AND ASSES, 1911 TO 1921.

Year.	Horses, Mares, and Geldings.		Mules.		Donkeys and Jackasses.	
	No.	£	No.	£	No.	£
1911.....	814	60,500	3,179	55,283	137	9,915
1912.....	500	38,850	2,566	37,987	97	6,193
1913.....	885	49,308	3,933	68,160	140	9,953
1914.....	316	17,507	1,825	20,668	71	5,088
1915.....	244	26,779	947	6,112	23	2,070
1916.....	60	16,525	79	3,635	27	2,447
1917.....	124	11,164	67	2,280	271	5,036
1918.....	174	15,960	—	—	47	1,951
1919.....	203	20,835	2	75	20	100
1920.....	308	37,885	66	1,083	—	—
1921.....	227	28,002	44	650	—	—

## (d) EXPORTS OF HORSES, MULES, AND ASSES, 1911 TO 1921.

Year.	Horses, Mares, and Geldings.		Mules.		Donkeys and Jackasses.	
	No.	£	No.	£	No.	£
1911.....	1,254	34,781	774	20,432	491	3,667
1912.....	574	14,525	364	9,214	543	4,161
1913.....	604	15,127	419	11,186	317	2,123
1914.....	758	17,454	192	4,153	1,048	8,570
1915.....	1,115	25,833	296	6,593	447	2,188
1916.....	382	5,786	146	2,491	330	2,288
1917.....	662	10,596	253	8,429	293	1,890
1918.....	956	21,855	314	8,315	543	3,343
1919.....	1,160	27,950	503	11,063	436	2,485
1920.....	2,082	45,418	1,085	23,116	1,002	5,624
1921.....	1,733	32,116	490	9,763	707	3,811

**2. Cattle.**—(i) *History of Cattle-Breeding.*—The first colonists who landed at Table Bay found large herds of cattle in the possession of the nomadic native tribes. The resources of the country in respect of the supply of fresh meat induced the Dutch East India Company to provision its ships trading with India and the East with supplies of this kind from the Cape of Good Hope. At a later stage, during the days of the pioneer colonists, cattle had to be relied upon, in the absence of railway communication, for the transport services required for the development of the country. As a consequence cattle were bred chiefly for draught purposes, and in the course of time there was created a distinct type which came to be known as the *Afrikander*. It possessed the quality of hardihood, and is to-day unsurpassed for draught purposes.

Until within comparatively recent times the introduction of European breeds was confined to the importation of *Friesland* cattle from Holland. Not until the nineteenth century were importations of British breeds made. As far as is known the earlier animals consisted chiefly of *Shorthorns* and *North Devons*. The outbreak of rinderpest in 1896 decimated the herds of cattle which had by that time become established in considerable numbers in the northern provinces and in the eastern Cape Colony, and a few years later the numbers of cattle were further depleted through the ravages of the Anglo-Boer War.

Since then a notable advance has been made in cattle-breeding. The prevention and control of stock diseases, now extended to all parts of South Africa, have reduced the risks previously involved, and farmers and others are now disposed to invest money in cattle-breeding operations. Reliable statistics are not available for the period prior to 1902. The census returns taken in 1904 show that the cattle of South Africa numbered 3,500,000 head. In 1911 the number had increased to 5,797,000 head in the Union, in 1918 to 6,852,000, and in 1921 to 8,557,000. By far the larger proportion of these animals is of mixed breed, possessing a marked infusion of *Afrikander* and native blood, though large numbers show the influence of several of the improved European breeds. During the last decade in particular a marked improvement has been noticeable in the herds throughout the country, brought about by importations of sires and by the establishment of pure-bred herds, from which bulls in considerable numbers are now bred and used for the grading up of ordinary herds. A great part of the impetus was due to importations by the Government and object lessons in management at the Experiment Farms. The

formation of the South African Stud-Book Association in 1905, and, at a later stage of natural development, of different Breed Societies affiliated thereto, which are enumerated elsewhere in this chapter, has promoted the breeding of pure-bred stock and protected and fostered the interests of breeders. Each of the following breeds has its Breed Society: *Friesland*, *Shorthorn*, *Hereford*, *South Devon*, *Aberdeen-Angus*, *Ayrshire*, *Afrikander*, and *Sussex*. Other breeds to be found in the country, though in comparatively small numbers, are *North Devon*, *Red Polls*, *Brown Swiss*, and *Jerseys*. The records of the Stud-Book Association indicate the progress which is being made in the breeding of pure-bred cattle. In the first volume of the Stud-Book the entries numbered about 400, while in Volume XV, 8,917 head were registered. This may be taken as approximately the number of pedigree cattle bred and imported during the previous year.

Under the Ocean Mail Contract of 1912 pedigree cattle are conveyed to South Africa free of freight. The number of cattle introduced up to the 31st December, 1921, as the result of this provision was 3,699.

(ii) *Number of Cattle in the Union.*—The figures given in the tables hereunder represent the number of cattle in the Union as returned at the general censuses of 1904 and 1911, and at the censuses of pastoral production commenced in 1918, and their age classification at the census of 1921.

(a) **CATTLE IN EACH PROVINCE, 1904, 1911, AND 1918 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904 (General Census).....	1,954,390	666,903	515,956	363,204	3,500,453
1911 " " .....	2,715,330	456,087	1,339,298	1,286,234	5,796,949
1918 (Census of Agriculture) ..	2,410,934	977,252	1,888,443	1,575,295	6,851,924
1919 " " ..	1,631,084	729,994	1,554,938	1,679,472	5,575,488*
1920 " " ..	1,610,982	828,573	1,898,572	1,036,675	5,974,802*
1921 " " ..	2,810,003	1,451,553	2,560,800	1,732,005	8,557,080†

\* Excluding cattle in Native Locations, etc., which numbered 1,080,270 in 1918 and 2,355,678 in 1921, and also cattle in urban areas.

† Including 2,728 cattle on rail.

(b) **CATTLE.—NUMBER AND CLASSIFICATION AS TO AGE, ETC., 30th APRIL, 1921.**

Province.	Under 1 Year.	1 Year and under 2 Years.	Bulls, 2 Years and over.	Cows and Heifers, 2 Years and over.	Oxen, 2 Years and over.	Total.
Cape of Good Hope.....	304,428	257,993	31,495	650,383	470,553	1,720,852
Natal.....	146,821	137,694	14,540	330,963	247,880	877,898
Transvaal.....	282,156	262,086	40,787	678,202	634,698	1,807,929
Orange Free State.....	267,863	246,433	26,277	598,230	363,201	1,702,004
Native Locations, Reserves, etc.	•	•	•	•	•	2,355,678
On rail.....	•	•	•	•	•	2,728
Total.....	1,001,268	904,206	113,099	2,263,778	1,916,332	8,557,080

\* Not enumerated.

(iii) *Imports and Exports of Beef.*—For some time after the Anglo-Boer war the herds were so depleted in numbers and the demands for cattle for breeding purposes and transport work were so considerable that large quantities of frozen meat had to be imported to supply

the requirements of the population, military and civilian. The following figures indicate the progress of the cattle industry :—

**BEEF—IMPORTS AND EXPORTS (OVERSEA TRADE), 1910 TO 1921.**

YEAR.	IMPORTS.			EXPORTS (SOUTH AFRICAN PRODUCE).		
	Weight.	Declared Value.		Weight.	Declared Value.	
		Total.	Per 100 lb.		Total.	Per 100 lb.
	lb.	£	£ s. d.	lb.	£	£ s. d.
1910.....	2,989,044	30,553	1 0 5	5,027	98	1 19 2
1911.....	8,092,316	73,976	0 18 3	229,498	4,844	2 2 3
1912.....	9,023,605	88,284	0 19 7	296,834	6,729	2 5 4
1913.....	8,949,753	80,518	0 18 0	121,264	3,161	2 12 1
1914.....	737,950	10,960	1 9 8	463,767	10,039	2 3 3
1915.....	16,957	365	2 2 11	5,971,727	106,112	1 15 6
1916.....	6,960	139	1 19 9	19,260,612	392,832	2 0 9
1917.....	5,080	142	2 9 10	49,997,410	1,111,954	2 4 6
1918.....	—	—	—	21,135,367	542,101	2 11 4
1919.....	—	—	—	46,363,180	1,138,272	2 9 1
1920.....	53,862	1,119	1 6 8	14,435,455	367,573	2 10 11
1921.....	9,033	177	1 19 2	3,395,469	92,483	2 14 6

(iv) *Improvement of Methods.*—During recent years the prospects of an export trade have stimulated breeders to improve the type of cattle bred for beef purposes, and the fattening of cattle is receiving increasing attention. The Department of Agriculture has at its Agricultural Schools and Experiment Farms conducted upon oxen of different types and ages a large number of feeding experiments which have proved of value to breeders and feeders, and experimental shipments of the meat of these oxen to the London market have provided useful information. The *Agricultural Produce Export Act* of 1917 provides for the inspection and grading of meat exported, and a promising industry in the export of beef is now being established. Good breeding stock is in considerable demand, but with the general fall in values prices are lower. Cows of the common mixed-breed type realize £8 and upwards, and heifers and young oxen £5 and upwards. Slaughter oxen fetch £12 to £15, according to weight and quality. The price of first class beef ranged from 35s. to 40s. per 100 lb. at the close of the year 1921. The progress of dairy cattle and their produce is referred to in the following paragraph 3.

(v) *Marketing of Meat.*—The organization of the meat trade within the Union, more especially in the Johannesburg market, has formed the subject of inquiry by various Government Commissions since 1918, when attention was first drawn to the matter by the Cost of Living Commission. A Meat Trade Investigation Commission, appointed in 1919, made several recommendations, and the question was in March, 1922, taken up by the Board of Control under the Profiteering Act, 1920, which confined its inquiry to the conditions in the Johannesburg market. In May, 1921, a Meat Producers' Exchange was formed in Johannesburg, with a membership embracing farmers in all parts of the Union. The Board of Control examined the relations between this body and other interests, some of whom had manifested hostility towards the Exchange. Criticisms were directed by the Board against certain features of the organization of the Johannesburg meat trade. The subject of the meat trade in general was further inquired into by a Select Committee of the House of Assembly in 1922, which approved of the co-operative principle underlying the Meat Producers' Exchange, and made a number of recommendations as to the organization of the internal meat market and the export trade.

3. *Dairying.*—Instruction in dairying was first given in the Cape of Good Hope after a brief visit by an officer of the Cape Department of Agriculture to Australia to inquire into the dairying industry in that country. As it was desirable that the new branch should get into close touch with the farmers the work was carried on by means of a travelling dairy, this pioneer labour being performed for some years. As the outcome a co-operative dairy was established by private enterprise in the District of Queenstown, followed soon after by a co-operative dairy at Bedford and by another at Darling. In the meantime a dairy expert had been engaged by the Government of Natal and the first two years' work of this officer consisted principally of lecturing and demonstrating modern methods of dairying in that Colony. The expert was deputed by his Government to visit the two creameries established in the Eastern Province of the Cape Colony, and as a result of his investigations



two creameries were started in Natal almost simultaneously, one at Nels Rust, known as the Nels Rust Creamery, and the other at Mooi River, known as the Natal Creameries, Limited. The movement in the Cape of Good Hope was further encouraged in 1905 by loans granted under the authority of Parliament, followed by propaganda work by a specially engaged expert in co-operation. As a result, several additional creameries were established in that Province: some of these failed, but a certain measure of success attended the movement.

In the Orange Free State a dairy expert was appointed during the Crown Colony administration. In 1907 a system of loans to co-operative creameries was inaugurated, under which nine creameries and one bacon factory were established between that year and 1913. Of these two were liquidated, while the efforts of the remainder have been attended with a fair amount of success. In the Transvaal a Dairy Division of the Department of Agriculture was created in 1904. With the co-operative movement inaugurated by the passing of the *Co-operative Societies Act* in 1908 two co-operative creameries were started, which, however, were unsuccessful. After the establishment of the Union two dairies, commenced by the Government in the Transvaal, were completed and leased. The Union Department of Agriculture includes a Division of Dairying, consisting of a Superintendent of Dairying, Assistant Superintendent of Dairying, six Inspectors, and two cheese graders.

A Dairy Inspector is stationed in each of the four Provinces of the Union, and it is his duty to travel among the farmers and give advice and instruction in approved methods of production, and in all matters appertaining to dairying and dairy farming, as well as to administer the provisions of the *Dairy Industry Act*, and grade all butter and cheese for export overseas. Lectures and demonstrations are given by officers of the Division at suitable centres and at agricultural shows on butter and cheese making, as well as on milk and cream testing. Six Milk Recorders are attached to the Division, and are kept continually employed in carrying out check and butter-fat tests for the official milk record scheme.

*Creameries.*—The establishment of creameries has been a notable means of developing the dairy industry. At the end of 1921 there were seventy-one creameries working in the Union, while forty-nine cream collecting depots also were in existence. Several of the creameries were started with the aid of grants from public funds, and are run on co-operative lines, in so far as the dividends which they are allowed to pay to shareholders are limited to 10 per cent. Any balance must be refunded to the cream suppliers in proportion to the quantity they have supplied. Government loans (now no longer made) were secured by a general bond over the assets of the society.

*Cheese Factories.*—At the end of 1921 there were one hundred and thirty-one cheese factories working in the Union, and in addition a considerable number of private cheeseries, owned by farmers making cheese from the milk of their own cows only. New factories are, however, being continually started, and the above figures are no doubt now exceeded. Both the *Cheddar* and *Gouda* types of cheese are successfully made, most of the cheeseries preferring the latter.

Arrangements have been made for the grading of Cheddar cheese for local consumption or any cheese factory in the Union at the nominal figure of 1d. per lb, and it was with a view to making grading general that a Federation was formed in East Griqualand. To undertake the work of grading, two cheese graders have already been appointed.

The dairy industry in South Africa has assumed a position of considerable importance. Whereas very large quantities of butter and cheese were previously imported, during the years 1916 and 1917 not only was sufficient butter made in the Union for all local requirements, but a surplus was exported overseas [see Table (i) below]. During the 1921 season a very greatly increased quantity of butter was exported, and it may be taken that the export trade in this commodity is now fairly well established. Regulations governing the export of butter and cheese have been brought into operation, and neither of these products can leave the Union before being placed in the different grades according to quality. Farm butter, if marked "Ungraded farm butter," can be exported, as also can "cooking butter" (butter below third grade). Experience has thus shown that a very considerable portion of the Union is well adapted to dairy farming. The climate is mild, and cattle thrive well on the natural veld from six to eight months of the year. Dairying is no longer looked upon as a side-line by farmers; large numbers are now specializing in dairy farming and improving their cattle, with a view solely to increasing their output of milk and cream, while the arable portions of their farms are devoted entirely to the production of foodstuffs for the feeding of their cows.

The principal crops grown for the feeding of dairy cattle are mealies, lucerne, oats, tef-grass, millet, mangolds, rye, and cow-peas, all of which do well in most of the areas devoted to dairy farming. Considerable quantities of mealies are grown for silage and mealie hay, the use and value of which are being increasingly realized.

It may be said with confidence that the outlook for the dairy industry in South Africa is very bright, and if the present rate of progress is maintained a great future is assured.

**Legislation.**—During the 1918 session of Parliament the *Dairy Industry Act* was passed, operating from the 1st January, 1919. The Act provides for the registration of dairy premises, and the owners and occupiers thereof; for the marking of dairy produce and the registration of marks thereon, and generally for the regulation of the dairy industry.

**Cattle.**—In the year 1911 there were shown to be 1,900,230 cows in the Union. At the next census (in 1918) the number was 1,924,925, exclusive of cattle in native locations, reserves, etc. Generally speaking the cows in the Union produce a rather small quantity of milk, which is nevertheless of very good quality. No statistics are available to enable figures to be given, but it may be said that in recent years great improvement has been brought about both as regards quantity and quality. Large numbers of pure-bred cattle have been, and still are being, imported; their progeny is becoming spread, and is having a marked influence for good on the ordinary cattle of the country. This is undoubtedly largely responsible for the increased output of dairy produce. Among dairy farmers generally there is a growing appreciation of the value of keeping milk records as a means of improving herds by selected breeding from the largest producers. This is chiefly carried out by individuals, the introduction of cow-testing associations not having as yet made much progress, doubtless largely due to the difficulty experienced in finding sufficient dairy farmers within easy reach of one another to make such propositions feasible.

Most dairy breeds do well in South Africa. *Frieslands* and *Ayrshires* are probably the most popular, though *Jerseys*, *Dairy Shorthorns*, *South Devons*, and *Red Polls* are to be found in considerable numbers. The bulk of the dairy herds are what may be called *Utility Dairy Animals* in which *Friesland* and *Shorthorn* blood predominates. There are also large numbers of pure-bred herds of each breed. A scheme for the keeping of official records has recently been devised by the Dairy Division of the Department of Agriculture in conjunction with the Breed Societies. The owners of the cows entered have to weigh the milk at each milking, while a recorder (a Government official) makes a check test of weights, and also a butter-fat test, on two consecutive days every thirty days. The whole scheme is under the supervision of the Superintendent of Dairying, who issues the certificates at the end of the lactation period of each cow. If desired, the record is entered in the Stud-Book. The entire cost of the scheme is borne by the owners of the cows entered, in a pro rata share per cow. The keeping of milk records is greatly on the increase. Many breeders and dairy farmers, having realized its vast importance, are coming under the scheme. One feature, which is calculated to give a considerable impetus to this important phase of dairying, is the fact that it has been possible to export to Great Britain a number of pure-bred animals, taken from herds in all parts of the Union: animals whose dams have qualified on the standard laid down by the British officials—viz., 12,000 lb. of milk, containing a minimum of 3·3 per cent. butter-fat. These animals were sold by auction in June, 1922, and realized very satisfactory prices.

The following tables will serve to illustrate the position of the industry and the advance which has taken place since 1910-11:—

(i) BUTTER—PRODUCTION, IMPORTATION AND CONSUMPTION,  
1910-11 TO 1920-21.

YEAR.	PRODUCTION.			Imports (less Re-Exports).	Production. (less Exports).	Consump- tion.
	Creamery Butter.	Farm Butter.	Total.			
	lb.	lb.	lb.	lb.	lb.	lb.
1910-11...	5,190,514	6,158,779	11,349,293	3,510,308	11,101,563	14,611,871
1911-12...	6,253,818*	4,314,519*	10,568,337	4,176,982	10,240,178	14,426,160
1912-13...	7,659,748	3,081,997	10,741,745	4,160,073	10,383,870	14,543,943
1913-14...	6,566,873	4,155,135	10,722,008	3,718,702	10,403,967	14,122,669
1914-15...	8,323,125	5,084,015	13,407,140	2,783,713	13,177,502	15,961,215
1915-16...	7,877,271	5,104,549	12,981,820	• 946,645	12,022,948	12,969,593
1916-17...	11,396,666	5,713,490	17,110,156	92,856	14,635,053	14,727,909
1917-18...	12,014,229	8,079,100	20,093,329	68,872	17,584,869	17,653,741
1918-19...	13,732,776	7,960,060	21,693,436	156,611	20,517,215	20,673,826
1919-20...	10,804,464	8,944,823	17,809,287	665,114	17,433,298	18,097,412
1920-21...	11,517,533	7,445,540	18,963,073	— 27,911	17,653,505	17,625,594

\* Estimated.

(ii) CHEESE—PRODUCTION, IMPORTATION AND CONSUMPTION,  
1910-11 TO 1920-21.

YEAR.	PRODUCTION.			Imports (less Re-Exports).	Production (less Exports).	Consumption.
	Factory Cheese.	Farm Cheese.	Total.			
	lb.	lb.	lb.	lb.	lb.	lb.
1910-11...	225,309	319,081	545,290	4,660,131	523,892	5,184,023
1911-12...	373,079*	401,056*	774,735	4,907,495	751,891	5,659,386
1912-13...	520,849	504,180*	1,025,029	5,208,734	1,000,308	6,209,042
1913-14...	605,686	632,872*	1,238,558	5,244,759	1,217,804	6,462,563
1914-15...	1,098,784	794,443*	1,893,227	4,601,422	1,877,165	6,478,577
1915-16...	978,301	997,186	1,975,487	3,049,699	1,920,742	4,970,441
1916-17...	2,359,305	1,906,743	4,266,048	1,206,906	4,140,562	6,347,468
1917-18...	4,277,227	1,745,600	6,022,727	302,419	5,841,529	5,943,948
1918-19...	5,152,850	366,410	5,519,240	94,327	4,382,174	4,476,501
1919-20...	3,782,065	272,222	4,054,287	795,548	3,123,273	3,918,821
1920-21...	4,346,624	272,090	4,618,714	170,471	4,063,773	4,234,244

\* Estimated.

4. *Sheep and Wool.*—(i) *History of Sheep-Breeding.*—Of the agricultural and pastoral industries of the Union the breeding of woolled sheep is the oldest and most important. The original Cape sheep, still bred to a large extent in South Africa, is a light, somewhat leggy animal covered with hair of varying hue, and with long, lopping ears. Another characteristic is a broad tail, composed principally of fat, and varying in weight from six to over ten pounds. In order to improve the native sheep, importations of rams and ewes from the best flocks in Holland were made by the Dutch East India Company in 1654, and numerous introductions of high-class stock from overseas subsequently took place. The next importation was in 1689, also by the Company, but this time from Spain. In 1790, Colonel Gordon, an officer in the Company's service, introduced a number of fine merino sheep of the *Escorial* breed. Other importations occurred at about this period, and later the breeding of woolled sheep was undertaken seriously. Introductions of sheep of *English* breeds were effected by the settlers of 1820, and purchases were afterwards made in Saxony and, still later, in France. Of late years there have been fairly large importations, chiefly from Australia. The present wool industry of the Union has been built up by the careful selection of rams and the breeding of pure merinos.

(ii) *Number of Sheep in the Union.*—The following tables show the number of sheep (woolled and others) in the country in the census years 1904 and 1911 and in succeeding years:—

SHEEP IN THE UNION, 1904 TO 1921.  
WOOLLED SHEEP.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904.....	8,465,308	504,798	413,638	2,436,891	11,820,635
1911.....	11,051,836	1,105,023	2,330,304	7,355,052	21,842,215
1912.....	13,239,067	1,583,659	3,098,785	9,409,656	27,331,167
1913.....	13,396,765	1,666,019	3,797,395	9,467,728	28,327,907
1915.....	12,372,344	1,938,113	3,467,206	8,166,143	25,943,806
1916.....	12,712,107	1,927,746	3,615,821	8,234,850	26,490,524
1918.....	13,301,626	1,279,833*	2,868,425	7,608,834	25,058,718
1919.....	11,402,670	1,176,330	2,877,620	8,091,510	23,548,130*
1920.....	10,438,070	1,188,790	2,968,440	7,714,990	22,303,290*
1921.....	14,187,905	1,383,279	3,368,317	8,811,147	27,757,213†

## OTHER SHEEP.

1904.....	3,353,521	163,580	422,111	562,656	4,501,868
1911.....	6,082,677	414,235	1,084,946	1,232,586	8,814,444
1912.....	6,022,147	295,090	1,206,251	1,034,266	8,557,754
1913.....	5,188,939	357,866	1,220,563	712,725	7,480,093
1915.....	3,886,782	406,034	811,786	385,672	5,490,274
1916.....	3,847,311	372,347	877,596	302,727	5,490,181
1918.....	3,572,316	320,545	614,404	348,052	4,855,317
1919.....	4,000,790	82,160	367,220	493,200	4,943,370*
1920.....	3,093,470	88,390	379,480	424,330	3,985,670*
1921.....	3,105,897	221,173	407,549	233,075	3,972,290†

\* Excluding sheep in Native Locations, etc., which in 1918 numbered 3,016,281 (2,283,282 woolled; 732,999 other); in 1921, 3,005,572 (2,496,064 woolled; 509,508 other).

† Including 6,565 woolled sheep on rail.

‡ Including 4,605 other sheep on rail.

The following table gives particulars of the average number of sheep per square mile in the several Provinces:—

**AVERAGE NUMBER OF SHEEP PER SQUARE MILE, 1904 TO 1921.**

Province.	1904.	1911.	1916.	1918.	1921.
Cape of Good Hope.....	42·67	61·87	59·79	60·92	62·44
Natal.....	18·94	43·05	65·18	45·35	45·46
Transvaal.....	7·57	30·92	40·68	31·53	34·19
Orange Free State.....	59·53	170·43	171·22	157·91	179·49
UNION.....	34·50	64·80	67·60	63·23	67·07

(iii) *Sheep Flocks in Various Countries.*—The following table gives figures, extracted from a number of sources, showing the size of the sheep flocks of various countries at the most recent dates available in each case:—

**SHEEP FLOCKS OF VARIOUS COUNTRIES.**

Country.	Year.	Number of Sheep (Thousands).	Country.	Year.	Number of Sheep (Thousands).
Australia.....	1920	77,900	Algeria.....	1919	9,140
Argentine Republic.....	1920	45,303	Rumania.....	1920	8,690
United States.....	1922 (Jan.)	36,048	Bulgaria.....	1920	8,632
UNION OF SOUTH AFRICA	1921	31,730	Morocco (French). . . . .	1920	0,709
United Kingdom.....	1920	26,993	Germany.....	1921 (Dec.)	5,882
New Zealand.....	1921 (Jan.)	23,236	Greece.....	1920	5,811*
British India.....	1919-20	21,984	Chile.....	1919	4,500
Spain.....	1920	19,337	Portugal.....	1920	3,851
Russia*.....	1921	18,200	Canada.....	1921 (June)	3,676
Italy.....	1921	12,060	Tunis.....	1920	2,183
Uruguay.....	1916	11,473	Hungary.....	1920	1,817
Brazil.....	1920	10,633	Sweden.....	1919	1,564
Jugo-Slavia.....	1920	9,772	Norway.....	1920	1,206
France.....	1920	9,406	Mexico.....	1920	1,090

\* European and Asiatic Russia (excluding the Ukraine).

(iv) *Wool Production.*—Almost the whole of the Union wool clip is shipped overseas and the export returns, therefore, reflect practically the total production of the country. In the year 1814 the wool exported from the Cape of Good Hope amounted to 650 lb.; in 1835 to 215,868 lb.; in 1855 to 12,016,415 lb.; in 1875 to 40,339,674 lb.; in 1895 to 65,632,613 lb.; and in 1909 to 102,347,000 lb. Similar comparative figures for the other Provinces are not available, but it will be seen from the figures given in the following table that the industry in the Cape of Good Hope during the years 1890 to 1905 did not maintain its previous rate of progress, due principally to the effects of locusts, disease, and drought:—

**WOOL EXPORTED FROM CAPE OF GOOD HOPE, 1885 TO 1905.**

Year.	Quantity.	Year.	Quantity.
	lb.		lb.
1885	34,432,562	1900*	27,671,000
1890	65,655,917	1905	63,474,000
1895	65,632,613		

\* South African War.

The table given hereunder shows the quantity and value of wool exported from the Union since 1910 :—

**WOOL EXPORTED FROM UNION—QUANTITY AND VALUE, 1910 TO 1921.**

YEAR.	IN GREASE.			WASHED AND SCOURED.			TOTAL.	
	Quantity.	Declared Value.		Quantity.	Declared Value.		Quantity.	Value.
		Total.	Average per lb.		Total.	Average per lb.		
	1,000 lb.	£	s. d.	1,000 lb.	£	s. d.	1,000 lb.	£
1910.....	117,445	3,574,521	0 7	4,223	256,298	1 3	121,668	3,830,819
1911.....	126,893	3,592,878	0 6	5,314	306,950	1 2	132,207	3,899,829
1912.....	157,762	4,527,099	0 7	4,213	253,495	1 2	161,975	4,780,594
1913.....	173,243	5,444,524	0 7	3,729	274,764	1 6	176,972	5,719,288
1914.....	129,524	3,900,557	0 7	4,457	337,648	1 6	133,981	4,238,205
1915.....	161,253	4,753,202	0 7	8,750	626,829	1 5	170,003	5,380,031
1916.....	125,895	5,583,971	0 11	10,500	1,017,405	1 11	136,395	6,601,376
1917.....	105,710	6,977,065	1 4	11,947	1,805,215	3 0	117,657	8,782,280
1918.....	100,391	6,897,506	1 5	15,243	2,792,124	3 8	115,634	9,689,630
1919.....	158,263	12,946,170	1 7	26,665	4,972,918	3 0	184,928	17,919,088
1920.....	106,396	12,990,065	2 5	13,109	2,998,048	4 7	119,505	15,988,103
1921.....	218,893	7,210,485	0 8	11,529	1,026,350	1 9	230,422	8,236,835

The following table gives the production of wool in the Union as returned at the agricultural censuses for the years 1917-18, 1919-20, and 1920-21 :—

**PRODUCTION OF WOOL—AGRICULTURAL CENSUSES, 1917-18, 1919-20, and 1920-21.**

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Native Reserves, etc.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
1917-18.....	55,618,000	5,642,000	13,369,000	40,359,000	9,348,200	124,336,200
1919-20.....	58,069,450	5,682,830	14,437,250	44,478,150	—	122,687,680
1920-21.....	59,563,630	5,754,300	15,778,200	47,078,700	7,754,189	135,920,019

\* Not enumerated.

(v) *Trade in Wool.*—Prior to the War the bulk of the wool was shipped to the United Kingdom, where a large proportion was marketed and distributed. During the War the usual trade channels were disturbed, and the produce was to a large extent diverted to other centres, notably Japan and the United States. The present distribution of South African wool is shown in the following table, which indicates a return to pre-War conditions, with Germany as the second largest buyer of South African wool. The United States and Japan, however, purchased a considerably greater quantity than they had done before the War :—

**WOOL EXPORTED FROM UNION—DESTINATION, 1919 TO 1921.**

Destination.	Quantity.			Value.		
	1919.	1920.	1921.	1919.	1920.	1921.
	1,000 lb.	1,000 lb.	1,000 lb.	£	£	£
United Kingdom.....	78,021	42,624	101,878	7,035,065	5,258,473	3,589,138
Canada.....	420	—	54	71,890	—	3,124
United States.....	54,339	16,257	16,607	5,365,071	2,566,310	979,755
Japan.....	33,701	31,902	7,321	3,796,429	5,904,714	398,275
France.....	8,582	1,240	21,094	649,476	91,334	605,223
Italy.....	43	1,532	2,371	5,700	167,310	84,800
Holland.....	352	2,923	3,412	56,429	108,693	115,488
Belgium.....	9,469	16,579	27,757	1,029,005	1,540,860	820,108
Germany.....	—	7,338	49,853	—	352,968	1,036,805
Other.....	1	10	75	35	2,232	4,110
TOTAL.....	184,928	119,505	230,422	17,919,088	15,988,103	8,236,835

(Further details as to export of wool are given in Chapter XIX.)

(vi) *Export of Sheep Skins.*—A considerable trade in sheep skins also is carried on. The following table shows the quantity and value of sheep skins exported from the year 1911 :—

**SHEEP SKINS EXPORTED, 1911 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1911	23,996,966	574,457	1917	24,941,141	1,431,854
1912	29,029,147	724,196	1918	25,284,318	1,320,236
1913	32,196,400	889,611	1919	39,775,368	2,827,053
1914	30,353,731	753,273	1920	24,066,098	2,141,027
1915	37,226,422	827,590	1921	27,949,822	713,341
1916	30,410,386	1,084,042			

(vii) *Mutton.*—It was formerly necessary to import large quantities of mutton for consumption within the Union, but the importations during the period of the war dwindled to negligible dimensions, as will be seen from the following table; and though the imports in 1920 almost reached the pre-War level, the upward movement was subsequently not maintained. There has been a notable increase in the export of mutton since 1910.

**MUTTON—IMPORTS AND EXPORTS (OVERSEA TRADE), 1910 TO 1921.**

YEAR.	IMPORTS.			EXPORTS (SOUTH AFRICAN PRODUCE).		
	Weight.	Declared Value.		Weight.	Declared Value.	
		Total.	Per 100 lb.		Total.	Per 100 lb.
	lb.	£	£ s. d.	lb.	£	£ s. d.
1910.....	2,775,792	25,282	0 18 2	357	18	0 10 0
1911.....	3,463,899	32,308	0 18 8	60,909	1,308	2 2 11
1912.....	2,641,790	25,450	0 19 3	128,686	2,577	2 0 0
1913.....	2,114,384	24,448	1 3 2	26,382	619	2 6 11
1914.....	781,675	11,065	1 8 4	107,963	2,266	2 2 0
1915.....	8,881	238	2 13 6	319,897	7,516	2 7 0
1916.....	5,822	179	3 1 9	543,765	14,875	2 14 8
1917.....	17,581	441	2 10 1	1,037,740	30,027	2 17 10
1918.....	—	—	—	774,001	26,757	3 9 2
1919.....	173,483	4,396	2 10 8	713,840	23,487	3 19 10
1920.....	1,973,742	40,976	2 7 7	479,217	21,158	4 8 4
1921.....	3,157	106	3 7 2	380,210	16,684	4 7 9

References to the organization of the South African meat trade generally will be found in paragraph 2 (v) above.

5. *Goats and Mohair.*—(i) *Number and Classification of Goats.*—The tables hereunder give information as to the number of goats in the Union, distinguishing Angora goats from others :—

## GOATS IN THE UNION, 1904 TO 1921.

## ANGORA GOATS.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904.....	2,775,927	128,752	85,868	402,192	3,392,739
1911.....	3,340,132	127,452	262,174	545,577	4,275,335
1912.....	3,668,581	77,673	189,747	459,100	4,395,101
1913.....	3,546,218	80,517	225,458	341,691	4,193,884
1915.....	2,396,834	79,105	122,400	246,166	2,844,505
1916.....	2,190,575	73,634	110,805	189,275	2,564,289
1918.....	2,391,963	96,029	109,061	164,125	2,761,178
1919.....	2,402,290	47,690	90,700	155,990	2,696,670*
1920.....	1,819,970	47,760	70,680	124,390	2,062,800*
1921.....	2,042,682	43,748	60,628	137,501	2,284,571†

## GOATS OTHER THAN ANGORA.

1904.....	4,386,536	871,190	788,113	331,977	6,377,806
1911.....	4,613,282	861,822	1,509,546	502,994	7,487,644
1912.....	4,473,200	812,079	1,685,828	345,154	7,296,061
1913.....	4,196,694	986,675	1,752,351	275,422	7,211,142
1915.....	3,567,234	1,109,377	1,233,338	163,818	6,073,767
1916.....	3,618,148	1,171,191	1,462,156	145,912	6,397,407
1918.....	3,503,939	817,083	875,820	90,851	5,287,693
1919.....	2,423,580	258,790	357,000	106,250	3,145,600*
1920.....	2,072,800	255,660	417,940	85,990	2,832,390*
1921.....	3,711,112	894,870	843,573	100,390	5,552,125†

\* Excluding goats in Native Locations, etc., the total number of which was 2,744,992 in 1918, and 2,728,071 in 1921.

† Including 64 Angora goats on rail.

‡ Including 180 goats other than Angora on rail.

(ii) *The Angora Goat.*—The first attempt to introduce the Angora goat into South Africa is said to have been made in 1825. Thirty rams and ewes were imported in 1856, and subsequent shipments arrived in 1857, 1867, 1879, and 1890. So much intelligent care was bestowed on and so much industry applied to the breeding of Angoras that in 1891 there were approximately 3,000,000 in the country, and some of the specimens were regarded as superior to any goats produced in Turkey.

The severe drought which visited the country during the few years prior to 1916, especially in the districts devoted largely to the raising of Angoras, is mainly responsible for the falling off in the number of Angora goats raised since 1911.

(iii) *Production of Mohair.*—As in the case of wool, practically all mohair is shipped overseas, and the export returns may be taken substantially as indicating the production of this article in the Union. The quantity and value of mohair exported in 1857 and in each tenth subsequent year until 1907 from the several Colonies and States now comprising the Union were as follows:—

## MOHAIR EXPORTED, 1857 TO 1907.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1857	870	10	1887	8,756,116	268,446
1867	43,348	4,985	1897	12,055,390	676,644
1877	1,429,045	116,382	1907	18,703,306	965,687

The arrested progress with regard to the production of wool in the period 1890 to 1900 is equally apparent in the case of mohair. In 1891 the exports totalled 10,183,752 lb.; in 1895, 10,354,870 lb.; in 1899, 12,844,454 lb.; and in 1901, 10,615,948 lb.

The quantity and value of mohair exported from the Union during the years 1911 to 1921 is shown in the following table, further particulars being given in Chapter XIX :—

**MOHAIR EXPORTED FROM UNION, 1911 TO 1921.**

Year.	Quantity.	Declared Value.	Average Value per lb.	Year.	Quantity.	Declared Value.	Average Value per lb.
	lb.	£	s. d.		lb.	£	s. d.
1911.....	21,066,825	917,874	0 10·5	1917.....	3,690,828	280,636	1 6·2
1912.....	23,479,729	967,286	0 9·9	1918.....	19,645,684	1,641,889	1 8·1
1913.....	17,355,882	876,255	1 0·1	1919.....	16,942,021	1,654,235	1 11·4
1914.....	18,865,743	834,292	0 10·6	1920.....	6,289,888	518,973	1 7·8
1915.....	16,304,378	687,635	0 10·1	1921.....	17,127,915	583,643	0 8·1
1916.....	17,374,068	1,115,281	1 3·4				

The following table shows the production of mohair in the Union, as returned at the agricultural censuses of 1917-18, 1919-20, and 1920-21 :—

**PRODUCTION OF MOHAIR—AGRICULTURAL CENSUSES, 1917-18, 1919-20, AND 1920-21.**

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Native Reserves, etc.	Total.
	lb.	lb.	lb.	lb.	lb.	lb.
1917-18.....	9,294,500	125,300	205,500	378,500	381,300	10,385,100
1919-20.....	7,228,810	83,050	119,400	286,600	*	7,717,860
1920-21.....	7,081,968	87,600	116,300	297,840	264,844	8,448,550

\* Not enumerated.

(iv) *Trade in Mohair.*—To a certain extent the supply of mohair exceeds the demand, and the sale is confined almost entirely to the Bradford market, where it is spun into yarn and distributed. Until Turkey entered the European War that country was the greatest competitor with the Union in the supply of mohair. In 1865, when the mohair exported from South Africa amounted to 9,609 lb., the amount exported to the United Kingdom from Turkey totalled 2,421,188 lb.

By the year 1887 a greater quantity of mohair was being exported to the United Kingdom from South Africa than from Turkey—8,756,116 lb. as against 6,714,816 lb.—and since that year the Turkish export has only twice exceeded that of South Africa—in 1895 and in 1898. Since 1907 the annual South African output to the United Kingdom has been nearly double that of Turkey, and the lead has been maintained notwithstanding that average Turkish mohair commanded some 2d. to 3d. per lb. more than that from South Africa. The exceptional advance made in regard to other pastoral industries in the last decade did not, however, occur in the case of mohair; for, as already stated, mohair is an article for which there is a limited demand, and the stimulus to the production of such commodities as wool, dairy produce, and ostrich feathers which came with the conclusion of the Anglo-Boer War slackened in respect of mohair as soon as the country had reached the limit of successful competition with Turkey for the world's consumption of about 30,000,000 lb. per annum, of which South Africa produces more than half.

In 1916, 28·6 per cent. of the goats in the Union were Angora; in 1918, 32·6 per cent., and in 1921, 29·2 per cent.

(v) *The South African Goat.*—The common goat was found to be in the possession of the natives of the Cape of Good Hope when the country was first occupied by Europeans. This animal was, however, very inferior to the common goat of the country as it exists at the present day. Improvement in size and appearance has been effected by breeding. At present South African goats are bred principally in the dry Karroo districts to the north and north-west of the Cape Province, in the various native areas, and in the bush country where sheep do not thrive. These goats are hardy animals, grow to a considerable size, and multiply rapidly; hence they are the most profitable stock which can be raised in districts where there is a demand for their mutton.

(vi) *Trade in Goat Skins.*—Practically all the goat skins available for sale are exported overseas. The following table shows the quantity and value of goat skins (including Angora) exported from the Union from the year 1911 :—



**GOAT SKINS (INCLUDING ANGORA) EXPORTED FROM UNION, 1911 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1911	7,469,158	262,636	1917	4,462,879	362,626
1912	8,126,360	291,695	1918	5,888,351	405,369
1913	9,104,691	325,936	1919	11,944,565	1,076,543
1914	7,941,096	270,170	1920	6,128,618	879,478
1915	8,304,792	264,875	1921	3,489,928	132,475
1916	8,513,363	414,777			

**6. Pig and Bacon Industry.**—(i) *Development.*—The industry of pig-breeding for bacon purposes is in its infancy in the Union and as an enterprise conducted on a large scale and on business lines, it is a development of recent years only. In the past little attention was paid to the proper breeding and rearing of the right type of *bacon* pig, the type found generally throughout the country being the so-called *Kolbroek* type—a small animal rather fine in bone, short in body, and distinctly of the porker type. The *kaffir* pig is also found but to a less extent, and is the antithesis of the “*Kolbroek*,” being long-legged and narrow in its body conformation.

(ii) *Number of Pigs.*—Particulars are given hereunder as to the number of pigs in the Union:—

**NUMBER OF PIGS IN EACH PROVINCE, 1904 TO 1921.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
1904.....	385,945	75,887	155,843	61,409	679,084
1911.....	505,730	110,332	302,832	162,656	1,081,600
1918.....	537,896	119,153	240,750	145,425	1,043,224
1919.....	307,879	64,040	182,484	165,604	724,007*
1920.....	216,955	69,909	173,654	99,637	560,155*
1921.....	447,733	120,874	248,824	96,454	914,769†

\* Excluding pigs in Native Locations, etc., which numbered 382,659 in 1918, and 353,988 in 1921.

† Including 884 pigs on rail.

(iii) *Present Position of the Industry.*—Carefully selected importations, with systematic breeding and feeding and improved management, have served to raise considerably the standard of the bacon pig in the last few years. The facilities provided under the present *Ocean Mail Contract* for the free conveyance of pedigree stock have been the means of accelerating introductions into the country. A number of first class animals excellently adapted for breeding purposes has been imported into the Union since the contract came into force, and at the same time the establishment of bacon-curing factories has provided the necessary incentive to proper and increased production. But in spite of this improvement, which is both steady and appreciable, it is still the case that most of the pigs in the Union are of an unsatisfactory type, and great scope continues to exist for the breeding of approved animals for bacon-curing. The following tables give particulars as to the Union's production, imports, and exports of bacon, ham, and lard:—

(a) **BACON, HAM, AND LARD—PRODUCTION, 1915-16 TO 1920-21.**

YEAR.	FACTORY PRODUCTION.					BACON AND HAM PRODUCED ON FARMS.	TOTAL PRODUCTION OF BACON AND HAM.
	Value of Pigs Used.	Quantity Produced.		Value.			
		Bacon and Ham.	Lard.	Bacon and Ham.	Lard.		
	£	lb.	lb.	£	£	lb.	lb.
1915-16...	70,332	2,021,475	100,849	107,524	8,461	*	*
1916-17...	137,383	2,803,190	218,356	176,349	11,351	*	*
1917-18...	234,757	4,772,461	444,616	291,614	24,412	2,313,000	7,085,461
1918-19...	330,688	6,535,215	616,429	414,347	32,799	1,887,040	8,422,255
1919-20...	486,456	6,821,415	732,178	580,379	51,881	1,610,120	8,431,535
1920-21...	449,564	5,555,317	484,576	490,470	30,800	2,244,600	7,799,917

\* Not available.

**(b) BACON, HAM, AND LARD—IMPORTS AND EXPORTS, 1910 TO 1921.**

YEAR.	IMPORTS LESS RE-EXPORTS.				EXPORTS (S.A. PRODUCE).			
	Bacon and Ham.		Lard.		Bacon and Ham.		Lard.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	lb.	£	lb.	£	lb.	£	lb.	£
1910...	5,205,874	220,042	1,072,776	20,105	9,962	416	363	12
1911...	5,706,453	214,509	1,902,414	42,681	16,702	763	100	4
1912...	5,630,311	210,292	1,350,791	32,361	17,348	730	153	4
1913...	5,873,885	250,957	1,777,293	44,459	18,837	669	90	3
1914...	5,174,847	214,359	1,174,159	30,592	20,591	978	115	4
1915...	4,085,631	190,805	1,636,841	42,642	29,595	1,628	—	—
1916...	2,689,584	146,216	1,284,317	36,362	42,612	2,406	1,241	73
1917...	300,565	18,374	382,396	17,659	—	7,107	24,887	1,562
1918...	61,203	3,945	*	*	281,293	22,256	45,692	2,549
1919...	20,307	1,812	10,488	1,409	1,597,298	104,779	51,700	3,460
1920...	58,557	6,102	413,339	33,392	919,509	85,465	19,673	1,908
1921...	305,026	24,963	131,569	5,797	704,127	54,786	29,979	2,108

\* Imports—21,400 lb., value £1,115, Re-exports—33,531 lb., value £1,967.

Since the Industrial Census in respect of the year 1916-17, the industry has continued to progress. One factor which affords particular warrant for this conclusion is the establishment of an increasing number of farmers' co-operative bacon factories, some of which have weekly slaughtering of from two to three hundred pigs, approximately 10,000 to 15,000 per annum. The supply requires regulation, as complaints are made that factories cannot depend upon a steady and even supply of slaughter stock.

Good prices have been obtained for pigs, especially for pure-bred Large Blacks and Berkshires of approved blood lines and individuality. Gelts and boar pigs of these breeds at from six to ten months of age are obtainable at prices ranging from eight guineas upwards, depending upon their breeding and individual excellence. Although Large Black sows and gelts are in greater demand than the females of any other breed, Berkshire boars enjoy a somewhat similar popularity because of the fact that they are used to quite a large extent for the purpose of crossing with Large Black females in the production of baconers. This is particularly true in the Cape Province, and to a lesser extent in the Transvaal and Orange Free State. In Natal the Middle White boar is preferred to the Berkshire boar, while the Tamworth sow also appears to enjoy as much popularity, if not more, in certain parts of this Province.

There is very little difference in price for first-class representatives of the more important breeds, such as Large Blacks, Berkshires, Tamworths, and Middle Whites, this being the order of preference. Weaners at two to three months of age can ordinarily be obtained at about three guineas apiece, and gelts and boar pigs of breeding age, i.e. eight months and over, from ten guineas and upwards. During 1921, the more acceptable type of baconer was bought by the factories at an average price of 7d. per lb. live weight, a considerable drop in price as compared with 1920 prices. Porkers were not in great demand during the year 1921, the average price obtainable being 4½d. per lb. live weight.

**7. Ostrich Farming.**—(i) *Natural Condition of Ostriches.*—The ostrich in its natural state at one time abounded all over the habitable parts of Africa, and was regularly hunted for its plumes. Had not its domestication been undertaken it would doubtless have become extinct as a result of the increase of population and the gradual agricultural development of the country. As it is, wild ostriches are still to be found in certain parts, while the birds kept on farms have greatly increased, numbering about 776,000 in 1913, but since reduced by more than half as a consequence of the war. Ostrich farming was first seriously undertaken in South Africa about fifty years ago, and the export of plumes from domesticated birds increased rapidly, soon outweighing that of plumes from the wild birds. At the present time the feathers from the latter are a negligible quantity.

(ii) *Ostrich Domestication.*—The ostrich proved itself readily amenable to farming methods and was found to breed freely under restraint. The industry was very remunerative and rapidly developed into one of the principal agricultural activities of the Cape Colony.

Within fifty years the ostrich, wild and highly nervous, has been reduced to a thorough state of domestication. The details of management required for the production of successive plumage crops of the highest perfection have been worked out, and the few parasitic diseases to which the bird is subject have been combated. Methods of chick-rearing have been elaborated, and by selective breeding the plume has been brought to a high state of perfection. One fact which has been fully demonstrated is the highly sensitive nature of the feather growth. Unless the bird is maintained in the highest condition of nutrition during the six months required for a feather crop to grow and mature the character and quality of the plumage suffer. Any imperfection of growth greatly depreciates the plume, often rendering it almost valueless. Only certain districts of the Union, on account of peculiarities of soil and climate, are found to be favourable to the production of plumes of the highest type. The restraining of the bird within farm limits has led to an extensive system of wire-fencing. The necessity for high feeding has resulted in the laying down of crops, particularly lucerne, which has involved the construction of numerous systems of irrigation.

(iii) *Statistics.*—The high returns from the sale of feathers and birds were in practically all cases devoted to general farm improvement, and the ostrich districts progressed rapidly. Pairs of breeding birds, one cock and one hen, were occasionally sold for as much as £1,000, and the prices obtained for chicks varied from £5 to £50, according to the quality of their plumage. The clipping of feathers from a single bird fluctuated in value from £1 to £20. No cruelty whatever is involved in procuring the feathers. The clipping of the ripe plumes means no more to the bird than does shearing to a sheep, a humane consideration which has undoubtedly added to the success of the trade. The output has steadily increased. In 1913 the industry attained its highest point of success, the weight of the feathers exported from the Union during that year reaching the total of 1,023,307 lb. valued at £2,953,587, and representing an average value of £2. 17s. 9d. per lb. As the result of a combination of causes, but principally of over-production, a set-back in prices and in demand eventuated towards the end of 1913, which, with the outbreak of war in 1914, brought about an almost total collapse of the feather trade. Prices fell to as low an average as 15s. per lb., and the quantity exported to less than a fourth that of normal times. This consequence of the war was natural and unavoidable in the case of an article of luxury, and for the past few years ostrich farmers have suffered greatly. Many have taken to other branches of farming, so that no farmer is now wholly dependent upon ostriches as a means of livelihood. The number of ostriches throughout the country has been reduced by more than half, only birds of superior plumage having been retained against the restoration of more settled economic conditions.

With the signing of the Armistice towards the close of 1918, and later the release of vessels for exportation, the feather industry underwent a rapid revival. Before the middle of 1919 prices had been restored to a basis which again made ostrich farming a paying proposition, and since that time the demand for feathers has gradually increased, and prices have also risen somewhat. Owing to the general financial depression and unsatisfactory exchange rates which ensued after the War, the industry is still in a somewhat depressed condition, but it is steadily improving. Farmers, however, have had a severe lesson in the great slump which existed all through the War, and the prices of good breeding birds and chicks have not risen to anywhere near the figure they realized prior to this period.

The following tables show (a) the number of ostriches in the Union at the dates specified, and (b) the number and classification of ostriches at 30th April, 1921:—

(a) NUMBER OF OSTRICHES IN EACH PROVINCE, 1904 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1904 (General Census).....	357,970	1,523	14	1,323	360,830
1911 (General Census).....	728,087	4,111	5,441	9,097	746,736
1913 (31st December).....	756,923	5,081	4,591	9,718	776,313
1916 (30th June).....	379,127	4,250	8,927	6,415	399,028
1918 (Census of Agriculture)*..	309,306	6,022	3,110	4,227	314,265
1919 (30th April)*.....	273,490	1,900	2,820	3,860	282,070
1920 (30th April)*.....	277,700	1,670	2,450	2,160	283,980
1921 (30th April)*.....	255,601	1,468	2,840	1,859	261,828

\* Native Locations, Reserves, etc., not enumerated.

(b) OSTRICHES.\*—NUMBER AND CLASSIFICATION ON 30th APRIL, 1921.

Province.	Cocks kept for Breeding.	Hens kept for Breeding.	Cocks not kept for Breeding.	Hens not kept for Breeding.	Cocks.	Hens.	Chicks.	†Urban Ostriches including Chicks.	TOTAL.
Cape.....	20,657	13,458	76,627	74,218	19,134	16,496	32,107	2,904	255,661
Natal.....	142	96	547	383	80	66	54	110	1,408
Transvaal..	504	344	280	232	64	70	357	879	2,840
Orange									
Free State	324	332	255	254	68	83	409	134	1,859
TOTAL...	21,717	14,230	77,699	75,087	19,306	16,715	32,927	4,087	261,828

\* Native Locations, Reserves, etc., not enumerated.

† No detailed classification in urban area.

The undermentioned table shows the quantity and value of ostrich feathers exported from the Union from the year 1903 :—

QUANTITY AND VALUE OF OSTRICH FEATHERS EXPORTED FROM UNION, 1903 TO 1921.

YEAR.	QUANTITY.	VALUE.		
		Total.		Average per lb.
		lb.	£	£ s. d.
1903.....	490,066	945,001	1 18 7	
1904.....	470,381	1,058,988	2 5 0	
1905.....	471,024	1,081,187	2 5 11	
1906.....	547,709	1,406,159	2 11 4	
1907.....	598,358	1,814,232	3 0 8	
1908.....	637,815	1,738,392	2 14 6	
1909.....	788,262	2,091,280	2 13 1	
1910.....	741,078	2,272,846	3 1 4	
1911.....	826,992	2,253,140	2 14 6	
1912.....	999,704	2,609,638	2 12 2	
1913.....	1,023,307	2,953,587	2 17 9	
1914.....	755,325	1,342,717	1 15 6	
1915.....	948,945	743,772	0 15 8	
1916.....	452,080	486,362	1 1 6	
1917.....	219,048	175,019	0 15 11	
1918.....	108,924	88,628	0 16 3	
1919.....	904,611	1,646,014	1 16 5	
1920.....	285,444	547,336	1 18 4	
1921.....	296,711	461,533	1 11 1	

8. Poultry.—Poultry is kept to some small extent by practically every farmer throughout the Union, but there are comparatively few farmers who have made a special industry of poultry-keeping. During recent years, however, farmers generally have taken a keener interest in poultry than formerly. Moreover, a great advance has been made of late years in the poultry industry of the Union owing to the efforts of cottagers and small holders. Poultry societies have brought before the public the value of pure-bred poultry. Government Schools of Agriculture have distributed pure-bred birds at reasonable rates. Lectures on poultry are given; agricultural societies, and especially the Western Province Agricultural Society through the medium of its egg-laying competitions, have done much to advance the industry. Egg-laying competitions have also been conducted at the Potchefstroom (Transvaal) and Cedara (Natal) Agricultural Schools under Government supervision. At these schools short courses in poultry culture have been instituted, while specialists' clubs exist with the object of securing greater egg production. Co-operative egg-collecting circles are doing much to popularize the industry, especially where it is carried on in conjunction with creameries. Two large co-operative businesses in poultry products have been opened, marking a further advance of the industry. The creation of a special Poultry Division of the Department of Agriculture has been projected in recognition

of the growing importance of the industry. Table (i) hereunder gives the number of poultry in the Union in 1911 and in 1921; while Table (ii) gives figures from the year 1911, representing the exports and imports of eggs from and into the Union, which indicate that, whereas the country was previously largely dependent for its supplies upon the imported article, the position is now reversed, and the Union is not only able to supply itself fully but is in a position to export eggs to other countries.

(i) **NUMBER OF POULTRY IN EACH PROVINCE, CENSUS OF 1911 AND ON 30th APRIL, 1921.**

Province.	Fowls.		Ducks.		Geese.		Turkeys.	
	1911.	1921.*	1911.	1921.*	1911.	1921.*	1911.	1921.*
Cape.....	4,176,206	3,726,999	209,312	117,398	117,638	90,098	86,806	83,774
Natal.....	1,438,269	1,649,027	64,044	59,398	14,376	10,232	13,486	14,813
Transvaal.....	2,382,439	2,741,629	190,256	104,680	54,327	54,306	82,994	62,713
Orange Free State....	1,384,430	1,292,628	139,406	74,065	85,378	60,847	85,482	73,866
On rail.....	—	7,048	—	1,082	—	217	—	506
<b>TOTAL.....</b>	<b>9,381,344</b>	<b>9,418,531</b>	<b>612,018</b>	<b>356,032</b>	<b>271,719</b>	<b>216,390</b>	<b>268,828</b>	<b>235,672</b>

\* Including for Native Locations and Reserves: fowls, 3,090,493; ducks, 46,255; geese, 18,488; turkeys, 12,191.

(ii) **QUANTITY AND VALUE OF EGGS IMPORTED INTO AND EXPORTED FROM THE UNION, 1911 TO 1921.**

YEAR.	NET IMPORTS.		EXPORTS (S.A. PRODUCE).		YEAR.	NET IMPORTS.		EXPORTS (S.A. PRODUCE).	
	Quantity.	Value.	Quantity.	Value.		Quantity.	Value.	Quantity.	Value.
1911....	15,028,066	55,076	1,140,780	15,016	1917....	*	*	7,428,153	52,209
1912....	17,641,495	69,886	3,257,193	17,722	1918....	3,919	26	3,518,894	28,725
1913....	20,834,819	75,128	3,154,840	17,288	1919....	5,483	29	9,145,467	83,061
1914....	15,589,865	50,037	3,159,835	18,260	1920....	14,680	143	11,731,630	127,757
1915....	3,103,237	18,839	4,321,233	25,375	1921....	4,997	38	25,115,863	295,066
1916....	15,528	116	8,511,957	46,593					

\* Imports: 851 eggs, value £12: Re-exports, 5,021 eggs, value £63.

In 1921 unfavourable reports were received of consignments of South African eggs sent overseas, and as injury was being done to the trade, which had in that year attained considerable dimensions, a Committee was appointed in January, 1922, to inquire into the circumstances responsible for these comments. The Committee made the following recommendations, which have been carried into effect:—

1. That the competent and effective grading of eggs should be ensured, not only by the permanent inspectors, but also by the exporters themselves.
2. That the premises of exporters should be inspected from time to time by an authorized Government officer, and that at least one person employed on these premises in the grading of eggs for export should be qualified to do so.
3. That a Chief Poultry Officer, to whom inspectors would be immediately responsible, should be appointed.
4. That a qualified poultryman of equivalent status to that of a Poultry Instructor should be appointed at Durban and another at Cape Town; that these officers should be resident during the export season, and the cost of these appointments to be met from a levy of 1s. per case exported.
5. That the egg export regulations should be revised.

9. **Bees.**—The Union Government has no official on its staff of experts whose special duty it is to give advice on bee-keeping matters. Lectures and demonstrations on bee-keeping by practical bee-keepers are, however, a common feature at leading agricultural shows, and up-to-date bee-keeping requisites are stocked by many merchants. There has been a number of bee-keepers' associations from time to time, but at present the only

active body is the South-African Association of Bee-keepers. Bee-keeping could, no doubt, be expanded greatly and profitably in the Union, the demand for hive products being considerably in excess of the supply. At the present time large quantities of beeswax are imported from Central and from East Africa. With the object of minimizing the risk of introducing disease, the Union, in common with Rhodesia and Portuguese East Africa, prohibits the importation of honey and reserves to the Government exclusively the right to import bees. For many years bees have not been admitted. The importation of beeswax and foundation comb is allowed only under special permit, and is conditional on the wax having been subjected to prolonged heating. The prohibition of the importation of honey, combined with meagre production here, renders the price of this article in the Union very high. Until the latter part of 1917, South Africa was supposed to be free of infectious bee brood diseases. European foul brood and sacbrood have since become recognized in all four Provinces of the Union, but they are not known to cause serious loss in any part of the country and, in general, they escape even the observation of the owners of the infected colonies.

The table hereunder gives particulars as to the production of honey in the Union:—

**PRODUCTION OF HONEY IN THE UNION, 1911, 1918, AND 1921.**

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Honey (1911)... lb.	100,693	2,149	3,383	2,262	108,487
Honey (1918)*... lb.	416,936	46,542	57,424	29,691	550,593
Beehives (1918)*. No.	44,812	4,690	8,607	6,812	64,921
Honey (1921)*... lb.	279,746	22,810	58,593	26,522	387,671

\* Native Locations and Reserves not included.

10. **Losses of Stock from Drought and Disease.**—In September, 1920, a Commission was appointed to investigate the important question of drought. The Commission, which consisted of Messrs. H. S. Davel-Du Toit, D.T.D. (Chairman), S. M. Gadd, G. A. Kolbe, A. Stead, B.Sc., F.C.S., and P. J. van Reenen, B.A., A.M.I.C.E., was instructed to inquire into and report upon:—

- (1) The methods by which losses to farmers owing to periodic droughts in the drier parts of the Union may be prevented, either by public or private action; and in particular whether any changes in farming methods are necessary for this purpose;
- (2) any improvements in farming conditions generally, such as the provision of more water, prevention of soil erosion, and any other matters which have a close bearing on point (1);
- (3) the methods by which indigency arising among the farming community in consequence of such losses could best be dealt with;
- (4) the production of stock-feed by the cultivation of various grasses.

In its first report, submitted in April, 1922, the Commission reviewed generally the whole field covered by its terms of reference. It placed on record the conclusion that the mean annual rainfall of the Union had not altered appreciably within recent historic times, but that its economic value had been considerably reduced by the alteration in the properties of the surface of the country, for which man is responsible. With improved farming methods and conditions, an increased rainfall efficiency might be expected. The Commission strongly condemned the widespread practice of "kraaling" sheep and the over-stocking of farms, which, in its view, led to a weakening in the stamina of the stock, the destruction of vegetation, a bad grazing economy, and soil erosion; the result being that the drought-resisting capacity of the country was greatly diminished. The Commission recommended:—

- (i) that the Department of Agriculture should proceed with the organization of the farming community;
- (ii) that an effective campaign for the extermination of the jackal should be instituted, as a step towards the adoption of the system of paddocking instead of "kraaling" sheep;
- (iii) that fencing loans should be granted to farmers on the most favourable terms possible;
- (iv) that farmers should be encouraged to improve their facilities for watering stock;

(v) that the control of soil erosion should be undertaken by the State, and that a Reclamation Office should be attached to the Department of Agriculture for the purpose;

(vi) that overstocking should be discouraged; and

(vii) that the Department should thoroughly investigate grazing and fodder problems.

The following table indicates the extent of the losses suffered by farmers in the Union from the death of stock in consequence of disease and drought, as shown in the returns of the agricultural censuses of 1917-18 and 1920-21. Figures for the intervening years are not available. It is to be noted that 1917-18 and 1920-21 were not drought years, properly so-called, and it may be taken, therefore, that the losses due to inadequate rainfall are, in a bad year, considerably greater than the figures given in the table.

#### DEATHS OF STOCK FROM DISEASES AND DROUGHT DURING YEARS, 1917-18 AND 1920-21.

Description.	1917-18.			1920-21.		
	From Disease.	From Drought.	From All Causes.	From Disease.*	From Drought.	From All Causes.
Cattle.....	219,227	20,497	239,724	362,614	77,577	440,191
Horses and Mules.....	89,372	5,369	94,741	52,174	7,025	59,199
Asses.....	—	—	23,683	22,780	6,965	29,744
Sheep.....	2,234,723	226,577	2,461,300	1,581,706	581,862	2,163,568
Lambs.....	—	—	2,065,699	—	—	1,434,028
Goats.....	686,973	39,716	726,689	398,434	81,594	480,028
Kids.....	—	—	510,209	—	—	270,143
Pigs.....	—	—	56,658	—	—	65,621
Ostriches, including Chicks.....	—	—	72,716	—	—	45,912

\* Including deaths from drought in Native Reserves, etc., not separately enumerated.

### § 3. Cereals.

#### A.—GENERAL.

1. **Cultivation of Cereals.**—The varied climatic conditions which prevail in the Union, dissimilar sometimes even within the area of a single Province, have a marked influence upon the growth of wheat and similar crops. In the western districts of the Cape Province, winter rains are experienced. These begin about April, and continue through the months of May, June, July, and August. In September and October drier conditions begin to prevail, while through November, December, January, February, and March only small showers are experienced, and even these are not to be relied upon. The south coastal region enjoys a certain rainfall in winter, but the hinterland is practically free from rain from April or May until August, September, or October. In the remaining portion of the country summer rains are experienced, and these rains begin upon the termination of the winter rains in other parts, and continue until about March or April. In the regions of winter rainfall the growth of the smaller cereals is best. Under a summer rainfall the atmospheric conditions cause rust, which seriously affects the growth of wheat, oats, and crops of this kind. In regions of summer rainfall these crops are usually grown under irrigation in the winter or dry months.

2. **Wheat.**—In the western part of the Cape Province all areas are not equally well adapted for the growth of wheat. In the Caledon and Bredasdorp districts wheat is a more profitable crop than in the Stellenbosch district. In the Darling and Moorreesburg neighbourhoods wheat grows well and is very remunerative. The average return per acre over the whole area where wheat is cultivated, is probably from ten to twelve bushels. The low yield secured is due to a low natural fertility of the soil, and in part to insufficient culture of the ground. Double and three furrow ploughs are in general use, and the grain is usually sown broadcast and ploughed in. Drilling is done only to a limited extent. Manuring of the crop is very general, but larger crops would be secured were more liberal manuring practised. The problem as to the intensity of the culture which is most profitable is one which the farmer himself must elucidate. It is believed, however, that greater intensity would result in good profits per acre cultivated. Guano locally collected from sea birds applied at the rate of 100 lb. per acre is in general a standing dressing. This quantity supplies nitrogen, total phosphoric oxide, and potash in the proportions given in paragraph 2 of section 9. South African soils are notoriously deficient in phosphoric acid, and in the winter rainfall area, in lime also, and to a less extent in potash, while owing to the effect of the very dry summers in the chief producing area in preventing the accumulation of organic matter, and the effect of wet winters in leaching out of the soil such nitrates a

are produced, the need for nitrogen is one which cannot be disregarded. Progress is being made with the introduction of mixed forage crops containing a legume for ploughing in, or grazing off, on the lands with a view to improving the fertility of the wheat-growing areas. Sowing usually takes place in April and extends to June, for the sowing of the later varieties; harvesting occurs in November and December. Early maturing grain is a desideratum on account of loss by shattering, due to prevalent winds about harvest time. The early varieties of wheat, however, are bad tillers, and require a thicker seeding. Such varieties are usually seeded at the rate of about 40 lb. per acre, while in Great Britain seeding is usually at the rate of two bushels (120 lb. per acre) or more, showing that local experience has found a thin seeding to be all that the soil can nourish to maturity. Attention is being directed at the Government Experiment Stations to the production of more prolific strains and to a system of rotation which will maintain and improve the fertility of the soil.

Harvesting is generally done by means of the self-binder, and harvesting operations are seldom delayed through bad weather. Threshing is generally completed in January and February, and the grain marketed soon after. Good markets exist for properly graded wheat.

The following tables give particulars regarding the production, importation, and consumption of (i) wheat, and (ii) wheaten flour and meal from the year 1910-11. All available information has been utilized in the preparation of the tables, proportionate figures being interpolated in cases where information is incomplete or not available.

(i) **WHEAT—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1910-11 TO 1920-21.**

Year.	Total Production.	Total Production (less Exports).	Imports (less Re-exports.)	Retained or Available for Consumption.	Wheat Ground as Flour and Meal.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1910-11.....	882,063*	362,019	193,046	555,085	387,748
1911-12.....	389,980	389,911	144,088	533,999	432,160
1912-13.....	420,050	419,968	217,272	637,240	421,322
1913-14.....	452,440	452,380	274,167	726,547	414,158
1914-15.....	487,320	487,275	213,978	701,253	482,266
1915-16.....	438,588	438,544	213,682	652,226	170,520†
1916-17.....	389,856	389,704	190,145	579,849	524,524†
1917-18.....	608,971*	608,513	114,704	723,217	569,206†
1918-19.....	500,300*	499,088	59,204	558,292	569,734†
1919-20.....	318,642*	317,057	119,618	436,675	568,560†
1920-21.....	458,802*	455,718	152,448	608,066	594,964†

\* Agricultural Census.

† Industrial Census.

(ii) **WHEATEN FLOUR AND MEAL—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1910-11 TO 1920-21.**

Year.	Total Milled Production.	Total Production (less Exports).	Imports (less Re-exports).	Retained or Available for Consumption.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1910-11.....	298,268	282,846	138,843	421,689
1911-12.....	332,431	315,987	121,741	437,728
1912-13.....	324,094	308,603	137,453	446,056
1913-14.....	318,583	305,318	149,060	454,387
1914-15.....	870,974	363,309	99,108	462,717
1915-16.....	379,668*	372,928	73,250	446,178
1916-17.....	428,576*	418,140	61,233	479,373
1917-18.....	435,680*	422,302	28,145	450,447
1918-19.....	461,874*	449,044	25,838	474,882
1919-20.....	441,170*	430,267	88,255	518,522
1920-21.....	397,986*	389,431	135,125	524,556

\* Industrial Census.

3. **Oats.**—The oat crop has a more important place in local agriculture than the wheat crop can generally command. This is attributable to the fact that oats will grow more satisfactorily than wheat upon poor soils; that the oat crop is not always grown for grain, but is sold in the form of hay, in which state it finds a ready market in most of the larger



towns of the Union for cattle and horse feeding; and that, being grown for hay, it can be sown thickly, a larger return per acre being thus secured.

The cultural operations are the same as for wheat. Oats are sown both earlier and later than wheat. The variety of oats which finds greatest favour is *Algerian*. This is followed probably by the *Texas*, and then by the *Smyrna* and *Burt* oats. The *Algerian* is very rust-resistant, but is also very late, and requires to be sown early. The *Burt* is one of the quickest maturing sorts, and can thus be sown last. The weight per bushel of oats grown in the western districts of the Cape Province is about 40 lb. These varieties, however, do not yield the same meal as the heavier oats of other countries, which possess a much thinner skin, and not the same development of awn. Manuring for the oat crop is in general similar to that for wheat. Oats are more suited to medium loamy soils, while wheat requires a deeper soil with a texture of loam.

The thicker seeding of the oat crop (50 to 60 lb. per acre) enables a fine quality of oat-hay to be produced. Oat-hay grown under summer rain conditions is very stubby compared with Cape winter oat-hay, and possesses a considerably lower feeding value. The farmer uses his oat crop for his equine and bovine stock either as hay, or, as is done now by an increasing number, in the form of silage. Oats make a better mixture with vetches than does wheat, either for grazing off with sheep, for silage or for hay, factors which add to the popularity of the oat crop.

The yield of oats is from seventeen to twenty-four bushels per acre. Under ordinary conditions, when prices are not inflated, the oat crop is as valuable as, if not slightly more valuable than, the wheat, and the value of an acre of each is about £2. 10s. or £3. The average cost of production varies very considerably in different areas, so that the profit per acre cannot be readily stated.

Both wheat and oat seed are now frequently treated for smut prior to sowing; the resulting grain crops are therefore fairly free from this trouble. Greater attention could profitably be paid to sowing only pure seed, particularly in the case of the oat crop, as this crop frequently contains a quantity of Drabok (*Lolium temulentum*), which is sometimes injurious to stock.

The following tables give the production of oats (grain) in the Union and the quantity and value of South African oats exported from the year 1911 :—

(i) **PRODUCTION OF OATS, 1904 TO 1921.**

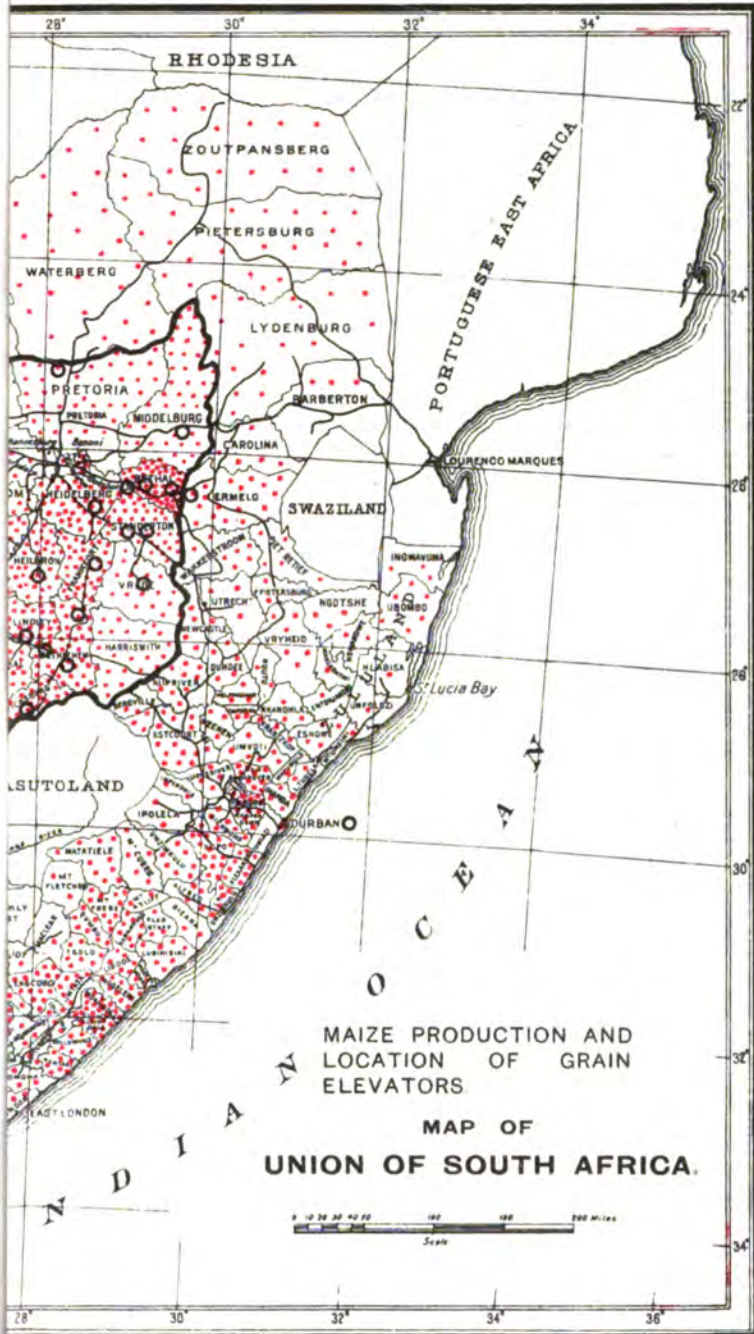
Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1904 (General Census)...	121,350	327	3,839	5,197	130,713
1911 (General Census)...	184,339	6,546	23,260	94,993	309,138
1918 (Census of Agriculture)	272,343	1,869	20,127	50,461	344,800
1919 .. ..	152,813	2,059	17,995	31,583	204,450*
1920 .. ..	150,328	318	11,517	7,774	149,937*
1921 .. ..	175,850	303	8,097	6,984	191,234

\* Excluding oats produced in Native Locations, etc., which amounted to 9,388,600 lb. in 1918, and 2,152,650 lb. in 1921.

(ii) **EXPORTS OF OATS (S.A. PRODUCE), 1911 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	lb.	£		lb.	£
1911.....	5,954,572	15,074	1917.....	35,277,054	153,263
1912.....	17,194,795	47,688	1918.....	8,234,800	30,604
1913.....	5,536,649	16,769	1919.....	48,889,999	195,489
1914.....	13,308,001	36,021	1920.....	3,805,657	30,076
1915.....	8,578,607	30,981	1921.....	9,245,361	32,101
1916.....	6,306,142	21,480			

**4. Rye.**—Of the smaller cereals, rye is by far the hardest, and is the least grown. Areas in which rye is grown are not so suited to the cultivation of wheat, oats, or barley; rye gives better returns upon the poorer sandy soils. The grain of rye



ARS 1918 TO 1921) OF 1,000 TONS OF MAIZE.  
 AREA ENCLOSED WITHIN THE HEAVY BLACK



is not so suitable for feeding purposes, though when ground and given with milk to pigs the rye-meal proves an excellent food. The straw does not comprise a satisfactory food for cattle on account of its toughness, and of the large proportion of fibrous material which it contains, as compared with oat-straw. As a crop for soiling purposes rye is the best for the poorer soils on which it requires to be mixed with vetches or peas. Rye will yield from three to five bags of grain per acre. The table hereunder gives particulars as to the quantity of rye produced in the Union.

#### PRODUCTION OF RYE, 1904 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1904 (General Census)...	18,762	—	81	97	18,940
1911 " " " " " "	33,857	166	254	6,264	40,541
1918 (Census of Agriculture)	40,950	124	1,250	9,762	52,086
1921 " " " " " "	35,169	123	1,316	7,521	44,129

5. **Barley.**—Of the barleys cultivated, the two chief kinds are the *six-rowed* and the *two-rowed*, the latter being referred to as *English* barley. It is the best barley for malting purposes. Barley is not so widely grown as the other cereals because of its need of more particular conditions. The best barley is grown under irrigation where the rainfall is light, and where, therefore, the crop can be better controlled.

Barley forms an important forage crop for dairy and other stock. If thickly sown, crops of early *Cape* barley may in three months reach a height of from two feet to two feet six inches. With barley may be sown field peas, thereby adding to the value of the crop just as the addition of vetches adds to the value of rye or oats. Mixtures of the two latter crops, together with a legume, prove highly satisfactory as forage crops. A relay of such crops can be sown, and in this manner the cereals may furnish green succulent food for a very considerable part of the year in the Cape Province. The subjoined table gives particulars as to the production of barley in the Union:—

#### PRODUCTION OF BARLEY, 1904 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1904 (General Census)...	46,623	243	879	1,370	48,515
1911 " " " " " "	56,026	421	1,857	2,841	61,145
1918 (Census of Agriculture)	94,457	250	1,876	1,989	98,572
1919 " " " " " "	44,172	120	3,029	2,073	49,394*
1920 " " " " " "	32,409	42	1,847	261	34,559*
1921 " " " " " "	47,879	64	3,143	985	52,071

\* Excluding production of barley in Native Locations, etc., which amounted to 1,394,700 lb. in 1918, and 1,850,400 lb. in 1921.

6. **Maize.**†—The Union of South Africa has become known to the principal markets of the world as one of the foremost fields for the production of maize of good quality. It was a maize-growing country on a large scale many years before the outside world became aware of the fact. When this important staple crop first came to be generally grown in the country cannot be stated. For a considerable time the *flint* breeds alone were known. In the last two decades, however, which have seen a wider recognition of the country's suitability for maize cultivation and the introduction and acclimatization of many excellent *dent* varieties, maize has come to be the chief grain crop of the country. The nature of the crop and the methods of cultivation have undergone considerable change, as the knowledge of the limitations and possibilities of maize-growing has become clearly defined. The early, low-yielding *flint* varieties, such as the *Bolmans* and the earliest of the *dents*, as, for example, *North America*, have almost entirely disappeared, except among the segregated natives, who gained their notions of agriculture from their early Dutch neighbours and masters. The improved, high-yielding *dent* breeds, such as the *Hickory* varieties, *Eureka*, *Chester*,

† See section B, page 521.

*County Mammoth, Iowa Silver Mine, and Potchefstroom Pearl*—varieties which were introduced by the Department of Agriculture, and which have in process of time become generally distributed—are likely to remain for many years, being now thoroughly acclimatized, and having been improved by constant selection at Government farms and by the successful methods of enterprising farmers. There is still much scope for maize growers in the Union. The greater yields that will result from more intensive culture, the increasing demands of consumers, stock feeders, and manufacturers, and improving methods of transportation, promise good returns to maize growers. The area within which maize can be grown successfully has come to be more or less defined. That a definite maize belt exists in the Union has not always been realized. Farmers outside the zone persist in growing this crop notwithstanding repeated failures. Maize, not being a resistant of drought, is not a dry-land crop, but is more in the nature of a semi-tropical plant, indigenous to countries which enjoy considerable summer heat accompanied by fairly plentiful rains falling in heavy showers at short regular intervals, and it is this characteristic which limits the regions in which maize can be cultivated to the best advantage. In this respect maize is unlike kaffir corn, to which continuity of growth is not essential owing to its power of remaining dormant during intervals of dry weather, and of resuming growth when the rains recur. Thus is explained the inability of the coastal districts of the Union, and of the drier regions, such as portions of the Karroo, to produce maize with success.

Suitability of climate and of soil, and considerations of labour and of markets, are the factors which in a sense govern the production of maize. The maize belt of the Union is defined by Mr. J. Burt Davy as roughly the country lying east of the 26th meridian, i.e. a line drawn between Algoa Bay, Bedford, Cathcart, Queenstown, Aliwal North, Wepener, and Bloemfontein, thence north to Lichtenburg and Zeerust. From this area the coast belt below an altitude of 1,000 feet, and the mountain region above 6,000 feet, should be excluded. The principal maize-growing area in the Transvaal, the largest producing Province of the Union, extends from Ermelo in the east to Lichtenburg in the west, southwards to the Vaal River, and north of a line drawn between Middelburg and Rustenburg. Outside this region small maize areas have been developed, in the Waterberg and the Zoutpansberg. The Orange Free State, in which Province is grown the heaviest crop per square mile, is, with the exception of the south-western portion, particularly suitable to maize production. The most fruitful maize fields of Natal are situated in the midlands, at an elevation of from 2,000 to 3,000 feet. Yields of fifteen bags per acre are often obtained in this area. Much of the Cape Province is unsuited to the growing of maize. In the Transkei and adjoining districts, however, the conditions are favourable, and considerable development has taken place. The central portion of the *high veld*, comprising the Districts of Heidelberg, Bethal, Standerton, Frankfort, and Heilbron, is at present the most productive area in the Union. The acreage under maize here is very extensive, and good crops are grown, producing from ten to fifteen bags per acre. The maize zone in South Africa may be said to possess two distinct and valuable advantages over the famous corn belt of the United States. The growing season is longer by from four to seven weeks, and this makes the season for planting a considerably longer one. Again, the drier atmospheric conditions in the Union produce a grain with a lower moisture content; and this grain being thereby less liable to injury during transit, is more suitable for export, as well as for manufacturing purposes. The rainfall is sufficient if the soil is well cultivated, and the soil itself is of good quality throughout, and quite excellent in parts. Labour is fairly plentiful and cheap; an expanding home market fairly well served by the railway is close at hand; and an assured and readily accessible market oversea, with cheap rates of transportation to Union ports and by ship, is being organized under the special direction of the Government. A well-appointed system of grain inspection and testing at shipping points has been established, and every endeavour is made to maintain a regular and cheap oversea service for the export trade of the country.

In the wide field of agricultural interests in the Union the Government is giving special attention to maize among the various crops. At the Experiment Stations situated within the maize belt, extensive experiments are carried out which have for their object the determination of the best varieties to grow, the best systems of rotation to be practised, and the fertilizers most suitable to local soil needs. Large quantities of pure selected seed are issued to farmers at a moderate price. A staff of trained experimentalists and instructors, resident and itinerant, is maintained to give advice by correspondence and by lecture, and a maize-growing competition for boys has been established in order to encourage a wider and better knowledge of the value of this crop among those whose ranks will provide the farmers of the future. The Maize Growers', Breeders', and Judges' Association is an influential body aiming at the encouragement and development of this branch of agriculture, so that every endeavour may be made to place the Union in the forefront of the maize-producing countries of the world.

The following tables give particulars regarding the production, importation, and consumption of (i) maize, and (ii) maize meal during the years 1910-11 to 1920-21. All available information has been utilized in the preparation of the tables, proportionate figures being interpolated in cases where information is incomplete or not available.

## (i) MAIZE—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1910-11 TO 1920-21.

Year.	Total Production.	Total Production (less Exports).	Imports (less (Re-exports.))	Retained or Available for Consumption.	Maize Ground as Maize Meal.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1910-11.....	1,726,503†	1,441,125	1,458	1,442,583	575,442
1911-12.....	1,823,200*	1,610,863	2,094	1,612,957	592,189
1912-13.....	1,925,050*	1,799,401	17,527	1,816,928	605,911
1913-14.....	2,033,100*	1,904,828	19,438	1,924,266	614,237
1914-15.....	2,246,900*	1,987,214	3,062	1,990,276	630,005
1915-16.....	2,167,050*	1,840,952	1,961	1,842,913	574,948
1916-17.....	2,394,000*	1,982,958	3,835	1,986,793	831,258†
1917-18.....	2,528,018†	2,088,608	5,467	2,044,075	827,076†
1918-19.....	2,319,614†	1,941,201	8,346	1,949,547	947,582†
1919-20.....	2,509,264†	2,375,075	46,354	2,421,429	888,536†
1920-21.....	2,069,447†	2,228,005	25,829	2,253,834	1,121,514†

\* Estimated. † Agricultural Census. ‡ Industrial Census.

## (ii) MAIZE MEAL—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1910-11 TO 1920-21.

Year.	Total Milled Production.	Total Production (less Exports).	Imports (less Re-exports).	Retained or Available for Consumption.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1910-11.....	527,928*	525,311	399	525,710
1911-12.....	543,292*	536,497	412	536,909
1912-13.....	555,881*	547,956	534	548,490
1913-14.....	563,520*	559,187	1,283	560,470
1914-15.....	577,986*	571,992	976	572,867
1915-16.....	527,475†	517,970	1,173	519,142
1916-17.....	615,442†	562,906	1,329	564,735
1917-18.....	758,888†	627,748	1,728	629,476
1918-19.....	907,090†	639,213	5,485	644,698
1919-20.....	811,783†	589,986	13,125	603,111
1920-21.....	1,021,754†	924,587	9,222	933,809

\* Estimated. † Industrial Census.

7. **Kaffir Corn.**—The term *kaffir corn*, as applied in the Union, now includes both *kaffir* corns and the *durras*. The former are indigenous to South Africa, and comprise the original red and white varieties, as well as those varieties improved from seed obtained in the United States of America. The *durras* are of North African origin, and include brown, white, and yellow *durra*, the last commonly called *yellow milo*. The *kaffir* corns and *durras* are both non-saccharine sorghums, belonging to the same species, *Sorghum vulgare*, but represent two distinct groups, quite as distinct as dent and flint maize. The *kaffir* corns have erect, cylindrical heads, with small, oval grains; the *durras* compact ovate heads, with a large round grain. The latter are now attracting notice in South Africa owing to their success in the United States of America.

The red and white *kaffir* corns have long been in cultivation among the South African natives for the purpose of human food, and for the manufacture, by a process of fermentation, of an alcoholic drink. They are native plants of the dry central and east coastal parts. These plants have been almost entirely disregarded by farmers in the Union, notwithstanding that they are obviously suited to a large part of the country where maize cannot be grown successfully. About thirty years ago *kaffir* corns from South Africa were introduced into the United States of America, and distributed in the semi-arid west among farmers who had been in the habit of growing maize and of meeting with repeated failures. To-day in those regions, the *kaffir*, as this crop is called in America, has almost entirely displaced maize, it having been found to grow a more certain crop. The *kaffir* has been remarkably improved in America, and is now in use chiefly as a fodder crop in the green state, as a dry forage, and also as silage. It is also largely grown for grain.

*Kaffir* corn is not widely found among the crops of European farmers. Efforts are being made by the Department of Agriculture to establish this crop on semi-arid

lands outside the maize belt. The white and red varieties are still grown, the former to a very limited extent. In America, the cultivation of the white variety in any degree has long been discontinued. The varieties which have been introduced into the Union by the Department of Agriculture are *pink kaffir*, *dwarf blackhull*, *freed sorgo*, *manchu brown*, *kaoliang* (a Chinese variety), *brown durra*, *yellow milo*, and *dwarf milo*. The dwarf species and the *kaoliang* are purely grain sorghums. The dwarf habit was obtained by selection in the United States of America; its cultivation was found to be desirable in the drier regions owing to lower moisture requirements consequent upon the reduced foliage. The *kaoliang* is a tall, slender variety, with little foliage, and is therefore similarly adapted. The remainder are both grain and fodder varieties, though chiefly valued for fodder. Some of these are already utilized by a small number of farmers. The Department of Agriculture continues to conduct experiments with a view to determining to which of these varieties attention could most profitably be devoted, but the work has been somewhat retarded by the liability of the plants to injury by birds, and to attack by the *maize-stalk borer*. The red-grained varieties have been found to be more or less immune to bird injury, owing to an astringent ingredient in the grain, though for the same reason they are distasteful to stock. Doubtless the best use to which kaffir corn can be put in South Africa is to provide a fodder crop in regions too dry to grow maize successfully. This implies a system of live stock farming on dry lands. Some kinds of kaffir corn may, and probably will, in due time be grown for grain in areas where birds are not troublesome, as over the greater part of the bare *veld*. The grain of kaffir corn is very little inferior to that of maize, with a slightly higher proportion of starch and a slightly lower proportion of protein. Its production is more certain. Moreover, as silage or as dry forage, it is almost the equal of maize. As a green food it is most valuable; but care has to be exercised, for it has been found that, when the growth of the plant is arrested by frost or by severe continuous drought, decomposition of the tissues sets in, one of the resulting products being prussic acid. If growth is resumed, however, the poisonous quality is lost; and in no case does it appear in the grain.

A great future for the kaffir corn crop in the Union is predicted for the same reason which prompted its substitution for maize in various parts of the United States of America; and its purpose will be to build up the live stock industry on dry-lands.

The table hereunder gives the production of Kaffir Corn in the Union:—

#### PRODUCTION OF KAFFIR CORN, 1904 TO 1921.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1904 (General Census)...	65,039	4,717	101,361	17,054	188,171
1911 .. ..	59,884	118,826	92,552	38,283	309,545
1918 (Census of Agriculture)	93,137	67,405	167,529	32,212	340,283
1919 .. ..	6,404	9,737	51,955	38,702	106,858*
1920 .. ..	6,890	15,656	69,104	32,710	124,360*
1921 .. ..	56,837	61,904	162,345	29,723	310,809

\* Excluding kaffir corn produced in Native Locations, etc., which amounted to 267,665,800 lb. in 1918, and 216,325,400 lb. in 1921.

8. **Grain Elevators.**—The striking progress made in recent years in the development of the grain-growing industry in South Africa, more especially so under the pressure of war conditions, drew increasing attention to the lack of adequate arrangements for the economical handling of the grain on a scale proportionate to the production. The experience of other countries, and in particular of the United States of America and Canada, pointed to the grain elevator system as the one best adapted for the purposes which were held in view in the Union, and in January, 1918, the Government appointed a committee of nine members, under the chairmanship of Mr. G. C. S. Clarke, C.M.G., V.D., of the Railways and Harbours Administration, to investigate the question of the desirability and practicability of the establishment of the above-mentioned system in the special circumstances prevailing in the Union. The Committee, after a comprehensive inquiry, presented its report in July, 1918, and unreservedly recommended the adoption of the system as a State enterprise under the immediate control of the Railways and Harbours Administration

In a report introducing the findings of the Committee the General Manager of Railways and Harbours endorsed the views of the latter. The Committee formulated detailed proposals for the construction of a number of elevators at selected ports and inland centres and laid down the lines on which the system should be operated. It was estimated that the period required to put the elevators on a complete working basis would be eighteen months.

The Government, after consideration, accepted the principle of bulk handling, and decided to erect elevators at points to be determined later. Steps were also taken to secure the services of a consulting engineer to advise generally with regard to the matter. The recommendations of this gentleman (Mr. Littlejohn Philip), which substantiate those of the Committee, were contained in a valuable report issued in May, 1920, and were accepted by the Government, although the programme of construction contemplated therein was subsequently modified owing to financial exigencies.

Further details as to grain elevators will be found in Part B of this section.

## B.—SURVEY OF ECONOMICS OF MAIZE PRODUCTION.

**1. Importance of Maize Production in the Union.**—The production of maize is of the first importance in the Union, primarily because it is the staple food of the larger part of the population, secondarily because of the economic value of the product as a stock feed and for export to the markets of the world. Allowing for a consumption of four-fifths of a pound per day per unit of the native population, which is not an excessive estimate for times of plenty, a supply of 700,000 tons annually as a food for the native population is required. This excludes the requirements of 700,000 persons of mixed race and Asiatics, and 1,500,000 white persons, as well as the large requirements for the purposes of a food for cattle. Maize has never displaced wheat in the dietary of the white population of South Africa, except in cases of sheer necessity. By itself it is not suitable for making bread, and its combination with wheat and flour during part of the war period was most unpopular. As a supplementary article of diet for the white population, however, maize has a place, and, owing to its cheapness, frequently enters largely into the dietary of European families. In a general way it is estimated that the normal consumption of the Union amounts to about 9,000,000 bags, or 900,000 tons. That which is surplus may be used to an increased extent for feeding animals, for manufacture, and for foreign trade. As in the United States, so in the Union, the primary demand originally was for human consumption; but the importance of the product as a foodstuff for animals has increased constantly. In the United States, the latter object absorbs the greater bulk of the crops, and it is possible that in the future a similar development may take place in South Africa. As regards the manufacture of maize products, a beginning has been made in the Union, but the country still imports annually about 1,000,000 lb. of corn flour and Maizena.

**2. Geographical Distribution of Maize Production.**—The examination of the maize production of the Union attempted hereunder does not deal with the wider questions indicated in the preceding paragraph, but is confined mainly to questions of economic geography. Some maize is grown in every district of the Union, but the important area of production lies roughly east of a line drawn between East London and Mafeking. In this area the native territories, though of great importance, do not produce maize on the scale of the northern Orange Free State and the southern Transvaal. Besides this, they export little, any surplus they have being put into their pits against a bad harvest. Even Basutoland exports only 50,000 tons a year. A fairly clearly defined area emerges as the chief producing region. This contains the districts of Bethlehem, Ficksburg, Frankfort, Harrismith, Heilbron, Hoopstad, Kroonstad, Ladybrand, Lindley, Senekal, Thaba Nchu, Vrede, Vredefort, and Winburg in the Orange Free State, and Benoni, Bethal, Bloemhof, Boksburg, Germiston, Heidelberg, Johannesburg, Krugersdorp, Lichtenburg, Middelburg, Potchefstroom, Pretoria, Standerton, and Wolmaransstad in the Transvaal, and a portion of Bloemfontein and Rustenburg to round the area off.

Some of these districts are inserted more because they contain rail-heads and grain mills than because great quantities of maize are produced in them. The area of most intensive production is a triangle having Ladybrand, Lichtenburg, and Bethal as the vertices and its centre at Heilbron. This "maize triangle," as will be seen on the map illustrating this paragraph, contains thirty out of the thirty-two country grain elevators assigned to the maize district. The remaining two at Middelburg and Pienaars River are in the larger defined area.

The map shows the density of production on the average for four years, 1918 to 1921, and includes both European and Native production. Each dot represents 1,000 tons of maize. The acreage under crops decreased by about 5 per cent. during this period, and in the case of the defined maize area by about 10 per cent. As far as productivity is concerned, there was a decrease in the west and an increase in the east, with a decided increase in districts such as Ermelo and Wakkerstroom, outside the maize area. Some evidence of a northward movement is also apparent. The maize production of the Waterberg was in



1911, 8·9 bags per square mile; in 1918, 15·5; in 1919, 16·2; in 1920, 17·3; and in 1921, 19·9. The rail-age figures for the northern line show an increase during the three months from November to January, 1922, out of all proportion to this increase, showing that a considerable surplus is now being grown in the north. This fact has been recognized by the Railway Administration, and in the re-allocation of grain elevators one has been placed at Piensaars River.

It may be pointed out that in the region considered above, which is included within a black line on the map, is produced more than half of the total maize of the Union. Over two-thirds of the maize ground in the grain mills is ground in this area, and over four-fifths of the maize raised is raised there. These facts will be observed from an examination of the accompanying tables.

During the period covered by the four censuses of agriculture, 1917 to 1921, the chief districts to increase the area under cultivation were Bethal, Frankfort, and Standerton. In each case the yield per morgen also shows a continuous increase. The chief districts to decrease the area under cultivation were Heidelberg, Middelburg, Ladybrard, and Senekal, and, with the exception of Middelburg, the yield per morgen also shows a decrease. In three districts, Harrismith, Heidelberg, and Lindley, which showed a decrease in the area under cultivation between 1917 and 1920, but an increase in the yield per morgen, the area under cultivation was increased in the following year. Unfortunately, information as to area under cultivation was not collected in 1919, which prevents a complete examination as to how far decreased or increased yield per morgen affects the area under cultivation. Complete correlation with rainfall statistics will be necessary in order to observe how far early rains coincide with such an increase. At present, all that can be said is that on the whole increased or decreased yield per morgen appears to result in the following year in increased or decreased area planted.

It is evident that it is mainly on this area that the country depends for its exportable surplus. The export trade has increased considerably since 1914, culminating in the export in 1921, if maize meal is included, of about 500,000 tons. That year was, however, abnormal, as a considerable portion of this quantity would have been exported in 1920, if it had not been for the Government embargo on the export of maize in the latter year. What is even more satisfactory is the great increase of maize meal that is exported.

There is a theory that obtains a certain amount of currency that the maize lands are gradually being exhausted; but as far as census figures can prove or disprove it, there does not appear to be justification for this view. The acreage under cultivation in the maize region is still 83 per cent. above that in 1911, which was a year of good yield, and the production per morgen has remained practically unchanged. In 1911 six districts—Bethal, Boksburg, Heidelberg, Standerton, Frankfort, and Kroonstad—produced over a hundred bags per square mile, and were still among the thirteen that produced over a hundred bags per square mile in 1921. Bethal, which had the largest production in 1911, had also by far the largest in 1921. That the yield per morgen is unduly low, and compares most unfavourably with that in the chief maize-producing countries, is undoubted; but other things being equal, the prospects of a considerably higher profit that the elevator system holds out to farmers may prove an excellent inducement to more intensive production.

**3. Exports of Maize.**—Tables are given hereunder of the exports classified according to countries of destination and ports of shipment. With regard to the latter, some explanation is needed. Durban is obviously the natural port; but in point of fact, until 1921, much less than half the exported maize was consigned from that port. Port Elizabeth and East London are not inconvenient for the export of the maize; but, viewed purely from a geographical standpoint, there is little reason why Cape Town should figure so prominently.

With regard to oversea markets, the main questions to be answered are: (1) Do the pre-war markets still afford the best outlets for South African maize? (2) Is South Africa likely to keep the markets captured during and immediately after the war? The only new markets obtained since the war until 1921 were Mauritius, France, and Holland. If the year 1920 is discounted by reason of the prohibition of export which took place, the Union seems to have established a small market with the two former countries. At the same time, as regards Mauritius, more maize is being grown there, and the future competition of the Kenya Colony must be faced. The trade with Holland is the most promising, and that country was the third best customer in 1921. On the whole, the pre-war markets are re-asserting themselves. The United Kingdom, Germany, and Belgium are still the most important. It is curious, however, that Denmark, which imports more maize than the total export of the Union, does not appear as an importer. A certain amount of maize reaches that country through England and Germany, but whether any considerable quantity thereof is South African maize does not appear.

South African maize has certain advantages over American. Owing to the climate,

it dries out more quickly. This has enabled the maximum moisture content to be fixed at 12½ per cent. as compared with 15½ per cent. of American No. 2.

**4. Present System of Marketing.**—Apart from the uncertainty of the weather, the ravages of pests, and a most capricious price, the wastefulness of the present system of marketing must have given many a farmer little encouragement and less profit. The Transvaal and Orange Free State Co-operative Societies have done a great deal to combat this evil. They have built some excellent storage accommodation at various rail heads, and arranged for the grading and disposal of their members' grain. Yet they do not manipulate one-sixth of the maize that is railed in the maize area. Although the co-operative societies may reduce the losses due to lack of storage accommodation, exposure to weather, deprecations of mice and weevils, yet, as the maize proceeds towards the ports, there is a continual leakage going on. The Government grader, the co-operative society, the private buyer, each in turn drives a hole into the bag to sample the grain; the sample is thrown away, and every time the bag is moved a little more grain slips through the holes. Congestion at rail heads and ports leads to further deterioration and waste.

A certain portion of the crop finds its way to the produce markets of the towns. This method of disposal is, however, not predominant, as even Johannesburg, the largest town, has dealt on an average with only 20,000 tons a year. Though part of this is sold on commission for farmers, a considerable portion has already passed through the middleman's hands.

Two agricultural co-operative societies in the Transvaal and Orange Free State respectively handle maize in some quantities on behalf of their members. The control is in the hands of a central agency, and distribution to purchasers is made through this agency. Sales in certain cases are made to exporters, but the organization does not itself export. The maize is pooled, advances are made on maize supplied, and the balance is distributed amongst the members. The advances are financed to the societies on their security by the Land Bank.

One difficulty experienced by the Central Agency is that sometimes farmers, in the hope of a better price, sell their crop out of hand, instead of placing it in the hands of their own organization. As the Central Agency prepares its contracts on estimates of the forthcoming crop, cases have occurred where it has been necessary, in order to fulfil a contract, to buy back the identical grain at a higher price.

The following table gives the quantities of maize dealt with by the Agency during the years 1920 and 1921:—

	1919-20.	1920-21.
	Tons.	Tons.
Mine Contracts.....	18,245	12,890
Local consumption.....	16,166	9,484
Export.....	6,309	72,357
	<u>40,720</u>	<u>94,731</u>

It will be seen that this organization dealt with less than a sixth of the crop railed in the maize district.

Generally speaking, the marketing takes place in the following way. The larger grain merchants employ agents at the chief rail heads, and either purchase or hire storage accommodation there. These agents buy partly from farmers, but chiefly from the storekeepers, who buy direct from the farmers. As the risk undertaken is very great, the difference between wholesale price and that obtained by the farmers is frequently considerable. As a matter of fact, the store-keeper often takes the maize as payment for goods purchased by the farmer during the previous year. Thus are seen the effects of insufficient working capital, as they operate against the farmer. The store-keeper makes advances to the farmer, the farmer pays in kind, and is insufficiently recompensed owing to the risk attached to the marketing of the produce. The merchant advances credit to the store-keeper; the bank finances the merchant. If, as occurred in 1921 and 1922, the banks find it necessary to restrict credit, both the store-keeper and the farmer are faced with serious losses. Nothing confirms this analysis better than the bankruptcy figures for 1921 and 1922.

**5. Grain Elevators.**—A great change in the system will, however, follow the institution of a national service of grain elevators. The question debated since 1911, of the construction of grain elevators, has at last become an actuality. The construction of two terminal elevators at Durban and Cape Town of a capacity of forty-two and thirty thousand tons respectively was begun early in 1921, and the construction of thirty-three country elevators is being proceeded with at the following rail heads, giving, with the port elevators, a total storage capacity of 178,200 tons.

Station.	Storage Capacity. Tons.	Station.	Storage Capacity. Tons.	Station.	Storage Capacity. Tons.
Frankfort.....	5,800	Lindley Road.....	4,000	Leslie.....	2,600
Heilbron.....	5,800	Balfour.....	3,000	Piemaars River....	2,200
Klerksdorp.....	5,800	Clacolan.....	3,000	Ventersburg Road..	1,800
Reitz.....	5,800	Ventersdorp.....	3,000	Kaallaagte.....	1,800
Bethal.....	4,800	Vermaas.....	3,000	Leenudeorns.....	1,800
Bethlehem.....	4,800	Coligny.....	2,600	Maquessi.....	1,800
Kroonstad.....	4,800	Ficksburg.....	2,600	Val.....	1,800
Bothaville.....	4,000	Middelburg (T.)..	2,600	Vrede.....	1,800
Kinross.....	4,000	Makokskraal.....	2,600	Westminster.....	1,800
Senekal.....	4,000	Moorreesburg.....	2,600	Davel.....	1,800
Rendezvous.....	4,000	Potchefstroom....	2,600	Standerton.....	1,800

Of these, all, with the exception of the Moorreesburg elevator, are in the defined maize area.

It is expected that the construction of these elevators will be sufficiently advanced to deal with the 1923 crop.

The system of operation by means of the grain elevators will follow recognized principles and it is easy to see that the installation of the system will effect a complete revolution in the marketing of maize. The farmer who obtains his certificate of maize accepted by the elevator can use the document as security against a bank advance, or sell it outright. In all probability a Central Exchange for dealing in grain certificates will grow up. This would tend still further to stabilize prices.

Besides the elimination of the greater part of the general wastage referred to previously, savings will also be effected by reduction of labour at the ports, quicker loading and unloading of ships, increase of weight of cargo carried, convenience of stowing on board, reduction in railage, freight, and handling charges, owing to the absence of bags, and the consequent diminution of weight, repeated use of the same bags on farms, rolling stock more quickly released from detention, less quay space needed, and cross haulage on the railways avoided.

Mr. W. Littlejohn Philip, the consulting engineer appointed to report upon the location and design of grain elevators, estimated, on a conservative basis, the savings resulting from the use of the system, after deducting the working costs, to amount to between £400,000 and £480,000 a year. Although the full number of elevators suggested by him have not yet been authorized, his system has been adopted to a considerable extent. The service charges recommended by him are: A rate of 2s. 6d. per ton (3d. per bag of 200 lb.) for the port elevator services on grain previously passed through a country elevator; a rate of 4s. 2d. per ton (5d. per bag) for country elevator services; and a rate of 5s. 10d. per ton (7d. per bag) on grain delivered direct to a port elevator without passing through a country elevator. The following charges have also been suggested: A storage tariff of 1/10th of a penny per day per 200 lb. of grain during the months of August, September, October, and November, with an increased rate after one month's storage, and a further increase after two months; 1/15th of a penny during the months of June, July, and December; and 1/30th of a penny from January to May, both months inclusive; the day of receipt of grain at the elevator and the day of discharge not to count.

#### 6. Grading of Maize.—Maize and maize meal are graded as follows:—

Grade	Mark to be shown on bags.	Class.	MAIZE.	Description.
1	Flat White No. 1.....		To be sound, dry, plump, and well cleaned, with a maximum of 1 per cent. of yellow, discoloured, and defective grain.	
2	Flat White No. 2.....		To be sound, dry, and reasonably clean, and contain not more than 8 per cent. defective or other coloured grain, or both. Berries may be of irregular size.	
3	Flat White No. 3.....		To be sound, dry, and reasonably clean, and contain not more than 13 per cent. of defective or other coloured grain, or both. Berries may be of irregular size and shape.	
4	Flat Yellow.....		To be sound, dry, and reasonably clean, and contain not more than 9 per cent. of defective or other coloured grain, or both. Berries may be of irregular size and shape.	
5	Round White.....		To be sound, dry, and reasonably clean, and contain not more than 9 per cent. of defective or other coloured grain, or both. Berries may be of irregular size.	

Grade Mark to be shown on bags.	Class.	Description.
6	Round Yellow.....	To be sound, dry, and reasonably clean, and contain not more than 9 per cent of defective or other coloured grain, or both. Berries may be of irregular size.
7	Mixed.....	To be sound, dry, and reasonably clean, and contain not more than 10 per cent. of defective grain.
8	No grade.....	To include all maize which cannot be classed in a higher grade, but to be in dry condition and fit for shipment.

#### MAIZE MEAL.

M. 1	White Maize Flour.....	To be milled from South African grown white maize, Government standard maize, grades Nos. 1 and 2.
M. 2	Granulated White Maize Meal	To be milled from South African grown white maize, Government standard maize, grades Nos. 1, 2, and 5.
M. 3	Ordinary Straight Milled White Maize Meal	To be milled from South African grown white maize, Government standard maize, grades Nos. 1, 2, 3, and 5 (mash 18 to 32).
M. 4	Ordinary Straight Milled Yellow Maize Meal	To be milled from South African grown yellow maize, Government standard maize, grades Nos. 4 and 6 (mash 18 to 32).
M. 5	Mixed Maize Meal.....	To be milled from South African grown white maize and yellow maize, Government standard maize, grades Nos. 1 to 7 (mash 18 to 32).

The proportions of the different grades exported for four years 1915-16 to 1918-19 were: No. 1, 0.60 per cent.; No. 2, 36.84 per cent.; No. 3, 5.14 per cent.; No. 4, 11.03 per cent.; No. 5, 1.33 per cent.; No. 6, 34.86 per cent.; No. 7, 2.76 per cent.; and No. 8, 7.44 per cent. It will be seen that almost three-fourths of the exports consisted of Flat White No. 2 and Round Yellow.

**7. Wholesale Prices of Maize.**—A table showing the course of wholesale prices of maize and maize meal is appended. It will be seen that prices rose fairly steadily after the outbreak of the war until the latter part of 1919, when a rapid advance of price occurred. This remained steady until April, 1921, and shortly afterwards a fall began which, towards the end of 1920, became much more rapid than the rise, falling considerably below the 1914 price in October, 1921. Subsequently there was a slow but steady recovery. Until the latter part of 1919 the rate of increase lagged behind the general rise of wholesale prices. This was caused by the predominance of the home market, the difficulties encountered in exporting, and the artificial control of prices oversea, which continued for some time after the war. With better shipping accommodation, and a poorer harvest in 1919, the world market asserted itself. Then, with the prohibition of export for a certain period in 1920, when there actually was an exportable surplus in the country, began the fall, which continued in sympathy with the oversea market after the removal of the prohibition. In America a somewhat different course occurred. There the wholesale price of maize from the beginning of the war rose to over 200 per cent. above the pre-war price in the latter part of 1917; there was a slight decline, and then a corresponding rise until May, 1920, when the general slump of prices began. By April, 1921, it was below the pre-war price, although the general average of wholesale commodities was about 50 per cent. above pre-war price. In America the rise in price was intensified by the poor 1916 crop, as was the fall by the record 1920 crop.

**8. Cost of Production.**—As regards the cost of producing maize, there is no reliable information, and estimates of the most varying possible character have been hazarded. The conditions of cultivation, the qualities of soil, and a variety of other circumstances enter so largely into the matter that the facts have been very difficult to ascertain. It is possible, however, that if farmers or groups of farmers would consent to maintaining records of a simple character, estimates of a reasonably accurate character for various areas and various conditions of cultivation could be arrived at.

(Chief sources of information: Census reports for the years 1911, 1917-18, 1918-19, 1919-20, and 1920-21; Trade and Shipping Annuals; the Report of a Committee on Grain Elevators, 1918; Report on Grain Elevators, by Wm. Littlejohn Philip, O.B.E., 1919; and information supplied by the South African Railways and Harbour.)

STATISTICAL TABLES OF MAIZE PRODUCTION, MARKETING, EXPORT, AND PRICES.

(i) SUMMARY OF PRODUCTION AND MOVEMENT OF MAIZE, COMPARING MAIZE AREA WITH UNION AS A WHOLE.

(a) PRODUCTION, 1911 TO 1921.

Year.	Union Total.	Maize Area.			
		Total.	Per Cent. of Union Production.	Per Sq. Mile of Area.*	Yield per Morgen.†
1911.....	200 lb. 8,632,516	200 lb. 3,999,687	46·3	200 lb. 57·1	200 lb. 5 (approx.)
1918.....	12,640,091	7,490,441	59·3	106·9	4·7
1919.....	11,598,071	6,593,798	56·9	94·1	—
1920.....	12,296,561	6,706,866	54·5	95·7	4·7
1921.....	13,347,237	7,266,864	54·4	103·7	5·2

\* Including Native Locations, etc.

† On farms occupied by Europeans.

(b) MAIZE RAILED AND GRAIN GROUND IN MILLS, 1918-19 TO 1920-21.

Year.	Maize Railed.			Grain Ground.		
	In Union.	In Maize Area.		In Union.	In Maize Area.	
		Total.	Per Cent. of Union Total.		Total.	Per Cent. of Union Total.
1918-19.....	200 lb. 6,708,700	200 lb. 6,127,070	91·1	200 lb. 4,737,190	200 lb. 3,379,710	71·4
1919-20.....	5,713,920	4,754,650	83·2	4,442,680	3,090,080	67·7
1920-21.....	7,228,460	6,024,650	83·4	5,607,570	4,109,340	73·3

(ii) MAIZE AREA—AVERAGE MAIZE PRODUCTION IN EACH DISTRICT, 1918 TO 1921, AND PRODUCTION PER SQUARE MILE OF DISTRICT, 1911 AND 1918 TO 1921 (INCLUDING NATIVE LOCATIONS, Etc.).

IN BAGS OF 200 LB.

District.	Average Yield, 1918-1921.	Production per Sq. Mile of District.				
		1911.	1918.	1919.	1920.	1921.
Transvaal—						
Benoni.....	Bags. 7,893	Bags. 74·2	Bags. 82·6	Bags. 48·9	Bags. 56·6	Bags. 93·5
Bethal.....	447,790	167·1	192·7	352·3	317·2	548·0
Bloemhof.....	76,045	5·8	29·7	29·0	23·0	12·6
Boksburg, including Springs	25,394	121·2	134·9	127·1	94·2	148·2*
Germiston.....	7,592	44·8	54·9	60·3	60·5	74·9
Heidelberg (T.).....	356,398	162·4	145·1	159·3	122·9	183·7
Johannesburg.....	4,349	48·3	27·4	12·0	24·2	31·0
Krugersdorp.....	46,388	34·0	55·1	42·1	33·6	28·8
Lichtenburg.....	454,737	53·3	122·8	114·6	101·0	70·0
Middelburg (T.).....	407,040	58·4	71·1	76·7	90·8	85·1
Potchefstroom.....	594,552	88·3	146·4	133·4	117·7	87·4
Pretoria.....	308,088	41·2	57·3	55·8	57·9	50·7
Rustenburg.....	219,470	10·8	28·8	26·3	19·4	18·7
Standerton.....	853,620	119·8	125·7	177·4	146·9	255·8
Wolmaransstad.....	144,923	34·7	96·4	71·2	75·2	39·3
Springs.....	†	†	†	†	†	232·0
Orange Free State—						
Bethlehem.....	382,830	44·4	146·4	106·5	173·2	194·6
Bloemfontein.....	34,230	10·2	3·4	9·8	3·4	3·3
Ficksburg.....	158,912	70·4	298·6	119·8	183·3	271·2
Frankfort.....	330,662	141·1	177·6	147·7	251·2	343·0
Harris Smith.....	214,929	46·8	61·1	51·2	71·5	89·0
Heilbron.....	331,245	94·7	181·8	130·5	180·3	219·4
Hoopstad.....	130,853	14·8	33·7	47·1	25·1	22·8
Kroonstad.....	667,548	62·2	231·5	197·9	159·8	187·2
Ladybrand.....	184,292	142·0	208·1	166·6	154·0	137·6
Lindley.....	239,765	45·9	204·5	147·0	220·7	259·6
Senekal.....	291,121	48·3	270·6	120·8	195·7	118·1
Thaba N'chu.....	86,780	34·8	83·3	60·1	69·1	52·0
Vrede.....	166,665	42·9	56·5	69·2	72·1	104·6
Vrededorp.....	207,930	97·4	158·0	135·9	97·8	96·8
Winburg.....	199,082	33·9	89·6	51·5	43·3	39·3
Maize Area.....	—	57·1	196·9	94·1	95·7	103·7

\* Boksburg alone for 1921.

† Included in Boksburg.

(iii) MAIZE AREA—PERCENTAGE OF EACH DISTRICT UNDER MAIZE CROPS, YEARS 1911, 1918, 1920, AND 1921.

[AREAS UNDER EUROPEAN CROPS ONLY INCLUDED.]

District.	1911.	1918.	1920.	1921.
<b>Transvaal—</b>				
Benoni.....	5.9	8.9	5.1	7.8
Bethal.....	9.3	16.8	18.1	19.8
Bloemhof.....	0.9	1.7	1.8	1.3
Boksburg, including Springs.....	5.6	8.4	6.9	6.1*
Germiston.....	2.6	4.9	3.7	3.4
Heidelberg (T.).....	6.5	13.1	12.0	10.2
Johannesburg.....	1.4	1.4	1.5	1.5
Krugersdorp.....	1.4	3.6	2.8	2.2
Lichtenburg.....	3.2	6.9	6.1	5.2
Middelburg (T.).....	2.9	6.1	5.6	3.2
Potchefstroom.....	4.0	8.2	7.8	6.8
Pretoria.....	1.3	2.9	3.2	2.5
Rustenburg.....	0.3	0.9	0.8	0.7
Springs.....	†	†	†	15.6
Standerton.....	5.9	10.9	11.3	12.5
Wolmaransstad.....	3.3	5.8	5.0	3.9
<b>Orange Free State—</b>				
Bethlehem.....	3.2	12.1	10.9	11.7
Bloemfontein.....	1.2	1.4	0.5	0.4
Ficksburg.....	8.9	17.8	13.2	17.5
Frankfort.....	8.9	17.0	18.0	19.2
Harrismith.....	3.4	7.1	6.0	6.1
Heilbron.....	7.5	15.4	13.4	14.2
Hoopstad.....	2.1	3.4	2.6	2.3
Kroonstad.....	4.0	11.9	10.3	12.7
Ladybrand.....	11.4	14.5	11.3	11.7
Lindley.....	4.8	16.1	12.0	15.1
Senekal.....	5.3	14.5	11.7	10.2
Thaba 'Nchu.....	4.9	4.8	3.3	3.9
Vrede.....	2.5	6.7	5.7	6.7
Vrededorp.....	4.4	8.2	7.3	8.4
Winburg.....	3.2	5.3	3.3	3.6
Malze Area.....	3.5	7.3	6.5	6.4

\* Boksburg alone for 1921.

† Included with Boksburg.

(iv) MAIZE AREA—YIELD PER MORGEN IN EACH DISTRICT, 1918, 1920, AND 1921.

[EUROPEAN PRODUCTION ONLY.]

District.	1918.	1920.	1921.
<b>Transvaal—</b>			
Benoni.....	3.06	3.06	3.98
Bethal.....	3.79	5.80	9.15
Bloemhof.....	5.68	4.34	3.28
Boksburg.....	5.29	4.52	8.10
Germiston.....	3.65	6.25	7.28
Heidelberg (T.).....	3.60	3.33	5.86
Johannesburg.....	6.59	5.44	6.61
Krugersdorp.....	4.86	3.92	4.23
Lichtenburg.....	5.61	5.24	4.24
Middelburg (T.).....	3.51	4.98	8.39
Potchefstroom.....	5.71	4.77	4.07
Pretoria.....	4.26	3.97	4.72
Rustenburg.....	6.35	3.28	4.54
Springs.....	—	—	4.92
Standerton.....	3.80	4.30	6.77
Wolmaransstad.....	5.45	4.95	3.32
<b>Orange Free State—</b>			
Bethlehem.....	3.98	5.25	5.49
Bloemfontein.....	3.53	2.29	2.49
Ficksburg.....	5.37	4.58	5.12
Frankfort.....	3.46	4.62	5.91
Harrismith.....	2.84	3.93	4.73
Heilbron.....	3.87	4.41	5.10
Hoopstad.....	5.27	3.19	3.24
Kroonstad.....	6.43	5.12	4.89
Ladybrand.....	4.72	4.53	3.89
Lindley.....	4.19	5.66	5.68
Senekal.....	0.15	5.53	3.82
Thaba 'Nchu.....	3.97	4.39	3.96
Vrede.....	2.78	4.16	5.18
Vrededorp.....	6.27	4.40	3.80
Winburg.....	5.63	4.35	2.76
TOTAL.....	4.7	4.7	5.2

## (v) EXPORT OF MAIZE AND MAIZE MEAL FROM THE UNION THROUGH VARIOUS PORTS, 1918 TO 1921.

## MAIZE.

Year.	Cape Town.	Port Elizabeth.	East London.	Durban.	Other Union Ports.	Delagoa Bay.	Total.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
1918..	870,868	325,233	467,036	755,434	33,758	88,550	2,547,479
1919..	420,758	212,833	146,900	438,666	906	11,263	1,231,326
1920..	90,567	114,426	44,871	95,159	2,831	524	348,378
1921..	644,490	530,585	542,467	2,088,927	3,711	76,030	3,886,230

## MAIZE MEAL.

Year.	Cape Town.	Port Elizabeth.	East London.	Durban.	Other Union Ports.	Delagoa Bay.	Total.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
1918..	245,033	—	45,758	456,621	9,777	78,387	835,576
1919..	443,992	80,965	168,352	1,069,883	6,118	70,069	1,839,379
1920..	127,223	41,052	86,983	133,036	5,121	12,070	465,465
1921..	259,401	264,814	108,993	422,759	7,925	25,311	1,089,203

## (vi) EXPORT OF MAIZE FROM THE UNION ACCORDING TO COUNTRIES OF DESTINATION, 1911 TO 1921.

Destination.	1911.	1912.	1913.	1918.	1919.	1920.	1921.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
United Kingdom..	404,008	193,941	24,700	2,277,301	850,400	148,358	2,035,428
Ceylon.....	—	—	—	—	43,508	—	—
Australia.....	3,630	242,319	50,002	29,993	160,945	30,477	1,536
New Zealand.....	—	3	1	—	2,789	1,137	1,000
Kenya (B.E.A.)....	5	1	1	110,080	1,450	—	24
Egypt.....	—	—	—	—	—	—	5,374
Belgium.....	344,833	204,787	8,579	—	28,893	13,045	171,196
Belgian Congo.....	—	10,574	6,883	—	115	—	—
Mauritius.....	—	—	—	1,196	39,244	1,286	25,887
St. Helena.....	107	152	95	1,255	1,162	789	668
France.....	—	—	—	23,407	3,993	—	23,212
Other French Possessions.....	—	5	—	—	—	—	62,817
Germany.....	136,375	204,861	10,802	—	—	198,304	600,357
S.W. Africa.....	15,018	3,127	5,820	2,479	4,416	4,715	4,466
Holland.....	—	—	—	—	82,335	38,538	195,710
Portugal.....	—	—	—	—	—	—	43,492
P. E. Africa.....	6,666	76,122	7,704	88,684	11,263	1,524	52,358
Madeira.....	13,970	1,770	—	1,761	507	—	32,931
Spain.....	—	—	—	—	—	—	29,164
Canary Islands.....	18,140	24,843	1	—	—	—	700
Other Countries....	19	1,374	9	2,413	336	205	810
<b>TOTAL.....</b>	<b>1,032,772</b>	<b>993,879</b>	<b>114,724</b>	<b>2,547,479</b>	<b>1,231,326</b>	<b>348,378</b>	<b>3,886,230</b>

## (vii) EXPORT OF MAIZE PRODUCTS FROM THE UNION, ACCORDING TO COUNTRIES OF DESTINATION, 1911 TO 1921.

## MAIZE MEAL.

Destination.	1911.	1912.	1913.	1918.	1919.	1920.	1921.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
United Kingdom...	—	—	1,500	737,017	1,745,695	347,572	1,039,801
Straits Settlements...	—	—	—	—	10,114	11,143	—
S. W. Africa.....	6,140	600	199	19,912	19,950	32,743	14,992
Belgium.....	—	—	—	—	—	—	3,359
Germany.....	—	—	—	—	—	1,446	3,068
P. E. Africa.....	6,628	53,468	21,770	78,387	63,040	12,070	25,312
U.S.A.....	—	—	—	—	—	—	1,968
Other Countries....	3	688	9	260	580	511	793
<b>TOTAL.....</b>	<b>13,071</b>	<b>54,656</b>	<b>23,484</b>	<b>835,576</b>	<b>1,830,379</b>	<b>405,485</b>	<b>1,089,203</b>

## SAMP.

Destination.	1911.	1912.	1913.	1918.	1919.	1920.	1921.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
United Kingdom...	•	—	—	24	—	—	480
St. Helena.....	•	—	—	176	431	548	328
Mauritius.....	•	1	—	—	—	18	9
S. W. Africa.....	•	1,031	1,683	10,813	2,590	7,929	1,264
Germany.....	•	—	1	—	—	—	7
P. E. Africa.....	•	—	1	105	109	—	82
Other Countries....	•	—	—	—	—	—	2
<b>TOTAL.....</b>	<b>—</b>	<b>1,034</b>	<b>1,685</b>	<b>11,118</b>	<b>3,130</b>	<b>8,497</b>	<b>2,182</b>

\* No particulars available.

## HOMINY CHOP.

Destination.	1911.	1912.	1913.	1918.	1919.	1920.	1921.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
United Kingdom...	7,066	8,201	2,404	23,433	2,707	43,691	25,266
Mauritius.....	—	—	—	486	303	151	414
Germany.....	34,639	32,124	16,127	—	—	—	—
<b>TOTAL.....</b>	<b>42,605</b>	<b>40,325</b>	<b>18,531</b>	<b>23,919</b>	<b>3,010</b>	<b>43,842</b>	<b>25,680</b>

## CORN FLOUR AND MAIZENA.

Destination.	1911.	1912.	1913.	1918.	1919.	1920.	1921.
	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.	200 lb.
United Kingdom...	—	—	—	—	112,462	—	—
Kenya (B.E.A.)....	—	—	—	36	780	—	36
Mauritius.....	—	—	—	3,410	—	—	—
S. W. Africa.....	100	—	—	1,236	758	259	40
P. E. Africa.....	1,170	—	—	840	—	—	600
Other Countries....	—	169	—	714	130	20	64
<b>TOTAL.....</b>	<b>1,270</b>	<b>169</b>	<b>—</b>	<b>6,236</b>	<b>114,130</b>	<b>279</b>	<b>740</b>



(viii) JOHANNESBURG MUNICIPAL MARKET—SALES OF MAIZE AND MAIZE MEAL,  
30th JUNE, 1919, TO 1922.

	Maize.	Crushed Maize.	Maize Meal.
	200-lb. Bag.	180-lb. Bag.	180-lb. Bag.
Year ending 30th June, 1919...	269,273	2,598	10,188
Year ending 30th June, 1920...	117,567	2,088	5,657
Year ending 30th June, 1921...	210,956	601	2,460
Year ending 30th June, 1922...	136,485	394	1,012

## (ix) WHOLESALE PRICES OF MAIZE AND MAIZE MEAL, 1910 TO JULY, 1922.

Year.	Maize (200-lb. Bags).				Maize Meal, (180 lb.).
	Flat White.	Round White.	Flat and Round Yellow.	Mixed.	
	s. d.	s. d.	s. d.	s. d.	
1910.....	10 7	9 5	12 0	10 6	12 7-2
1911.....	7 11	7 1	8 5	6 4	12 7-2
1912.....	9 8	7 7	11 2	9 0	13 6
1913.....	17 3-2	12 10-4	16 8-4	14 9	19 0-6
1914.....	12 3	11 3-8	12 5-5	11 6-8	13 1-23
1915.....	12 6-8	11 10-5	13 3-6	12 5-3	13 5-01
1916.....	14 11-3	13 10-5	14 10-5	13 8-3	14 9-84
1917.....	16 0-8	14 11-3	14 9-8	12 10-6	16 0-27
1918.....	15 11	15 0-8	14 0-1	11 10-8	17 4-17
1919—					
January.....	16 11-4	16 0	15 10-6	13 2	17 8-22
April.....	16 9	16 1-6	16 3	13 11-6	17 2-82
July.....	17 2-2	16 8	16 6	16 1-0	16 8-7
October.....	21 7	20 3	21 11	19 9	22 7-8
1920—					
January.....	32 0	28 11	30 6	26 6	27 5-4
April.....	32 6-4	31 6	31 3-6	30 4	32 1-92
July.....	25 6-8	23 3	26 1	22 9	28 2-4
October.....	21 11	19 9	20 6-74	19 7-4	24 7-2
1921—					
January.....	15 7-6	14 7-6	15 6	13 9	17 9-84
April.....	13 4	11 2	14 1-4	12 3	15 1-8
July.....	12 4-2	10 10-4	12 10-4	10 9	14 1-50
October.....	10 9-8	9 3	11 0-4	8 11	12 10-08
1922—					
January.....	11 1-2	10 7-8	11 1-4	10 4-4	12 5-4
April.....	12 6-8	11 6-8	12 11-2	11 5-2	13 9-32
July.....	12 9	12 0-5	12 11-6	11 8-3	13 7-9

## § 4. General Agricultural Crops (Non-Cereals).

1. **Miscellaneous.**—The following tables gives particular as to the cultivation and production of general agricultural crops in the Union:—

**GENERAL AGRICULTURAL CROPS (OTHER THAN CEREALS) REAPED  
DURING YEARS 1917-18 AND 1920-21.**

(i) POTATOES, SWEET POTATOES, PEAS, AND BEANS.

Province.	Potatoes.*		Sweet Potatoes.		Peas.		Beans.	
	Area.	Yield.	Area.	Yield.	Area.	Yield.	Area.	Yield.
	Acres.	1,000 lb.	Acres.	1,000 lb.	Acres.	1,000 lb.	Acres.	1,000 lb.
Cape.....	22,087	50,278	13,203	43,180	5,330	3,232	19,356	9,066
Natal.....	7,266	22,657	3,770	9,465	705	312	7,323	3,531
Transvaal.....	36,169	100,733	5,039	11,100	1,170	432	22,221	7,224
Orange Free State.....	20,337	42,202	453	285	1,103	338	10,051	3,149
Native Locations, Reserves, etc.....	†	8,095	†	†	†	2,704	†	42,301
<b>TOTAL, 1920-21.....</b>	<b>94,859</b>	<b>224,025</b>	<b>22,465</b>	<b>64,039</b>	<b>8,508</b>	<b>7,078</b>	<b>58,951</b>	<b>65,271</b>
Census of 1917-18.....	110,185†	234,538	20,301†	69,141†	15,394†	11,170	64,500†	51,295

\* Potatoes—Yield during 1918-19, 205,718,000 lb., and during 1919-20, 187,638,000 lb., excluding Native Locations, Reserves, etc.

† Not enumerated in Native Locations, Reserves, etc.

(ii) ONIONS, GROUND-NUTS, AND PUMPKINS.

Province.	Onions.		Ground-nuts.		Pumpkins.
	Area.	Yield.	Area.	Yield.	Yield.
	Acres.	1,000 lb.	Acres.	1,000 lb.	No.
Cape.....	3,252	17,185	203	69	4,156,800
Natal.....	174	688	2,087	1,438	1,080,100
Transvaal.....	960	4,404	16,572	7,390	2,604,000
Orange Free State.....	590	1,018	190	35	2,651,400
Native Locations, Reserves, etc.	•	•	•	5,300	4,743,914
<b>TOTAL, 1920-21.....</b>	<b>4,965</b>	<b>23,295</b>	<b>19,052</b>	<b>14,241</b>	<b>15,236,214</b>
Census of 1917-18.....	4,751	22,290	6,557	5,955	11,757,400

\* Not enumerated in Locations, Reserves, etc.

(iii) MISCELLANEOUS CROPS\*—AREA UNDER CULTIVATION ON THE 30TH APRIL, 1921.

Province.	Sun-flower Seed.	Bird Seed.	Coffee.	Chicory.	Fibre (cultivated).	Mangel.	Swedes.	Turnips.	Other Crops.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cape.....	292	79	—	474	4	832	1,173	4,703	18,663
Natal.....	1,463	—	2	13	982	711	1,115	673	15,783
Transvaal.....	7,390	15	6	44	87	684	246	584	12,187
Orange Free State	1,577	8	2	11	36	239	366	540	65,591
<b>TOTAL.....</b>	<b>10,722</b>	<b>93</b>	<b>10</b>	<b>542</b>	<b>1,109</b>	<b>2,466</b>	<b>2,900</b>	<b>6,500</b>	<b>53,224</b>

\* Native Locations, Reserves, etc., not enumerated.

2. **Lucerne (*Medicago Sativa*) and other Forage Crops.**—Lucerne is the best of forage crops. It is a hardy perennial of rapid, luxuriant growth under favourable conditions, highly nutritious for live stock and beneficial to the soil, which it enriches in its nitrogen content, and is well adapted to irrigated lands in the Union, where the long warm growing season and the sunny climate conduce, on good soils, to a heavy yield of pasture or hay. Lucerne is a crop that is peculiarly suitable for irrigation farming in semi-arid parts, as, for the most part, the energy it receives from the sun for the process of growth is uninterrupted during the day, while it receives its water at the time and in the amounts best suited to its habits of growth. Dry weather is usually experienced when the hay is harvested. The yield of the hay in the Union ranges from four to eight tons per acre per season.

Lucerne, however, makes a large demand on the soil for lime and phosphates, and in a number of South African soils these constituents are deficient. More particularly it is indispensable that the supply of lime should be abundant and it is fortunate that the extensive lime deposits in the Union enable it to be obtained very cheaply. The type of soil best suited to lucerne is a deep loam. There is a large extent of this soil capable of being irrigated in the Union, especially along the numerous small rivers throughout the country.

The development of irrigation in the Union together with the expansion of the live stock industry in recent years has very rapidly advanced the cultivation of lucerne. Hitherto a great deal of lucerne hay has been baled on farms and dispatched to market for sale, but the practice of consuming the crop on the farm and marketing the meat or dairy product is becoming more general.

The principal impetus to lucerne growing was due to the rise of the ostrich feather industry; more recently the advance of the pig industry has had a similar effect. These industries have been built upon the pasturing of lucerne. Lucerne as hay is likely to become the most important supplement to *veld* grazing in the development of the beef export trade, and in the milk, butter, and cheese industry it is being used to an increasing extent and with great success.

The Union is equally well suited to the production of lucerne seed. The climatic conditions necessary for this are ideal—a hot and for the most part dry and calm ripening season. The varieties most commonly grown for seed, as well as for hay and pasture, are *Provence* and *Hunter River*.

The production in the Union of lucerne and other forage crops is indicated in the following table:—

**LUCERNE, TEFF, CULTIVATED GRASSES, MANNA, AND ENSILAGE,  
1917-18 AND 1920-21\*.**

Province.	Lucerne.		Teff.		Manna.			Culti- vated Grasses.		Ensilage Quantity.
	Area.	Yield.	Area.	Yield.	Area.	Yield. (Grain).	Cut for Forage.	Area.	Quantity.	
	Acres.	1,000 lb.	Acres.	1,000 lb.	Acres.	1,000 lb.	1,000 lb.	Acres.	1,000 lb.	
Cape.....	122,937	140,524	5,979	9,012	4,686	468	6,978	7,645	38,498	
Natal.....	2,064	7,698	12,140	19,826	2,083	61	3,576	9,191	69,132	
Transvaal.....	7,947	21,264	192,769	238,638	15,740	9,69	29,517	7,937	49,170	
O.F.S.....	9,164	16,320	49,611	83,272	44,347	1,167	36,332	8,146	30,494	
<b>TOTAL, 1920-21</b>	<b>142,112</b>	<b>186,506†</b>	<b>260,499</b>	<b>350,748</b>	<b>66,856</b>	<b>2,575</b>	<b>72,503</b>	<b>32,829</b>	<b>178,291</b>	
<b>Consolidated 1917-18</b>	<b>119,585</b>	<b>700,082‡</b>	<b>234,343</b>	<b>412,742</b>	<b>24,222§</b>	<b>5,504</b>	"	"	<b>192,854</b>	

\* Not enumerated in Native Locations, Reserves, etc., in 1918 and 1921.  
 † Dry. ‡ Green. § For grain only. ¶ Not available.

### § 5. Vineyards and Fruit Cultivation.

1 **Viticulture.**—(i) *Introduction of Viticulture into South Africa.*—It is generally believed that the French Huguenots were the first to introduce the vine into South Africa, and it is often stated that they came to the country with a Bible in one hand and a vine in the other. As a matter of fact, however, the vine was introduced into South Africa as

early as 1653—the year after the landing of Van Riebeeck. At that time the Netherlands East India Company traded largely with the East Indies via the Cape of Good Hope. One of the articles traded in was brandy, which was obtained from France, through the port of La Rochelle. This gave the French brandy industry an enormous impetus, and it was soon found that the brandies from the Charante district, of which Cognac is the chief town, were superior to brandies from other districts. Hence it is not surprising that the Dutch, knowing the value of brandy, should introduce vines at the Cape with the object of producing the article themselves. The Governor, Van der Stel, encouraged and helped viticulture as much as possible, importing vines from France, Germany, and Portugal. The French Huguenots, who came mostly from wine districts, adapted themselves naturally to the cultivation of the vine, and viticulture became one of the most important branches of agriculture in South Africa, especially in the Paarl and Stellenbosch districts, where the Huguenots mostly settled, and where viticulture still predominates over other agricultural pursuits. To-day vines are largely cultivated in the following districts, named in order of production:—Paarl, Worcester, Stellenbosch, Malmesbury, Cape, Robertson, Tulbagh and Ceres, Piquetberg, Montagu, and Caledon. In many other districts vines are grown, but on a smaller scale.

Early in the year 1885, the Phylloxera was discovered in the Cape and Stellenbosch districts. The Government of the Cape of Good Hope made every effort to eradicate the disease, but without success. In 1892 resistant American stocks were imported, and about 90 per cent. of the vines of the Union are now grafted on such stocks.

The table hereunder gives particulars as to the extent of vineyards and the number of vines of different varieties in the Union:—

**VINEYARDS, 1918 AND 1921 (EXCLUDING NATIVE LOCATIONS, RESERVES, ETC.).**

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total, 1921.	Total—Census of 1918.
Area of Vineyards— Acres.....	54,405	25	347	271	55,048	47,167
Number of Vines— Bearing.....	84,258,133	22,400	410,430	279,297	84,970,260	71,829,242
Non-bearing.....	16,981,374	7,100	95,542	53,708	17,137,724	13,010,724
TOTAL.....	101,239,507	29,500	505,972	333,005	102,107,984	87,839,966

(ii) *Government Aid for the Industry.*—About 1885 the Cape Government bought the farm *Groot Constantia* in the Cape Peninsula, with the intention of carrying out experiments in viticulture and wine-making, as well as of educating farmers in improved methods of wine-making. Several young farmers availed themselves of this opportunity by working on the farm for some time as apprentices. A competent man was appointed to manage the farm and to act as a adviser to the farmers. One of the many resultant benefits was the raising of the standard of the country's light wines owing to the superior article produced and placed on the market.

In 1910 the Government bought the small farm *Belle Vue* in the Paarl district as an experiment station for testing the best grapes both for market and wine-making purposes. Dr. A. I. Perold, who was at that time appointed Viticulturist for the Union, was stationed there and he imported about 200 different varieties of grapes. This station is of considerable assistance to viticulturists, as from it many varieties of grapes are distributed over the Union after their suitability as table or wine grapes have been studied. Experiments in wine-making are also carried out at this station.

In 1905 the Cape Government inaugurated a scheme of co-operative wineries by furnishing financial assistance in the shape of loans and securing expert advice. Under the scheme nine co-operative wineries were established. Although it was demonstrated that very good wines could be and as a matter of fact are being produced by these wineries, the scheme has for various reasons not proved as successful as was anticipated.

(iii) *Co-operative Association.*—Towards the end of 1917 the wine market was very depressed, wines being sold for £2. 10s. and £3 per league (128 gallons), which is not considered to be remunerative to the producer. Consequently the farmers decided to unite, and thus the Co-operative Wine Farmers' Association of South Africa, Limited, was formed. Over 95 per cent. of the wine farmers and practically all the wine merchants of the Western Province joined this Association, the object of which is to guarantee a minimum price for wine, and thus to ensure a stable wine market. A board of directors is appointed by the members, and fixes yearly the prices for wine; in 1919 the minimum price

was £8 per leaquer. The farmers, on joining, undertake not to sell their wines to any merchant who is not a member of the Association, and on their part the merchants promise to buy wines only from farmers who are members. In case a member sells his wines below the minimum price or to an outside merchant, he is liable to a fine of £5 per leaquer, unless he exports his wines.

For every leaquer of wine sold by a member the Association deducts ten shillings for three years, and for every amount so deducted the member receives a share in the association. The intention is that the fund created should be used by the Association when necessary to deal with any surplus wine which may be on the market, the Association buying these wines at the minimum price, and after they have been turned into spirits, disposing of them outside the Union. As a result of the formation of this Association the value of wine farms has been considerably raised.

(iv) *Branches of the Industry.*—Vines are grown in the Union to produce fresh fruit, to promote wine-making, and to produce brandy and raisins. For these purposes the undermentioned varieties of grapes are principally grown:—

*Table Grapes.*—White and Red Hanepoot, Hermitage, Raisin Blanc, Barbarossa,

Waltham Cross, Flame-coloured Tokai, Black Prince, Gros Colman, and others.

*Wine-making.*—Green Grape, Hanepoot, Hermitage, Steen, White French, and others.

*Brandy.*—All wine varieties, Folle Blanche, Colombard, St. Emilion, Jurancon.

*Raisins and Currants.*—Hanepoot, Sultana, Cape Currant.

A number of lately imported varieties (such as *Molinera Gorda*, *Rosaki di Smyrna*, *Ohanez-Almeria*) have a great future as table grapes, and are at present extensively planted.

(v) *Table Grapes.*—Large quantities of table grapes have of late years been exported, and this branch of the industry which is developing rapidly, clearly has a great future. Owing to war conditions there was no export trade in 1918. As shipping facilities were uncertain in 1919 only 4,575 boxes were exported. In 1920 it increased to 72,934 boxes. If it were not for the high prices of packing material and the good local prices as well as the extraordinary high price for wine, much more would have been exported.

(vi) *Wine, Brandy and Vinegar.*—The Dutch introduced vines chiefly for the purpose of brandy-making, brandy being a valuable article of commerce; but on the arrival of the Haguénots in 1688 wine-making also was taken up seriously. The natural conditions in South Africa led to the production of a heavy type of wine, as well as of sweet wines. The sweet wines especially were exported, and were famous in Europe about the middle of the eighteenth century; so much so that in Germany, for example, a wine firm was not considered to be a leading one that could not print on its labels "We stock Cape wines, too." Unfortunately, owing to a variety of circumstances, the trade was lost, more particularly through the withdrawal of preferential trade with the United Kingdom, as the bulk of South African wine was exported to that country. This proved a severe blow to the industry, and the viticulturist of South Africa suffered severely. The price fell to as low a figure as £1. 10s. per leaquer of 1·8 gallons. With the opening of the diamond and gold fields matters improved to some extent. Nevertheless, South African viticulturists have of recent years been dependent almost exclusively on the local market. Latterly the export of wine to England has seemed to be very promising, but owing to lack of transport facilities and to fustage on account of the War, very little can at present be done. Thirty years ago German and Austrian experts engaged by the Cape Government advocated the making of light wines, but the advance in this direction was slow. It is only during the last twenty years that this branch of the industry has progressed, and some excellent light wines are now produced in the Union. Table (a) below shows the quantity of wine, brandy, and vinegar made on farms during a series of years, and Table (b) the quantity and value of wine exported from and imported into the Union from the year 1910:—

(a) **WINE, BRANDY, AND VINEGAR MADE ON FARMS DURING YEARS 1903-04 TO 1920-21.**

Year.	WINE		BRANDY.		VINEGAR.
	White.	Red.	Wine.	Grape.	
	Gals.	Gals.	Gals.	Gals.	Gals.
1903-04* . . . . .	4,225,950	1,460,721	1,534,069†	77,922	114,015
1910-11 . . . . .	5,468,032	2,032,625	152,106	182,400	32,167
1917-18 . . . . .	7,602,500	4,128,384	166,272	83,584	233,003
1918-19† . . . . .	8,274,816	4,289,408	73,216	203,136	118,784
1919-20† . . . . .	10,048,384	5,197,744	100,608	148,092	101,120
1920-21† . . . . .	11,106,900	5,838,024	206,013		128,841

\* Cape only. † Principal viticultural districts only. ‡ Brandy and spirits.

(b) WINE IMPORTED INTO AND EXPORTED FROM THE UNION,  
1910 TO 1921.

YEAR.	IMPORTS LESS RE-EXPORTS.			EXPORTS (S.A. PRODUCE).		
	Quantity.	Value.		Quantity.	Value.	
		Total.	Per gallon.		Total.	Per Gallon.
	Galls.	£	£ s. d.	Galls.	£	s. d.
1910.....	82,246	65,257	0 15 10	76,982	18,241	4 9
1911.....	82,191	64,243	0 15 8	96,118	21,944	4 7
1912.....	78,646	62,473	0 15 11	85,717	19,791	4 7
1913.....	72,987	60,214	0 16 6	80,133	19,262	4 10
1914.....	49,334	37,192	0 15 1	69,852	15,075	4 7
1915.....	53,176	40,382	0 15 2	99,842	26,506	5 4
1916.....	63,462	48,200	0 15 2	190,888	40,133	4 2
1917.....	43,186	35,473	0 16 5	357,002	57,787	3 3
1918.....	47,452	42,947	0 18 1	487,507	116,419	4 9
1919.....	36,690	59,848	1 12 7	452,021	121,897	5 5
1920.....	80,963	142,411	1 15 2	518,223	204,649	7 11
1921.....	36,702	38,127	1 0 9	404,099	100,441	5 3

The brandy industry of South Africa is as old as the wine industry. Formerly, only two kinds of brandy were recognized, viz., *dop* and wine brandy. *Dop* brandy was so known from the Dutch word *dop* (husk), which signified that the brandy was obtained from the distillation of *doppen* together with wine, or piquette. The distillation of husks and piquette mixed is now practically prohibited; an excise duty of 22s. 6d. per proof gallon is imposed, and the product can be used only for fortification or for fuel. The brandy produced from the distillation of husks and wine mixed has taken the name of *grape brandy*, which is somewhat of a misnomer. On this brandy an excise duty of 17s. 6d. per proof gallon is levied, which means that it is practically out of the market, as the excise duty on pure wine brandy is considerably lower, i.e. 12s. 6d. per proof gallon.

Perhaps in no other country is the distillation of husks so suppressed as in South Africa. It is hoped that the purity of South African brandy will in time be recognized, and create a high standard on the world's markets. The Union adulteration laws, both with regard to brandy and to wine, are stringent.

Table (c) hereunder gives particulars of the production, importation, and consumption of brandy in the Union from the year 1910 :—

(c) BRANDY—PRODUCTION, IMPORTATION, AND CONSUMPTION,  
1910 TO 1921.

YEAR.	PRODUCTION.		TOTAL PRODUCTION.	IMPORTS (LESS RE-EXPORTS).	EXPORTS.	VARIOUS USES.	CONSUMPTION.
	Professed Distillers.	Agricultural Distillers.					
	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.	Galls.
1910.....	838,028	479,093	1,317,121	75,430	35,910	492,208	865,333
1911.....	975,509	444,558	1,420,067	71,835	33,838	457,037	1,006,427
1912.....	1,124,637	469,716	1,594,353	81,482	31,492	413,526	1,230,817
1913.....	1,412,187	314,781	1,726,968	71,601	35,465	478,843	1,284,261
1914.....	1,175,087	196,794	1,371,881	61,871	23,877	424,276	987,659
1915.....	1,466,173	196,795	1,662,968	74,215	37,558	520,844	1,175,781
1916.....	1,566,660	194,580	1,761,240	72,404	432,007	861,141	725,556
1917.....	1,814,785	212,199	2,026,984	48,510	89,931	606,029	1,379,534
1918.....	2,070,022	122,370	2,201,392	28,283	164,786	608,557	1,456,032
1919.....	2,118,051	130,731	2,248,782	10,468	104,315	594,425	1,566,510
1920.....	2,109,895	130,249	2,240,135	39,037	75,172	671,788	1,532,212
1921.....	2,596,529	207,358	2,803,914	37,433	50,381	542,745	2,248,221

(vii) *Raisins and Currants*.—Both loose and stalk raisins are produced in the Union. The raisin produced from the Sultana grape is an excellent article, and has completely supplanted the imported commodity. *Hanepoot* and *Muscad d'Alexandrie* raisins have not as yet reached the standard of the imported article, but are improving rapidly: 6,983,515 lb. of raisins were exported during 1921, to the value of £179,599.

The real *Zante Currant* grape was not imported into the Union until 1916. The Cape currant is a kind of dwarf Muscadel, and possesses a pleasing flavour, but is not cultivated on a large scale.

The subjoined table gives particulars of the quantities of raisins and currants produced on farms during a series of years:—

**RAISINS AND CURRANTS PRODUCED ON FARMS, YEARS 1903-04 TO 1920-21.**

YEAR.	RAISINS.				CURRANTS.
	Stalk.	Loose.	Sultana.	Total.	
	tb.	tb.	tb.	tb.	
1903-04*	60,520	1,726,895	43,116	1,830,531	7,794
1910-11.....	125,310	2,230,787	157,572	2,513,669	11,159
1917-18.....	496,287	4,716,526	1,148,568	6,361,401	113,853
1918-19†.....	269,900	3,823,800	821,200	4,914,900	68,600
1919-20†.....	411,800	3,907,600	852,700	5,172,100	68,900
1920-21†.....	1,106,500	5,452,100	1,835,400	8,394,000	77,500

\* Cape Province only. † Principal viticultural districts only.

**2. Fruit Cultivation.**—(i) *Fruit Growing.*—The fruit-growing industry in the Union dates back to the early days of the occupation of the Cape, when it was found at once that the soil and climate were well adapted for the purpose of fruit cultivation. Nevertheless, there was no great advance in the industry until the closing years of the nineteenth century, by which time, as the result of the gradual development of fruit growing, particularly in the Western Province of the Cape of Good Hope, production of large quantities of soft fruits, such as grapes, peaches, apricots, plums, and pears, in excess of domestic requirements, had been reached. There thus came into existence an export trade, at first on a small scale—in 1900, some years after its initiation, shipments to the extent of no more than 309 tons were made—but increasing as the industry developed and the trade became better organized, until by the year 1910 the shipments had reached a total of 2,705 tons. Since that time the export of fruit has still further increased, and in 1914 shipments totalling 6,460 tons were made. The shipments included citrus fruits, in addition to those named above, and represented the produce of every Province of the Union, in each of which fruit growing had been rapidly developed. The consumption of fruit in the Union is very great, especially in the mining areas, and plantings are being considerably extended, particularly of citrus fruits and pineapples, for the cultivation of which large areas are well suited. The principal fruits exported from the Cape Province are peaches, pears, plums, apricots, nectarines, oranges, naartjes, pineapples, melons, and grapes; from the Transvaal, oranges, naartjes, grape fruit, and mangoes; from Natal, oranges, naartjes, pineapples, bananas, mangoes, avocado pears, with a few early plums; and the Orange Free State, pears, peaches, apples, and a few cherries. These fruits are the kinds chiefly sent oversea; but the following list also includes other varieties grown in the several Provinces. The range of fruit produced in the Union is due to variations in altitude, rising gradually from a long line of coast to between 6,000 and 8,000 feet above sea-level. It may be said that there is no spot in the Union where some known fruit will not grow and thrive.

**VARIETIES OF FRUIT GROWN IN THE UNION ON A COMMERCIAL SCALE.**

Apples.	Grenadillas.	Olives.
Apricots.	Guavas.	Oranges.
Avocado Pears.	Kumquat.	Paw-Paws.
Bananas.	Lemons.	Peaches.
Cherries.	Limes.	Pears.
Custard Apples.	Litchis.	Pineapples.
Cape Gooseberries.	Mangoes.	Plums.
Figs.	Melons.	Quinces.
Grape Fruit.	Naartjes.	Strawberries.

(ii) *Fruit Export.*—The fruit export industry is governed by Regulations under the *Fruit Export Act* of 1914, the effect of which is to maintain a high standard of quality in all fruit exported. In order to place the organization of the industry and of the fruit export trade on a stable basis, and with the object of eliminating the shipment of waste and inferior fruit, likely to bring the South African product into disrepute, a South African Fruit Growers'

Exchange was formed in December, 1921, including fruit growers in all parts of the Union and Rhodesia. Revised Regulations governing the export of fruit were published in June, 1922, with the same object.

The following table gives the value of fresh fruit exported from and imported into the Union during a series of years:—

**VALUE OF FRESH FRUIT IMPORTED INTO AND EXPORTED FROM THE UNION, 1910 TO 1921.**

Year.	Total Imports less Re-exports.	Exports (S.A. Produce).	Year.	Total Imports less Re-exports.	Exports (S.A. Produce).
	£	£		£	£
1910.....	14,739	46,595	1916.....	8,376	89,216
1911.....	14,837	60,398	1917.....	1,481	43,460
1912.....	19,756	70,782	1918.....	821	42,288
1913.....	25,190	68,632	1919.....	2,273	84,762
1914.....	14,462	108,780	1920.....	4,957	192,846
1915.....	6,453	74,952	1921.....	6,759	432,895

The following table gives the value of fresh fruit of various kinds exported from the Union during a series of years (excluding exports to Rhodesia and ships' stores):—

**VALUE OF VARIOUS CLASSES OF FRESH FRUIT EXPORTED FROM THE UNION, 1916 TO 1921 (EXCLUDING EXPORTS TO RHODESIA AND SHIPS' STORES).**

Class of Fruit.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Apples.....	1,740	1,915	4,688	3,328	4,332	4,355
Apricots.....	335	214	165	134	543	1,601
Avocado Pears.....	—	—	—	—	—	—
Bananas.....	530	490	511	764	536	518
Grapes.....	12,576	2,848	1,082	4,456	23,504	40,109
Grenadillas.....	—	—	—	—	14	—
Guavas.....	1	—	—	—	—	—
Lemons.....	195	183	248	193	139	134
Mangoes.....	3	21	2	—	3	4
Melons.....	373	596	512	264	2,162	3,603
Naartjes.....	1,019	871	555	2,495	2,221	8,911
Nectarines.....	1,151	838	33	14	2,468	3,672
Oranges.....	21,727	2,700	1,071	36,144	87,671	198,410
Paw-Paws.....	1	—	—	—	—	13
Peaches.....	7,213	2,630	775	576	10,189	31,625
Pears.....	14,578	5,757	2,535	9,763	21,557	84,935
Pineapples.....	365	205	247	366	1,516	7,780
Plums.....	3,754	2,377	686	453	9,481	13,882
Other kinds.....	262	137	174	315	3,299	2,726
TOTAL.....	£ 65,832	21,890	15,084	59,265	169,635	408,287

\* Particulars not available.

It has been estimated, on the basis of a special census taken in 1922, that 1,087,400 boxes of deciduous fruit would be available for export from the principal fruit-growing districts of the Union during the 1922 season, and 1,415,000 boxes during the 1923 season.

The following tables give the number of citrus and other fruit trees on farms in the Union in various census years. Trees in urban areas were not enumerated.

(a) **CITRUS FRUITS.—NUMBER OF LEMON, ORANGE, AND NAARTJE TREES IN THE UNION, 1911 TO 1921 (EXCLUDING URBAN AREAS, NATIVE RESERVES, AND LOCATIONS).**

YEAR.	LEMON.	ORANGE.		NAARTJE.		TOTAL.
		Grafted.	Seedling.	Grafted.	Seedling.	
1911*	172,856	985,601		404,189		1,562,646
1918*	248,336	1,277,405	548,237	174,071	266,933	2,515,882
1918†	167,485	989,823	370,294	132,110	222,650	1,881,771
1919†	144,080	887,470	359,440	127,280	165,490	1,683,770
1920†	168,320	954,840	327,570	109,850	213,450	1,772,030
1921*	160,710	1,171,615	439,375	149,470	226,610	2,147,780

\* All districts. † Principal fruit-growing districts only.



(b) **FRUITS (NON-CITRUS).—NUMBER OF TREES IN THE UNION, 1911 AND 1918 TO 1921 (EXCLUDING TREES IN URBAN AREAS).**

Year.	Apple.	Apricot.	Mango.	Nectarine.	Peach.	Pear.	Plum.	(Other Fruit Trees.
1911*..	1,429,858	1,025,103	—	98,087	5,902,480	650,937	635,646	—
1918*..	2,171,336	1,161,173	96,685	206,349	5,770,164	788,352	1,143,649	2,372,239†
1918†..	1,224,748	722,063	79,232	95,589	2,433,888	508,713	764,680	802,020
1919†..	1,147,830	762,520	102,460	51,840	2,517,070	511,010	811,600	—
1920†..	1,211,550	907,800	105,330	57,560	2,411,270	542,320	995,570	—
1921*..	2,471,000	1,454,250	134,010	78,280	5,446,440	837,890	572,900	2,988,986‡

\* All districts. † Principal fruit-growing districts only. ‡ Including all fruit trees in Native Locations and Reserves (1,056,402).

§ Including all fruit trees in Native Locations and Reserves (964,570).

(iii) *Citrus Fruit Export Trade.*—In view of the importance of the export trade in citrus fruit, and the necessity for proper organization and full information, particularly in connection with the provision of adequate shipping accommodation, a special census of citrus trees, the fruit of which is grown in the Union for export, was taken in 1922. The results are embodied in the following table, which also gives particulars of the quantity of citrus fruit exported during the 1921 season by fruit growers:—

**NUMBER OF CITRUS TREES IN THE UNION (FRUIT GROWN FOR EXPORT ONLY), AND NUMBER OF BOXES OF CITRUS FRUIT EXPORTED, 1921 SEASON.**

Variety.	Number of Trees and Ages.							No. of Boxes Exported, 1921 Season.
	Just Planted (1921).	4 Years and under.	5 and 6 Years.	7 to 10 Years.	10 to 15 Years.	Over 15 Years.	Total.	
Oranges—								
Navels.....	67,082	194,094	103,262	44,624	17,804	14,993	461,859	125,566
Seedlings.....	13,243	7,294	4,559	19,395	25,585	33,327	103,803	78,997
Valencia Lates.....	18,587	40,901	13,058	7,458	4,871	2,738	87,613	4,580
Other Varieties.....	7,017	7,438	2,376	4,228	1,445	1,874	24,378	2,210
Nar(t)s—								
Tight Skin Varieties only.....	1,178	2,080	1,043	2,820	5,693	6,255	19,075	13,633
Grape Fruit—								
All Varieties.....	4,030	4,534	6,928	657	385	98	16,632	3,079
TOTAL.....	111,137	250,347	131,226	90,382	55,783	59,485	713,360	228,065

(iv) *Nuts.*—The walnut and the almond are the only nuts planted on a commercial scale in the Union. The supply of both is, however, quite unequal to the demand, and there is need and scope for heavy planting of walnut and almond trees, to the cultivation of which various districts are eminently suited. Some interest has lately been evinced in the pecan nut, which is apparently more successfully cultivated in Natal than in any other portion of the Union. Imports into the Union under the headings of *Almonds, Walnuts, and Other Edible Nuts* have average 1 573 056 lb., valued at £23 909 yearly, during the period 1910 to 1920 (coconuts and ground nuts not included), the actual imports in 1921 being as follows, viz.:—Almonds, 205,083 lb., valued at £17,106; walnuts, 37,897 lb., valued at £1,587; and other edible nuts, 477,345 lb., valued at £15,243, representing a total value of £33,936.

(v) *Canned Fruits.*—Canneries for fruit have been established principally at towns on or near the coast, partly on account of the better supply of suitable labour, and also on account of the more economical working possible in those localities. The article produced is uniformly good, and has much improved within the past few years. The chief centres of the industry are Durban, Port Elizabeth, and Cape Town, with the Paarl and Worcester districts of the Cape Province. The following table gives particulars of the quantity of

canned and bottle fruit produced, imported, and consumed in the Union during the years 1915-16 to 1920-21 :—

**CANNED AND BOTTLED FRUIT.—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1915-16 TO 1920-21.**

YEAR.	TOTAL PRODUCTION.		IMPORTS LESS RE-EXPORTS.		TOTAL PRODUCTION LESS EXPORTS.	CONSUMPTION.
	Quantity.	Value.	Quantity.	Value.		
	lb.	£	lb.	£	lb.	lb.
1915-16...	920,000	12,325	248,618	6,071	596,215	844,833
1916-17...	1,448,000	29,319	127,188	3,347	1,106,187	1,233,375
1917-18...	1,973,789	51,825	34,323	1,303	1,561,031	1,695,354
1918-19...	2,138,214	51,941	42,070	2,297	1,094,096	1,186,766
1919-20...	2,381,038	63,644	102,513	8,805	1,237,804	1,407,117
1920-21...	2,693,541	100,800	230,153	10,800	1,586,170	1,810,323

(vi) *Dried Fruits.*—Dried fruits are produced for home consumption throughout a large portion of the Union. Production of dried fruits as an article of commerce is confined to the south-western portion of the Cape Province, except in the case of apples, which are put out in large quantities from the eastern portion of the Orange Free State. In addition to raisins and currants, there is an increasing production of prunes, pears, apricots, and peaches, with several kinds of nectarines and plums. The highest quality can be attained, and in many cases is attained, but the grading is not yet uniform. The demand continues to be largely in excess of the supply.

The following table (a) gives the quantity and value of dried fruit (excluding currants, raisins, and dates) produced in, imported into, and exported from the Union during the years 1915-16 to 1920-21.

Table (b) shows the quantities of the more important kinds of dried fruit produced on farms in the Union during the years 1910-11, 1917-18, 1918-19, 1919-20, and 1920-21.

**(a) PRODUCTION, IMPORTS, AND EXPORTS OF DRIED FRUIT (EXCLUDING CURRANTS, RAISINS, AND DATES) AND CANDIED PEEL, 1915-16 TO 1920-21.**

YEAR.	PRODUCTION.				IMPORTS LESS RE-EXPORTS.		EXPORTS (S.A. PRODUCE).	
	Quantity.			Total Value.	Quantity.	Value.	Quantity.	Value.
	Factory Production.	Farm Production.	Total.					
	1,000 lb.	1,000 lb.	1,000 lb.	£	1,000 lb.	£	1,000 lb.	£
1915-16	2,100	*	—	150,290	292	6,998	238	8,216
1916-17	4,162	*	—	191,077	95	2,749	319	11,008
1917-18	4,247	4,845	9,092	235,116	62	2,541	546	19,457
1918-19	4,390	13,584	7,974	249,677	168	9,076	1,146	48,111
1919-20	3,454	12,419	5,873	330,881	511	25,584	1,061	56,016
1920-21	3,606	3,215	6,821	344,907	439	20,204	530	31,216

\* Not available. † Principal fruit-growing districts only. ‡ Factory production only. § Farm production assessed as same value per lb. as factory production.

**(b) QUANTITY OF DRIED FRUIT PRODUCED ON FARMS IN THE UNION DURING THE YEARS 1910-11, 1917-18, 1918-19, 1919-20, AND 1920-21.**

Year.	Apples.	Apricots.	Figs.	Peaches.	Pears.	Prunes.
	lb.	lb.	lb.	lb.	lb.	lb.
1910-11*	115,964	635,370	54,064	2,575,049	178,306	641,350
1917-18**	267,800	366,700	124,900	2,827,000	370,000	887,200
1918-19†	232,700	103,200	171,600	1,708,200	346,800	1,021,400
1919-20†	170,400	313,500	137,000	1,090,500	116,100	591,300
1920-21**	164,900	160,100	132,200	1,824,200	192,200	681,800

\* All districts. † Principal fruit-growing districts only.

(vii) *Jams*.—There is considerable production of jams, jellies, fruit juices, and pulp. The export figures for the years 1910 to 1917 reveal that the possibilities of the development of this industry are important, apart from any consideration connected with the War and the consequent disturbance of ordinary commercial conditions. The following table gives particulars regarding the production, importation, and consumption of jams and jellies during the years 1915-16 to 1920-21:—

**JAMS AND JELLIES.—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1915-16 TO 1920-21.**

YEAR.	TOTAL PRODUCTION.		IMPORTS LESS RE-EXPORTS.		TOTAL PRODUCTION LESS EXPORTS.	CONSUMPTION.
	Quantity.	Value.	Quantity.	Value.		
	lb.	£	lb.	£	lb.	lb.
1915-16...	12,381,000	260,507	694,705	16,121	10,944,759	11,639,464
1916-17...	13,768,000	316,406	574,730	12,938	11,816,145	11,890,875
1917-18...	16,455,424	376,364	278,777	6,004	13,224,126	13,502,903
1918-19...	18,451,287	399,785	182,467	4,494	12,079,193	12,211,660
1919-20...	18,319,466	493,757	1,068,391	38,005	11,323,003	12,391,394
1920-21...	13,774,349	370,862	1,045,505	38,005	10,534,248	11,579,573

**§ 6. Sugar-Cane.**

1. *Sugar Industry*.—(i) *General*.—The only parts of the Union where sugar cane is grown for sugar manufacture are Natal and Zululand. In Natal, the limit of profitable sugar cultivation is Port Shepstone, on the south coast, whilst northwards the area extends throughout Zululand. In Natal proper, with its smaller rainfall and less fertile lands, poorer returns are secured and a crop takes two years to mature, as against a period of eighteen months in Zululand.

Cane cultivation in Natal commenced about the year 1850, while in Zululand sugar-cane culture is of comparatively recent date. There is only one variety grown which can be considered satisfactory, and this is the *Uba* variety. It is very hardy, deep rooting, drought and disease resistant, and gives from four ratoon crops upwards. An objection to its use from a milling point of view is that it requires considerably more power to mill, being tough and of high fibre content. The dead leaves (trash) adhere to the cane very firmly; in the *soft* varieties the *trash* falls away of itself. Recently a variety of *Agaul* from India has given very promising results. It is a cane similar in many respects to the *Uba* variety.

The *soft* varieties are more suited to the richer and moister alluvial lands along the valley bottoms, and in such situations they give very large returns. Though the canes *arow* in Natal, fertile seed does not appear to have been formed, so that selection of seeding kinds suitable for the Union requires to be done in other countries, the varieties being tested under local conditions. Generally speaking, planters seem to rely on seed cane from their own fields, and there is no regular system either of exchange between planters or introducing selected cane from other areas.

Large areas of land in Zululand, admirably adapted for sugar culture, await development. In Natal on the other hand all the best sugar land is under cultivation.

The labour employed in the cane fields is mostly Indian. The Indians are generally superior to the kaffir for sugar-cane work and particularly skilful with the hoe in keeping the crops clean. White managers supervise the work on the larger estates.

(ii) *Yield of Cane*.—Sugar-cane yields about twenty tons per acre in Natal every two years, but in Zululand owing to the larger rainfall and the richer lands the yield is considerably higher, and the return somewhat earlier. Cane grown on the hills has a higher sucrose content than that grown on the flats. The latter is planted in deep soil, has a rank and rapid growth, and practically no ripening period, whereas the former variety, growing more slowly in poorer soil, has the necessary maturing period. Improvements in milling have resulted in the lessening of the amount of cane required to produce one ton of sugar. In the dry winter months when the juice undergoes concentration, about ten tons of cane are necessary for the production of one ton of sugar. The *bagasse* is used as fuel, and the *sludge* from the centrifugals and the liming of the juice are returned to the cane-fields as manure.

(iii) *By-Products*.—The most important by-product, *treacle*, is largely used for stock feeding. *Cane wax* is not exploited to any great extent, though there are great possibilities in this direction. Motor spirit, *natalite*, is also being produced at the present time.

(iv) *Sugar Mills.*—The industry is well provided with mills, and in Natal the owners of these (with one or two exceptions) for the most part crush cane grown by themselves. In Zululand the mills are situated in the centre of a large area of sugar plantations, from which they obtain all the cane they can crush, the price being regulated by the price of refined sugar in Durban. This system came into force in 1905, when the Natal Government opened the coast belt of Zululand for the cultivation of the sugar cane, and agreements were then entered into for the erection of mills and for the supply of cane to the millers by outside planters. In December, 1921, a Commission, under the Chairmanship of Mr. W. D. Baxter, was appointed to inquire into the sugar industry, and its report, issued in May, 1922, included the following recommendations:—

- (a) That the agreements between millers and planters in Zululand should be revised, as they are detrimental to the interests of both, in that cane is paid for by weight irrespective of the sugar it contains, and in that the same rate is paid for unburnt cane as for burnt cane.
- (b) That mills which are able to crush all the cane available should be allowed to shorten the milling season.
- (c) That a new basis of payment other than that of the price of first refined sugar in Durban should be provided, and that this basis should be uniform throughout Natal.

(v) *Sugar Refineries.*—There are two refineries in Natal, which deal with the "cargo" sugars produced by the mills. These refineries are necessary adjuncts to the industry, as there is a demand for refined sugar which, in the absence of the South African article, would be supplied by imported refined sugar.

2. *Statistics.*—The total area under cane cultivation at 30th June, 1918, was 184,213 acres, and at 30th April, 1921, 196,585 acres.

The following table shows the quantity of sugar produced in, imported into, and consumed in the Union from the year 1910-11:—

**SUGAR.—PRODUCTION, IMPORTS, EXPORTS, AND CONSUMPTION, 1910-11 TO 1920-21.**

Year.	Production.	Net Imports.	Exports South African Produce.	Retained or Available for Consumption.	Sugar used in Manufacturing.
	Tons—2,000 lb.	Tons—2,000 lb.	Tons—2,000 lb.	Tons—2,000 lb.	Tons—2,000 lb.
1910-11.....	82,000	32,321	2,790	111,531	•
1911-12.....	92,000	27,055	2,036	117,019	•
1912-13.....	96,000	23,617	2,303	117,314	•
1913-14.....	92,153	25,930	2,073	116,019	•
1914-15.....	102,653	15,774	2,850	115,568	•
1915-16.....	113,358	5,020	3,893	115,385	•
1916-17.....	114,709	7,978	4,047	118,640	14,085
1917-18.....	104,921	15,389	4,039	110,271	16,152
1918-19.....	150,214	10,498	12,898	147,814	17,848
1919-20.....	189,183	1,350	27,495	163,047	19,059
1920-21.....	143,680	2,050	42,725	103,005	16,898

\* Not available.

The figures given hereunder show for the year 1920 the quantities of the various by-products obtained from the sugar industry:—

Spirit.....	2 285,062 proof gallons.
Natalite.....	315,284 proof gallons.
Ether.....	135,763 gallons.
Syrup.....	} 6 380 tons.
Treacle and molasses.....	

**§ 7. Tea, Cotton, and Tobacco.**

1. *Tea.*—Tea was first grown in the area now comprising the Union as an experiment at the Durban Botanical Gardens in the year 1851. For a long period the industry was conducted on experimental lines, but without success. In 1878 greater attention was paid to tea growing, and some two thousand plants were procured from Assam by Mr. J. L. Hulett (now Sir Liege Hulett), and planted out on his estate at Kearsney in Natal. The first crop (of 30 lb.) was raised in 1880. In 1883, tea produced on the estate referred to was valued at 2s. 9d. per lb. in London. The price of tea in South Africa at that time ranged from 2s. to 3s. 6d. per lb. From that year the tea industry advanced, and with increased production the price fell to about 1s. per lb., during the period 1904 to 1909.

The restrictions placed on Indian immigration into Natal by the Government of India in 1911 have seriously hampered the industry; and as a result of the low price of tea and the present high cost of labour, equal to about 45 per cent. of the total cost of production.

the industry has contracted. Capital to the approximate amount of £350,000 is invested in the tea industry of the Union. The yield of manufactured tea in 1920-21 was 913,751 lb. In 1903 the highest total of production—2,681,000 lb.—was reached. The annual consumption of tea in the Union is in the neighbourhood of 8,000,000 lb. It is estimated that at least 15,000 acres of land suitable for tea plantations are available. The plucking season lasts from September until June. Six estates are engaged in the growing and production of tea, and it may be stated that Natal tea is particularly free from tannin.

Owing chiefly to the labour difficulties mentioned, it is found that in Natal the growing of sugar-cane is generally more profitable than the cultivation of tea, with the result that the former industry is being extended at the expense of the latter. The following table gives particulars of the area of tea plantations, the produce in green leaf and in manufactured tea, and the consumption of tea in the Union.

### TEA.—PRODUCTION, IMPORTATION, AND CONSUMPTION, 1910-11 TO 1921-22.

Year (Season).	Area Cultivated.	Yield (Green Leaf).	Manufactured Tea.	Production (less Exports).	Imports (less Re-exports).	Retained or Available for Consumption.
	Acres.	lb.	lb.	lb.	lb.	lb.
1910-11....	4,457	6,722,673	1,740,824	1,645,965	4,997,203	6,643,168
1911-12....	4,484	7,066,457	1,875,106	1,821,047	5,486,839	7,301,886
1912-13....	4,484	6,322,123	1,591,279	1,566,925	5,993,088	7,560,013
1913-14....	4,484	6,773,731	1,712,865	1,599,264	6,110,715	7,700,079
1914-15....	4,562	6,308,949	1,613,733	1,414,812	6,154,563	7,569,375
1915-16....	4,512	7,166,364	1,822,026	1,696,233	6,165,938	7,862,171
1916-17....	4,462	6,812,275	1,711,723	1,662,112	6,852,008	8,514,120
1917-18....	4,377	6,514,200	1,602,742	1,544,033	7,883,069	9,427,102
1918-19....	4,136	5,743,679	1,410,027	1,203,574	7,095,400	8,298,974
1919-20....	3,740	5,168,419	1,273,293	1,040,803	7,451,045	8,492,448
1920-21....	3,497	3,702,634	913,751	848,959	6,700,837	7,549,796
1921-22....	2,240	2,368,561	572,801	546,007	7,704,287	8,250,294

2 **Cotton.**—The cotton industry of the Union is in the earliest stage of development but the possibilities of its extension are considerable. It may be remarked that the production of cotton in South Africa was first attempted fifty years ago in some of the eastern coastal districts of the Cape of Good Hope and in Natal, and that the attempt continued for half a decade. Notwithstanding a good deal of encouragement by the Government and by Chambers of Commerce, however, the endeavour to establish cotton growing as an industry failed, principally on account of labour difficulties, the high cost of ocean transport, and the lack of cultural knowledge. In 1910, when the Government of the United Kingdom and the cotton manufacturers of England held out inducements for the cultivation of cotton within the British Empire, the Government of the Union decided to make another effort to interest farmers in cotton production. A series of experiments was started in the areas considered likely to prove most suitable, and as a consequence the industry has now taken new life. Improved ginning facilities have been established, cheaper transport has been obtained, and several ginning plants are now in operation. During recent years the production of lint has advanced to more than 800,000 lb. annually, each year showing an increase over the previous year.

It has been concluded, as a result of these years of experiment, that the *Nyasaland* and the *American Upland* varieties give most satisfaction, and the consignments exported to the United Kingdom usually command from one penny to threepence per lb. more than American middlings.

The following table gives figures showing the production of cotton in the Union:—

### COTTON (SEED) GROWN IN THE UNION,\* 1917-18 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1917-18—					
Area.....acres	34	512	7,016	13	7,575
Yield.....lb.	6,590	113,700	676,110	—	796,610
1918-19—					
Yield.....lb.	1,906	533,184	883,321	200	1,418,611
1919-20—					
Area.....acres	87	4,436	6,932	10	11,465
Yield.....lb.	17,900	1,073,400	1,494,900	6,000	2,592,200
1920-21					
Area.....acres	118	2,773	16,193	—	19,084
Yield.....lb.	11,200	802,600	2,702,600	—	3,576,400

\* Native locations, reserves, etc., not enumerated.

**3. Tobacco.**—The principal tobacco districts in the Union are the Magaliesberg and Kat River districts, which produce a light and medium tobacco of the Virginian type, such as *Joiner, Yellow Prior, Bullion, Sterling, Tennessee Red, and Swazie*; the Potchefstroom, Vrededorf, Piet Retief, Oudtshoorn, and Fiquetberg districts, which produce a medium to heavy type, such as *Tennessee Red, Sterling, Clarksville Heavy, Boyd, and Swazie*; the Stellenbosch, Wellington, and Tulbagh districts, which produce Turkish tobacco such as *Dubeck and Soulouk*; and Natal, in which Province a medium dark type, largely consumed in the manufacture of cigars and a cheap grade of pipe tobacco, is produced.

The tobacco and tobacco manufacturing industries have experienced considerable change in the class of leaf and manufactured article required by the public during the past ten to fifteen years, i.e. from the heavy type tobacco to the light cigarette tobacco leaf. In the earlier days the principal demand was for dark and medium tobacco, suitable for ultimate conversion into pipe tobacco and snuff. A fairly large percentage of the crop was put up by the farmers into roll tobacco, the rolls being converted into pipe or snuff tobacco by the consumer. There is still a considerable quantity of roll tobacco produced, both by the farmers and by factories. During more recent years factories for the manufacture of cut pipe tobacco and cigarettes have been established throughout the Union, and an increasing demand for tobacco of light or medium colour and fine or medium texture has arisen. During this period the manufacture of cigars has made some progress, and several small factories are in operation. This factor has encouraged the production of a type of leaf suitable to the manufacture of cigars. Moreover, cigarettes made from locally grown Turkish tobacco have become very popular, and the production of colonial Turkish leaf has been firmly established. Prior to the European War a considerable quantity of tobacco was imported, comprising Sumatra for cigar wrappers, and Turkish and Virginian for cigarettes. There are three tobacco co-operative societies at present in the Union, two of these being under the *Co-operative Society Act* and the other one under the *Limited Liability Company Act*. All three embody the principles of co-operation. Only bona fide tobacco farmers may be members of the co-operative societies or hold shares in the tobacco company. All the members share *pro rata* the profits accruing after deduction of working costs, and members are required to deliver their tobacco crops to the organization.

The Rustenburg Farmers' Co-operative Society was inaugurated in 1911 and has been completely successful. The society dealt with up to 6,500,000 lb. of tobacco for the year 1920-21, and has been of great value to the tobacco industry.

The Western District Warehouse Association of Paarl, Cape of Good Hope, which has been in existence nine years, has been of considerable assistance to the Turkish tobacco farmers, and has succeeded in putting on the market a matured article which has much improved the position of the manufacturers of colonial Turkish cigarettes. The association handles annually some 250,000 to 600,000 lb. of tobacco.

The Vaal River Tobacco Farmers' Company, Ltd., was inaugurated in 1918, and was converted into a co-operative company in 1921. It is estimated that 300,000 lb. of tobacco will be dealt with yearly.

The following table gives particulars as to tobacco grown in the Union:—

**TOBACCO GROWN IN THE UNION, 1911 AND 1918 TO 1921.**

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		NATIVE LOCATIONS, RESERVES, ETC.	UNION.
	Area.	Yield.	Area.	Yield.	Area.	Yield.	Area.	Yield.	Yield.	Yield.
	Acres.	lb.	Acres.	lb.	Acres.	lb.	Acres.	lb.	lb.	lb.
1911..	4,411	3,767,179	1,062	2,685,037	11,405	7,701,774	2,396	807,200	•	14,961,190
1918..	7,427	4,186,900	1,096	515,400	13,560	6,928,900	1,043	591,000	2,428,553	14,931,153
1919†.	—	4,776,065	—	618,715	—	8,121,040	—	674,210	—	14,182,020*
1920..	6,367	3,602,000	1,729	730,400	16,733	6,923,500	980	388,400	—	11,644,300†
1921..	8,121	5,007,900	1,740	910,900	15,711	8,462,340	990	625,100	1,614,400	16,620,640

\* Included in Provinces. † Exclusive of tobacco produced in Native Locations, etc., which amounted to 2,428,553 lb. in 1918, and 1,614,400 lb. in 1921. ‡ Area not enumerated.

### § 8. Farms, Farm Labour, and Agricultural Implements.

1. **Number, Tenure, and Area of Farms.**—The following tables give particulars of farms enumerated at the Census of Agricultural and Pastoral Production in 1921 (excluding native locations, reserves, etc.), the area of farms, the area cultivated, irrigated, and irrigable, with comparative figures for 1918:—

(i) **NUMBER AND AREA OF FARMS, AGRICULTURAL HOLDINGS, PLANTATIONS, AND RESERVES (EXCLUDING NATIVE LOCATIONS, RESERVES, ETC.), APRIL, 1921.**

Province.	Occupied.		Unoccupied.	
	Number.	Acres.	Number.	Acres.
Cape of Good Hope.....	31,950	124,378,645	1,230	11,692,378
Natal.....	8,697	9,373,708	281	715,043
Transvaal.....	22,741	34,767,817	3,173	11,079,698
Orange Free State.....	18,044	29,876,573	316	335,285
<b>TOTAL.....</b>	<b>81,432</b>	<b>198,396,743</b>	<b>5,009</b>	<b>24,422,404</b>

(ii) **AREA OF FARMS, AREA CULTIVATED, AND AREA IRRIGATED OR IRRIGABLE, 1921.**

Province.	Area of Farms.	Area Cultivated.				Total Area under Cultivation.	Area Irrigated.	Additional Area Irrigable.
		Agricul-tural Crops.*	Fruit.	Timber.	Fallow.			
	1,000 Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cape of Good Hope.....	136,071	1,878,555	127,191	113,722	853,233	2,972,055	478,270	284,132
Natal.....	10,089	639,655	24,264	248,026	117,286	1,029,228	23,730	36,433
Transvaal.....	46,447	2,192,061	58,590	139,657	597,274	2,987,463	227,437	189,924
Orange Free State.....	30,212	2,325,155	32,699	57,326	314,156	2,729,337	88,425	61,514
Native Loca-tions, Reserves, etc.....	38,936	3,295,623	†	†	†	3,295,623	†	†
<b>TOTAL....</b>	<b>261,755</b>	<b>10,331,049</b>	<b>242,714</b>	<b>558,731</b>	<b>1,881,949</b>	<b>13,913,708</b>	<b>817,862</b>	<b>572,003</b>
1918.....	229,270	11,272,004	181,762†	462,096†	1,940,290†	13,856,152	—	—

\* Allowance made in this column for double crops in 1921.

† Not enumerated in Native Locations, Reserves, etc.

2. **Employees on Farms.**—Particulars are given hereunder as to the average number, sex and race of employees on farms, excluding native locations, reserves, etc., during the year 1917-18:—

**AVERAGE NUMBER, SEX AND RACE OF EMPLOYEES ON FARMS (EXCLUDING NATIVE LOCATIONS, RESERVES, ETC.), DURING YEAR 1917-18.**

PROVINCE.	WHITE.		NATIVE.		ASIATIC.		OTHER COLOURFD.	
	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
Cape of Good Hope.....	23,615	6,393	70,933	30,536	786	46	36,566	11,301
Natal.....	2,281	576	51,084	12,960	18,405	3,920	334	65
Transvaal.....	7,862	2,497	69,968	25,117	436	58	524	231
Orange Free State.....	7,997	3,199	59,638	35,737	—	—	1,249	527
<b>TOTAL.....</b>	<b>41,755</b>	<b>12,665</b>	<b>254,623</b>	<b>104,350</b>	<b>19,627</b>	<b>4,044</b>	<b>38,673</b>	<b>12,124</b>

3. **Agricultural Implements, Machinery, etc.**—The subjoined table gives for the years 1918 and 1921 particulars as to agricultural implements and engines employed on farms:—

(i) **ENGINES—NUMBER ON FARMS, AND HORSE POWER, 1918 AND 30th APRIL, 1921.**

Province.	Steam.		Gas.		Oil.		Electric.		Total. Number.
	Num-ber.	Horse Power.	Num-ber.	Horse Power.	Num-ber.	Horse Power.	Power Generated on Farms.	Power Derived from other sources.	
Cape.....	536	3,928	351	8,060	1,318	7,591	119	11	2,335
Natal.....	213	2,358	61	533	676	3,605	76	2	1,028
Transvaal....	420	3,330	128	1,482	568	3,010	47	10	1,179
Orange Free State.....	209	1,709	140	2,958	369	1,012	16	2	796
<b>TOTAL, 1921</b>	<b>1,444</b>	<b>11,325</b>	<b>680</b>	<b>13,933</b>	<b>2,931</b>	<b>16,118</b>	<b>258</b>	<b>25</b>	<b>5,338</b>
Census of 1918.	1,830	*	650	*	2,533	*	178		4,700

\* Not enumerated.

(ii) **AGRICULTURAL IMPLEMENTS, ETC.—NUMBER IN 1918 AND 30th APRIL, 1921.**

Province.	Oil Tractors for Ploughing.	Ploughs.		Thrashing Machines.		Dipping Tanks.		Silos.	
		Steam.	Animal Draught.	Driven by Power.	Worked by Hand.	For Cattle.	For Sheep.	Erected.	Pit (Sunk).
Cape.....	218	108	63,060	598	1,657	2,170	13,985	167	344
Natal.....	78	14	20,017	320	1,619	4,199	1,599	106	381
Transvaal....	140	60	50,143	430	999	2,015	9,784	175	441
Orange Free State.....	79	8	43,400	340	963	374	8,970	101	163
Native Loca-tions, Re-serves, etc..	*	*	170,708	*	*	1,648	2,290	*	*
<b>TOTAL, 1921.</b>	<b>515</b>	<b>100</b>	<b>354,237</b>	<b>1,688</b>	<b>5,238</b>	<b>10,406</b>	<b>30,928</b>	<b>549</b>	<b>1,329</b>
Census of 1918	231	101	335,956	1,428		9,286	27,589	1,476	

\* Not enumerated.

### § 9. Fertilizers.

1. **General.**—The *Fertilizers, Farm Foods, Seeds, and Pest Remedies Act* (No. 21 of 1917) regulates the importation and sale of fertilizers in the Union. "Fertilizer" is defined as any substance containing, or purporting to contain as chemical constituents thereof, nitrogen, phosphoric oxide, potash, or lime in a form or combination available as plant food, and sold or intended for sale for the purpose of fertilizing the soil or supplying nutriment to plants, and the sale of an article not containing these ingredients in a suitable form is prohibited.

From analyses of South African soils it has been established that they are for the most part deficient to a smaller or greater degree in the four essential elements enumerated, and it is these necessary constituents which have to be supplied by means of fertilizers.

*Phosphoric Oxide*, in which the deficiency is largest, is added to the soil chiefly in the form of superphosphates, basic slag, and bone preparations. Considerable phosphatic deposits occur in various parts of the Union (Weenen, Saldanha Bay, Kuruman, Murchison Range, and Bethlehem), and in recent years the production of superphosphates has been undertaken on a very considerable scale. At Somerset West, in the Cape Province, and at Umbogintwini and other places in Natal, there are factories said to be capable of an output more than sufficient to satisfy the present South African demand for superphosphates and bone manure. *Lime* deposits are found extensively in the Union, and a suitable form



for fertilizer purposes occurs in the Marico District. The principal varieties of *nitrogenous* fertilizer in use in South Africa are sulphate of ammonia, nitrate of potash, blood-meal, meat-meal, and different forms of guano. For the most part these are locally produced, the municipal abattoirs of Durban, Cape Town, Pretoria, and Johannesburg being responsible for the preparation of considerable quantities of blood-meal and meat-meal, while guano (bird, whale, fish, and bat) is extensively worked up and used. *Potassic* fertilizers are imported in the shape of salts of potash, and there is also a considerable production in the Union, burnt kraal manure ("Karoo ash") being largely utilized in this connection.

The following tables give (i) the imports into the Union of various types of fertilizer during the years 1919 to 1921, and (ii) the factory production of fertilizers in the Union, as shown in the Industrial Censuses of 1918-19, 1919-20, and 1920-21.

(i) **MANURES AND FERTILIZERS—IMPORTS, 1919 TO 1921.**

Description.	1919.		1920.		1921.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Basic Slag.....	1,910	10,596	5,120	46,187	1,905	11,684
Bone Manures.....	126	1,253	2,003	11,258	866	5,899
Guano.....	1,991	0,718	834	1,822	1,087	4,580
Nitrate of Soda.....	—	—	34	850	0	164
Raw Phosphates.....	6,554	11,974	10,947	28,207	12,610	40,889
Potash Manures.....	—	24	484	11,831	789	11,174
Sulphate of Ammonia.....	—	—	—	—	484	12,594
Superphosphates.....	829	7,792	12,305	133,423	11,412	104,998
Whale Manure.....	1,183	5,253	820	3,830	—	—
Other.....	15	327	182	2,305	363	4,276
<b>TOTAL VALUE.....£</b>	<b>—</b>	<b>52,937</b>	<b>—</b>	<b>230,779</b>	<b>—</b>	<b>196,258</b>

(ii) **FACTORY PRODUCTION OF FERTILIZER MATERIALS—INDUSTRIAL CENSUSES, 1918-19 TO 1920-21.**

Description.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£
Ammonium sulphate.....	—	—	2,900	76,000	—	—
Nitrogenous Organic Fertilizers.....	4,412	49,718	153	1,943	3,760	38,815
Superphosphates.....	2,734	82,020	6,289	40,999	5,731	37,489
Bone Meal.....	8,247	101,147	13,810	157,903	11,872	137,151
Mixed Fertilizers, containing—						
Nitrogen and phosphorus.....	5,768	48,346	8,127	87,713	3,838	39,648
Potassium and phosphorus.....	1,289	12,660	57	769	193	2,663
Nitrogen and potassium.....	09	124	500	5,000	320	2,880
Nitrogen, potassium, and phosphorus.....	9,181	114,336	13,103	161,050	20,772	190,077
Other.....	—	37,078	—	140,085	—	167,691
<b>TOTAL VALUE.....£</b>	<b>—</b>	<b>445,438</b>	<b>—</b>	<b>671,462</b>	<b>—</b>	<b>616,414</b>

**2. Government Guano.**—The Government Guano Islands comprise all the principal islands, islets, rocks, and reefs situated along and around the western and southern portions of the South African coast lying between latitudes  $24^{\circ} 30'$  and  $35^{\circ}$  south, and longitudes  $14^{\circ} 20'$  and  $26^{\circ} 30'$  east. Owing to their geographical positions on the coast, these islands are, for purposes of discrimination, divided into two groups, which are known as the Colonial Group and the Northern (or Ichaboo) Group respectively. The former group consists of the Bird Islands and adjacent rocks (Algoa Bay), Dyer's Islands and contiguous rocks on the Bredasdorp coast, Seal Island (False Bay), Duiker Klip (Hout Bay), a number of islands along the Malmesbury coast, including Dassen and the Paternoster islands and Foundlings, Jutten, Malagas, and Marcus islands, in and near Saldanha Bay, and two other islets in Lamberts Bay and off the mouth of the Olifants River respectively.

The Northern (Ichaboe) Group consists of the following islands, all situated off the coast of Great Namaqualand and Damaraland (South-West Africa):—Sinclair's Island, Plumpudding Island, Pomona Island, Albatross Rock, Possession Island, Long Island, Halifax Island, Penguin Island, Seal Island, Ichaboe Island, Mercury Island, and Hollamsbird Island.

These islands were formerly leased to and worked by various private individuals, but were ultimately, by resolution of the House of Assembly of the Cape of Good Hope, dated the 2nd July, 1889, taken over, as the several leases fell in, and worked for the Government, at first by an agent, upon a commission basis only, under the control of the Crown Lands and Public Works Department, and later under the administration of the Commissioner of Railways and Public Works, until May, 1894, when the administration was transferred to the Cape Agricultural Department. The leases of the Colonial Group terminated on the 30th June, 1891, and of the Ichaboe Group of Islands on the 30th June, 1895. The agency continued until the 30th June, 1898. On the 1st July, 1898, the guano business was converted into a Government undertaking, as a sub-division of the Cape Department of Agriculture, and placed under the control and management of an officer carrying the title of Superintendent of the Government Guano Islands. The islands are being worked principally for the production of guano, but other products, such as penguin eggs, seal skins, seal oil, etc., are also obtained from them.

The guano is deposited annually by the young sea birds during the breeding season, which lasts from about the beginning of September to the end of March. The guano producing birds are those known as the penguin (*Spheniscus demersa*, Linn), malgas (*Sula capensis*, Licht), and sea ducks (*Genus phalarcorax*), and these are all protected by law against capture, slaughter, or molestation of any kind. Guano collection is undertaken immediately after the breeding season, and when the young birds are old enough to leave their nests and the islands. On the Colonial islands this generally takes place during the period from about the 15th January to the end of April, and on the Ichaboe Group from about the middle of March to the end of June in each year, and, as the various crops are collected, dried, cleaned, and ready for use, they are shipped to Cape Town for disposal as required. As the annual yield of guano is regulated principally by the fish-supply on the coast, which is the only food of the birds, and is also very much affected by the climatic conditions prevailing during the breeding season, the total quantity collected varies considerably from year to year. The average yield from all sources during the last three years was approximately 9,000 tons per annum. Guano is sold in a pulverized form, and is used principally in the cultivation of cereals and vegetables, but is also now being extensively employed in the treatment of young orchards and vineyards. Its principal chemical constituents are nitrogen, potash, phosphoric oxide, and lime, and, as the composition of the deposits obtained from the various islands varies materially in certain essentials, all collections are systematically mixed so as to obtain an approximately uniform grade of article.

The average analysis of guano sold during the years 1919 to 1921 was:—Nitrogen, 10·7 per cent.; potash, 1·8 per cent.; phosphoric oxide water soluble, 3·4 per cent.; phosphoric oxide soluble in 2 per cent. citric solution, 9·7 per cent.; total phosphoric oxide, 10·8 per cent.; and lime, 10·5 per cent. Guano is now being sold by the Government at £10 per ton, which is below its commercial value. There is a very large and increasing local demand for guano, and, as the supply is limited, no exportation to places beyond the limits of the Union is permitted.

#### QUANTITY OF GUANO PRODUCED, 1911 TO 1921.

Year.	Colonial Group of Islands.	Northern or Ichaboe Group of Islands.	Total.
	Tons.	Tons.	Tons.
1911.....	1,795	2,852	4,647
1912.....	2,210	4,162	6,372
1913.....	2,704	4,737	7,441
1914.....	3,301	4,832	8,133
1915.....	3,079	4,141	7,220
1916.....	3,148	3,852	7,000
1917.....	2,377	4,588	6,965
1918.....	2,941	5,071	8,012
1919.....	3,641	5,396	9,037
1920.....	4,006	6,439	10,445
1921 (estimated).....	3,263	5,285	8,548

The following by-products of the Government Guano Islands may be conveniently noted here :—

*Penguin Eggs.*—The collection of penguin eggs is at present restricted to certain portions of Dassen Island only, from whence, on an average, about 550,000 eggs are obtained annually. The collection, disposal, and distribution of penguin eggs are undertaken by Government contractors.

*Seal Skins.*—The number of seal skins and the quantity of oil secured annually vary considerably according to circumstances. The average number of skins taken during the three years 1919 to 1921 was 9,603 per annum. These skins are shipped to the United Kingdom, and sold by auction on the London markets. The sealing industry is largely in the hands of the Union Government, and private enterprise is only permitted on certain specified islands and rocks on the South African coast reserved for that purpose.

## § 10. Agricultural Co-operation.

1. **Cape of Good Hope.**—A general co-operative movement was started in the Cape Colony in 1905, when an Act was passed whereby loans for general agricultural purposes, not exceeding a total of £150,000, were authorized to be made to co-operative associations of wine and agricultural farmers. An expert was appointed by the Government for the purpose of organizing the farmers, and in due course eighteen co-operative societies (nine dairies and nine wineries) were established, all of which were registered with limited liability under the *Cape Companies Act* (No. 25 of 1892). In addition to these companies a few syndicates were formed for the purchase, with loans obtained from the Government, of fencing material, or of waterbores, windmills, or threshing machines for the common use of members. The hopes which were entertained of these societies at the time of their inception were not, however, realized, and the co-operative scheme was to some extent a failure. At the present time a few of the organizations mentioned are doing well, others are struggling, while a number have signally failed. During the past few years additional societies, registered under the *Companies Act*, have been formed in various parts of the Province, and the majority of these are making satisfactory progress.

The provisions of the *Land Bank Amendment Act* (No. 30 of 1916) empowered the Board of the institution also to make advances to co-operative societies in the Cape of Good Hope and Natal, provided, *inter alia*, that the members by agreement undertook to be liable severally and *in solidum* for the society's debts. The Act came into operation in June, 1916, and seven societies in the Cape were registered under it.

2. **Natal.**—In Natal certain companies of a co-operative nature have been established from time to time with limited liability. Twelve societies have been established in Natal under the provisions of the *Land Bank Amendment Act* mentioned above.

3. **Transvaal.**—The necessity for the establishment of some system of co-operation among the Transvaal farmers arose as the result of the difficulty which they experienced in disposing of their produce at remunerative prices. The matter received the consideration of the Government, and it was decided to encourage the farmers to organize on co-operative lines for the collective disposal of their produce under a central administration. It was felt that legislation would be necessary to regulate the conditions under which co-operation should be carried on, and in 1908 the *Agricultural Co-operative Societies Act* was passed. An important feature of this Act is that the liability of members for the debts of the society is not limited. The work of organizing the farmers was actively carried on and met with a ready response. The first society was registered in Pretoria in 1908, and in a short time societies were formed in practically every district of the Transvaal and were soon actively at work. The necessity soon arose of establishing an agency to represent societies on their principal market, and to obtain contracts for the sale of maize and other produce on their joint behalf. In view of the expense which an undertaking of this nature would entail, the Government agreed to establish an agency on behalf of the societies and to administer and control it for a period of one year, provided that at the end of that time the societies took it over and relieved the Government of further responsibility for the agency. In due course the agency was established on those lines, and when the time came for the societies to take it over it was registered as a private company with limited liability. The agency has effected the main purpose for which it was established, viz., to enable societies to participate in large contracts and to avoid competition with one another.

Although many difficulties had to be contended with in the beginning, the majority of the societies now in active operation are making steady progress, and are attaining a fair measure of success in their principal aim, i.e. to obtain for the farmer a fair price for his produce. All the societies are assisted by loans, either wholly or in part, from the Land and Agricultural Bank.

4. **Orange Free State.**—In the Orange Free State several co-operative creameries were formed, with limited liability, assisted by loans from public funds made between 1906 and 1908, on lines similar to those upon which financial assistance was given to the Cape organizations. The majority of the creameries have made good progress. In 1910 a co-operative agricultural societies Act, identical in all essential respects with the Transvaal Act, was passed. In the Orange Free State as well as in the Transvaal, a keen interest is being evinced by farmers in agricultural co-operation.

5. **Union Co-operative Societies Act, 1922.**—There has recently been a great development of the co-operative movement in every Province of the Union, and farmers of all kinds are keenly interesting themselves in the organization of co-operative marketing associations. To meet the demands of the times, a new Co-operation Act to regulate the constitution of Co-operative Agricultural Societies and Companies throughout the Union was passed during the 1922 session. The *Co-operative Societies Act* (Act No. 28 of 1922) provides for the appointment of a Registrar of Co-operative Societies, and for the formation and registration of agricultural co-operative societies with unlimited and agricultural co-operative companies with limited liability. The principal objects for which these societies and companies may be formed are (i) to arrange the sale of produce and the purchase of agricultural requisites in the most profitable manner, (ii) to recruit and supply labourers, and (iii) to carry on the business of banking and insurance under a co-operative system. The Act further provides for the formation of central and federal co-operative agricultural companies, with objects generally similar to those of the co-operative agricultural societies. Provision is also made in the Act for the management of societies or companies by boards of directors, and for the dissolution, voluntary or compulsory, of societies and companies. Lists of the names and addresses of directors and members of co-operative agricultural companies and societies must be transmitted annually to the Registrar. All the provisions of this Act are applied to every co-operative agricultural society registered under previous Acts. The First Schedule of the Act contains model regulations, which may be adopted by co-operative agricultural societies and companies. The Act came into operation on the 14th August, 1922, a Registrar of Co-operative Societies was appointed, and regulations in regard to applications for registration were issued in that month.

The subjoined statement gives a summary of the transactions of the co-operative agricultural societies registered under Act No. 17 of 1908 (Transvaal) and Act No. 1 of 1910 (Orange Free State) in active operation during the years 1916 to 1921:—

**TRANSACTIONS OF REGISTERED CO-OPERATIVE AGRICULTURAL SOCIETIES IN ACTIVE OPERATION, TRANSVAAL AND ORANGE FREE STATE, 1916 TO 1921.**

Description.	1916.	1917.	1918.	1919.	1920.	1921.
Number of Societies.....	19	22	31	32	39	45
Membership at 31st December..	10,601	9,490	9,680	9,805	11,774	12,339
Produce sold on behalf of Members—						
Malze..... Bags	644,509	510,052	784,615	739,595	532,474	1,045,834
Tobacco..... lb.	1,544,076	2,356,901	1,534,621	2,795,641	3,794,662	3,844,493
Other (Value)..... £	76,159	129,077	142,537	153,317	163,851	267,648
Cattle supplied to Members. £	—	—	16,473	3,950	—	—
Value of Machinery etc. sold to Members..... £	140,352	186,020	172,356	152,208	288,939	180,303

**§ 11. Agricultural Schools and Experiment Farms.**

1. **Description of Establishments.**—Schools of Agriculture and Experiment Farms are established at several points in the Union. A brief description of these schools and farms and the purpose which they serve is given hereunder:—

(i) *Elsenburg (Mulder's Vlei, Cape of Good Hope).*—This was established in 1898 and is the oldest institution of its kind in the Union. The area of the farm and experiment station is approximately 2,600 acres, of which 900 acres are under cultivation. About 125 acres are devoted to vineyards and orchards. The special features of this institution are horticulture, viticulture and wine-making, cereal, and tobacco (Turkish) growing and dairying. An Oenological Institute has been erected here, at a cost of £6,000, for the study of wine-making. The area of operation includes the coastal district from Namaqualand to Knysna, and the districts of Ceres, Worcester, Robertson, Paarl, Tulbagh, and Montagu.

(ii) *Grootfontein (Middelburg, Cape of Good Hope).*—This station was established in 1911 on a large farm, in extent about 25,000 acres, acquired from the Imperial military authorities. The special features here are agriculture (including irrigation) under Karroo conditions, the rearing of ostriches, Merino sheep, Angora goats, and dairying. The

area of operation embraces that portion of the Cape Province lying south of the Orange River (excluding the area served by Elsenberg) and the Transkeian Territories (excluding Griqualand East).

(iii) *Cedara (Natal)*.—The Cedara experiment farm was established in 1902 and the school was opened in 1906. The farm is approximately 2,000 acres in extent. Cattle and maize, forestry (including wattle growing) and sub-tropical agriculture form the special features at this experiment station, and the area of its operation extends to the whole of the Natal Province and Griqualand East.

(iv) *Polchejstroom (Transvaal)*.—This experiment farm was established in 1902 and the school was opened in 1909. The farm comprises about 4,000 acres, some 800 acres of which are under cultivation. Matters relating to agriculture representative of high veld conditions, the cultivation of crops under irrigation and otherwise, stock breeding, and the growing of maize and other cereals are special features of this establishment, and its area of operation covers the whole of the Transvaal Province.

(v) *Glen (Orange Free State)*.—Prior to the constitution of the Union no agricultural school had been established in the Orange Free State, and it was found that the existing Government farms were, in several important respects, unsuitable for such a purpose. In 1912, a farm of approximately 4,000 acres in extent was acquired at Glen, on which an agricultural school and experiment station has been established. The school was opened for students in February, 1919. The area of operation comprises the whole of the Orange Free State, that portion of the Cape Province lying north of the Orange River, and British Bechuanaland.

**2. General Particulars.**—All the above institutions are in close proximity to stations on main lines of railway and are fairly central as regards the areas they serve.

The farms on which the schools are situated are large, well stocked, well equipped, and representative of the agricultural conditions of their respective areas, and they enable the breeding of pedigree live stock and the cultivation of land to be undertaken on a suitable scale for the benefit of students and the improvement of the stock of the country. The laboratory and class-room accommodation and equipment provide suitable facilities for a sound training in the science of agriculture.

The institutions have on their staffs separate lecturers in agriculture and stock, agricultural engineering, veterinary science, chemistry, botany, entomology, dairying, poultry husbandry, and horticulture, and (at Elsenburg) viticulture and wine-making; while there are also experimentalists and itinerant instructors. In addition to their educational duties the staff perform some extension, experiment and research work, and it is contemplated that in due course three more or less self-contained branches will be developed at each institution for college work, experiment and research work, and extension work.

**3. Courses.**—The courses of instruction consist of—

(i) *Ordinary*. Two years' Diploma Course—Animal Husbandry, Field Husbandry, Veterinary Science, Agricultural Engineering, Horticulture, Dairying, Poultry-keeping, Viticulture (at Elsenburg), Agricultural Economics and Law, Farm Book-keeping, Agricultural Chemistry, Agricultural Botany, Agricultural Zoology and Entomology.

(ii) *Special* :—

- (a) Special course in Sheep and Wool, at the Grootfontein School of Agriculture, April to October.
- (b) Special course in Ostrich-farming, at the Grootfontein School of Agriculture, October to December.
- (c) Special course in Dairying, at the Glen School of Agriculture, January to December.
- (d) Students are also accepted for periods of practical training extending to one year.

(iii) *Short Vacation Courses* :—

- (a) Short summer vacation course in Wine-making, one week, at the Elsenburg School of Agriculture.
- (b) Short winter vacation courses at all the Schools of Agriculture, of two or three weeks duration. These comprise special subject courses and general courses. Particulars are published each year in the press.

The ordinary course of two years is essentially one which gives a sound practical as well as a technical training to young farmers, but it does not offer a full training for the agricultural expert or the agricultural scientist. The special courses should provide for those who have already had some experience in these branches of farming, and who are, for various reasons, unable to take and to receive the full benefits of the two-year course. The standard of entrance for the two-year diploma course is the Junior Certificate or its equivalent; and for the special courses the above diploma or previous experience in farming. The minimum age of entrance is respectively 16 years and 18 years. At few such institutions are students given a better opportunity of acquiring some skill in field operations,

the care and management of stock, and practical training in the workshops than at those in the Union.

**Training Farms.**—Two training farms are conducted—Guba Park, near Indwe, and Beginael, Standerton—for the purpose of affording a practical training to prospective settlers on the land. Including schools and training farms, there is provision for the training of upwards of 500 pupils at one time.

**4. Extension Work.**—Considerable progress has been made in developing this class of work, and the extension lectures have been well received by the farming community. During the financial year 1920-21 the staff of the agricultural schools undertook four hundred lectures and demonstrations, chiefly at agricultural shows, at meetings of agricultural bodies, and at other gatherings in the rural districts. About 1,800 farms and poultry yards were visited by the staff for the purpose of giving to the owners or occupiers advice on the management or development of their propositions, and for the inspection of pure-bred herds and flocks for purposes of the stud-book. It is estimated that during the past financial year the schools dealt with some 13,000 inquiries of farmers and others seeking advice and information upon subjects connected with agriculture. The establishment of a special extensions branch of the Department of Agriculture was decided upon in 1922.

**5. Experiment Work.**—A large part of the work on the farms attached to the schools is devoted to experimental work under the direction of specially trained officials. These farms are more or less representatively situated in the several Provinces, so that the requirements of the greater part of the Union are well covered. The experiments undertaken are both varied and comprehensive, and may be classed as follows:—

(i) **Animal Husbandry.**—Experiments are conducted in cattle feeding with different rations, instituted to encourage the export trade in beef, which is beginning to assume promising proportions; in pig and lamb fattening and calf feeding; in crossing pure breeds of cattle, pigs, and sheep with the object of evolving grade animals suited to local conditions; at the Grootfontein School of Agriculture in the crossing of the Cape and North African ostriches to improve the quality of ostrich feathers, and in the breeding of Karaku sheep.

(ii) **Field Husbandry.**—Experiments under this head deal mainly with trials of different varieties of field crops. New varieties are constantly being introduced from abroad and tested. The best among them are retained, distributed for co-operative trial and, should they prove superior yielders, are grown on a large scale for the sale of seed to farmers. Rotation trials, with one or other of the main crops as the dominant feature, are carried out, and the majority of them include some method of maintaining the fertility of the soil, such as the growing of a leguminous crop for green manure. Different methods of cultivation are also tested.

(iii) **Fertilizers and Manures.**—Manurial trials are extensively conducted at each of the stations under the direction of the chemist. The trials are conducted chiefly on the same land upon which a full rotation of crops is cultivated.

(iv) **Miscellaneous.**—Experiments of a varied character are also carried on in the more specialized branches of agriculture, such as horticulture, viticulture, poultry-farming, tobacco culture, etc.

Co-operative experiments with farmers are now well in progress, and include manurial as well as varietal tests under the varying soil conditions of the different farms. It is sought to bring the results home to the farmers by direct demonstration on the spot.

**6. Laboratory Research.**—In addition to the field trials, many subjects have been investigated in the laboratories. At Cedara the tannin contents of wattle bark, and the extraction of bark, the oxidation of arsenite of soda in cattle dipping tanks, and the sugar contents of different varieties of cane, have been investigated; at Grootfontein, the harmful properties of some of the *storm waters* used for irrigation purposes, the innocuous nature of others, and investigation into soil-alkali problems; at Potchefstroom the methods of combating the ravages of the tuber moth on potatoes, and the theory of sex-control plant-breeding investigations; at Elsenburg the improvement of cereals by selection and hybridizing, wine-making, and a study of the nitrification process in the South-West soils. Soil surveys are being carried out more extensively, but as yet the technical staff is too small to undertake a comprehensive detailed survey covering large tracts, however desirable and important such a work would be.

Arrangements are made at each of the schools for the analysis of soils and agricultural materials, and for the testing of milk and seeds required by farmers.

**7. Scholarships.**—During the past eight years, over a hundred scholarships have been awarded to students for special study overseas in agriculture, veterinary science, and the various agricultural sciences, for the purpose of training promising young South Africans to fill posts in the Union Department of Agriculture. The scholarships were of the value of £150 per annum, and have now been increased to £200, the limits of age of candidates are eighteen and twenty-five years; the minimum educational qualification is the

Matriculation Examination of the University of the Cape of Good Hope; and on completion of their courses the recipients of these scholarships undertake, if required, to serve the Government for a period of three or more years. Seventy men have already completed their studies, the majority of whom have received appointments in the Department.

8. **Household Science.**—The principal duties of Household Science officers attached to the department of Agricultural Education are to give lectures and demonstrations upon cookery and the preservation of home products at gatherings in towns and villages—chiefly in the rural districts—as well as at agricultural shows, where these officers frequently act as judges in the women's section and render valuable assistance to societies in organizing this branch of their activities.

9. **Other Facilities.**—In addition to the instruction provided by the Department of Agriculture faculties of agriculture are established at Stellenbosch and Pretoria in connection with the Universities of Stellenbosch and South Africa, and provision is made for courses leading to a degree in agriculture.

In May, 1921, a special committee, under the chairmanship of Dr. W. J. Viljoen, was appointed to consider chiefly the question of establishing a greater measure of co-ordination and co-operation between existing institutions engaged in agricultural training. The recommendations of the committee, which issued its report in July, 1922, aimed at the promotion of these objects and the encouragement of agricultural education generally. It was recommended that agricultural faculties should be placed under the control of the Minister of Agriculture, and that in addition to granting a degree, university institutions possessing faculties of agriculture should afford specialized training for, or following, a degree. The suggestion was also made that special agricultural secondary schools should be established at carefully selected centres, and that provision for the agricultural training of women should be made at the Mariëndal Farm, near Elsenburg.

10. **Sales of Stock.**—Sales of surplus stock bred on the farms are held annually at each of the schools.

11. **Expenditure and Revenue.**—The following table gives particulars of the expenditure and revenue in connection with Agricultural Education for the financial years 1916-17 to 1920-21:—

**AGRICULTURAL EDUCATION, EXPENDITURE AND REVENUE,  
1916-17 TO 1920-21.**

Heading.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
<b>EXPENDITURE.</b>					
	£	£	£	£	£
Administration and General.....	3,286	3,349	4,105	4,888	5,920
Agricultural School—					
Eisenberg.....	12,892	18,725	15,857	19,054	27,097
Grootfontein.....	17,215	20,012	22,959	30,724	36,837
Cedara.....	10,884	11,078	12,451	12,375	15,700
Potchefstroom.....	16,138	19,530	22,171	24,491	27,718
Glen.....	7,208	7,936	11,470	14,941	25,041
Experiment Station—					
Bathurst.....	—	—	—	—	248
Winkelspruit.....	1,032	962	1,177	1,319	1,390
Transvaal College of Agriculture.....	98	—	—	—	—
Household Science.....	470	44	445	446	294
Agricultural Scholarships and Bursaries.....	1,793	1,491	2,804	4,849	8,177
Purchase of Pedigree Stock.....	1,943	2,404	6,230	3,920	8,067
Redundant Officers.....	—	—	—	—	—
Pretoria Experiment Station.....	164	347	—	—	—
<b>TOTAL.....£</b>	<b>72,923</b>	<b>81,778</b>	<b>99,669</b>	<b>117,410</b>	<b>155,149</b>
<b>REVENUE.</b>					
Agricultural School—					
Eisenberg.....	4,851	5,577	6,277	8,040	9,431
Grootfontein.....	5,927	10,657	18,281	15,167	7,883
Cedara.....	4,876	5,037	6,487	5,967	6,204
Potchefstroom.....	8,245	11,312	12,707	10,333	10,089
Glen.....	2,163	4,605	5,865	5,743	6,429
Experiment Station—					
Winkelspruit.....	977	326	2,512	772	1,679
Miscellaneous.....	922	825	1,224	2,451	1,522
<b>TOTAL.....£</b>	<b>27,961</b>	<b>38,339</b>	<b>48,443</b>	<b>48,473</b>	<b>48,237</b>

§ 12. Forests.

1. **General.**—The Union is comparatively a poorly timbered country, and although fairly considerable areas of forest or scrub are known to have disappeared before axe and fire within the last century or two, there appears to be no reason to believe that it was ever, as a whole, a heavily timbered country during the present geological period. There seems to be no ground for supposing that even scrub forests were found on the High Veld or Karoid Veld of the interior, while the same remark applies to a large part of the mountain slopes and the country between the mountains and the sea.

2. **Scrub Forests.**—Roughly speaking the forests of this country may be classed as *dense timber forests* and *savannah and scrub forests*, and the latter form by far the greater proportion. They cover extensive areas known variously as *Thorn veld*, *Bush veld* or *Middel veld*, in addition to the *Low veld* of Natal and the Transvaal. Numerous species enter into their composition, but various kinds of Acacias predominate, and of these the common *Mimosa*, *Acacia karoo*, is the most widespread. Many of the species yield timbers of good qualities, e.g. the wild Olive (*Olea verrucosa*), the Karree-boom (*Rhus luncea* and *viminialis*), the Camelthorn (*Acacia giraffae*), Knoppiesdoorn (*Acacia pallens*), Apiesdoorn (*Acacia Burkei*), African Teak (*Adina gulpini*), and Kajatenhout (*Pterocarpus angolensis*). These trees sometimes reach a moderately large size, sufficient for sawing into timber, but over much of the more accessible areas where they occur, the mature timber has already disappeared. Generally speaking, the trees are of small size and slow growth, and their often scattered distribution and the open nature of the forests do not render such forests suitable for economic forest management. These trees comprise, however, an asset of much value for fuel, fence posts, and other local uses, as well as for shelter for stock and protection against soil erosion. The land on which they are situated has mostly passed into private ownership or is situated within native reserves. Unfortunately, the value of scrub forests is often not realized by the owners, and the destruction of the forests has proceeded ruthlessly in the past, and is still continuing to a large extent. In the category of scrub forests should be included the bushy growth found along much of the coast. A good deal of this has been set apart as Government forest reserves for the prevention of the formation of sand-dunes. Data are not available to give even a rough estimate of the total area of the scrub forests, but the area of Government forest reserves classified as such is roughly 120,000 acres.

3. **Timber Forests.**—These are found only on the seaward slopes of the mountain ranges within usually less than 100 miles of the coast, and at widely scattered intervals from the Cape Peninsula in the south-west to the Zoutpansberg Mountains in the north-east. Even on the mountain ranges where they occur they seldom occupy any extensive area continuously, but are almost always found in isolated patches of from a few acres to a few thousand acres each, in the *kloofs* or ravines.

(i) *Midland Conservancy, Cape Province.*—The largest of the more or less continuous areas of forest are found within a strip of country some 110 miles long and ten miles broad between the Outeniqua Mountains and the sea, extending from George through Knysna to the Humansdorp Division. It has been estimated that roughly 120,000 acres of this country are occupied by forests. These have been heavily exploited during the last century or more, and the *virgin* timber in them is approaching exhaustion. The principal species composing these forests, and the main uses of their woods are as follows:—

**TREES COMPOSING CERTAIN FORESTS AND USES OF WOOD.**

<i>Podocarpus Thunbergii</i> .....	Real Yellowwood.....	} Flooring boards and other building timbers; railway sleepers; joinery and furniture; naves for wagons, etc.
<i>Podocarpus elongata</i> ....	Common Yellowwood.....	
<i>Curtisia faginea</i> .....	Assegai.....	Wagon-wood (spokes, felloes, etc.).
<i>Ocotea bullata</i> .....	Black Stinkwood or Laurel.	Wagon-wood, furniture.
<i>Olea laurifolia</i> .....	Black Ironwood.....	Wagon-wood.
<i>Apodytes dimidiata</i> ....	White Pear.....	Wagon-wood.
<i>Gonioma kamassi</i> .....	Kamassi-wood.....	Exported to Europe for the manufacture of shuttles for weaving, etc.

(ii) *Western Conservancy, Cape Province.*—From George westwards to the Cape Peninsula, scarcely anything remains of the forests which were once found on the mountains, and which were exploited from the earliest days of white settlement in South Africa. They were allowed to be destroyed by fire, and small patches of forests remain only in the more inaccessible kloofs. In the Cedarberg Mountains, north of Cape Town, a distinct type of forest occurs, namely, that of the Clanwilliam Cedar (*Heddingia juniperoides*). This species does not form continuous forest, but the trees grow singly or in small groups, scattered



on the rocky slopes and crags. The wood is, perhaps, the best of all South African timbers, being a durable light softwood, and the larger trees in all the more accessible parts have long disappeared before the axe. Since the area was made a forest reserve all possible means have been adopted to protect it from fire and to assist regeneration.

(iii) *Eastern Conservancy, Cape Province.*—The timber forests occur chiefly on the Amatola and Pirie mountain ranges, but nowhere do they cover continuous areas of any great extent. These forests have been largely exploited in the past, and few of them still contain any appreciable quantity of virgin timber. In composition they are generally similar to those of Knyana, the most notable differences being that the valuable Stinkwood (*Ocotea bullata*) occurs only rarely in the forests of the Eastern Province, while on the other hand they contain much Sneezewood (*Placocrylon utile*), the wood of which is one of the most durable timbers known, and is of great value for fence posts.

Kamaasi wood is of rare occurrence, but the true Cape Box (*Borus Macowani*), yielding a valuable wood not much inferior to the European boxwood, is found in fair abundance in the Alexandria and East London Divisions, forming, with Sneezewood and some other species, a type of low but dense forest in the neighbourhood of the coast.

(iv) *Transkeian Territories.*—The timber forests here are, in general, similar in distribution and composition to those of the Eastern Province, but somewhat extensive forests occur at intervals along the coast. The species constituting these are very varied, and include, in addition to the species of the Eastern Province, many others of more northern range, such as Cape Mahogany (*Trichilia emetica*), Umzimbiti (*Millettia caffra*), Umgeema (*Bussonia umbellifera*), and Flatcrown (*Albizia latigiata*). Considerable quantities of Cape Box (*Borus Macowani*) also exist in these forests.

Some of the more accessible of the Transkeian forests have been heavily worked in the past, but many of them, including most of the coast forests and some fine forests of nearly pure Yellowwood (*Podocarpus falcata*) in the northern part of the Territories, have been too inaccessible to allow of profitable utilization.

(v) *Natal.*—The forests of Natal are now of small extent, the greater proportion of those which once existed having passed out of Government ownership or been included in native locations, and much of the area once occupied by them has been deforested. Generally speaking, they may be grouped as mountain and coast forests like the Transkeian forests, and are of more or less similar composition. A special feature of some of the coast forests is the large proportion of Waterwood (*Syzgium cordatum*), a comparatively light, easily worked wood. Some of the Crown forests have been heavily worked in the past, but there are some well-stocked forests of virgin timber, largely Yellowwood, still existent on the reserves in the southern districts of Natal.

(vi) *Transvaal.*—The timber forests occur at widely scattered intervals on the mountain ranges along the eastern edge of the plateau from the Natal border northwards, and are of small extent, with the exception of some comparatively large and continuous areas on the easterly slopes of the Woodbush Mountains and, to a less extent, on the outlying Zoutpansberg Range, in the extreme north. With the exception of a few thousand acres of still virgin forest in parts of these ranges, the forests have all been heavily worked in the past and little merchantable timber remains.

4. *Extent of Plantations and Indigenous Forests.*—The area of all plantations and indigenous forests in the Union (including Government plantations and forests), as returned at the Agricultural Census of 1921, is shown in the following table, which gives the area under different species in the plantations in each Province:—

**PLANTATIONS AND INDIGENOUS FORESTS (INCLUDING GOVERNMENT PLANTATIONS AND FORESTS)—AREA AT 30th APRIL, 1921.**

Provinces.	Plantations.						Indigenous Forests.	
	Gums.	Conifers.	Poplars.	Wattles.	Other Species.	Total.	Dense or True Forest.	Scrub or Dwarf Forest.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Cape of Good Hope.....	24,742	38,757	7,329	15,110	27,783	113,721	521,336	2,368,255
Natal.....	14,197	3,524	902	222,778	6,625	248,426	147,200	128,192
Transvaal.....	80,272	10,587	4,707	40,289	14,803	139,658	107,652	4,064,910
Orange, Free, States.....	23,099	8,667	6,970	1,240	12,335	57,326	1,429	152,528
<b>TOTAL.....</b>	<b>127,810</b>	<b>61,586</b>	<b>19,914</b>	<b>288,426</b>	<b>61,546</b>	<b>568,731</b>	<b>777,617</b>	<b>6,713,886</b>

The area of the timber forests situated on the Government forest reserves forms by far the greater proportion of the total, but the combined area is only about 400,000 acres.

**5. Regeneration and Growth of the Timber Forests.**—In many of the forests, particularly in those of the Eastern Province, natural regeneration is very deficient, but in others, as in those of Knyana and some of the Transkeian forests, it is more abundant. In the majority of the forests, when in virgin state, the proportion of trees of pole size was low, and when exploitation of the forests occurred in the past little or no heed was given to the preservation of the young trees or to securing conditions favourable for natural reproduction. Often over-mature and rotten trees were the only trees left, and even since the Forest Department has taken charge of the forests, it has often been necessary to leave such trees owing to the fact that they were unmerchantable, and to there being an insufficient number of immature trees left to preserve the forest canopy. Moreover, the young growth in many of the forests was continuously destroyed by natives for the sake of hut-wattles, and grazing and fires have contributed to its destruction. Almost all the species of trees are of slow growth. For all these reasons it will be seen that many of the forests are necessarily not in a normal condition, and that, although it is not intended to allow the young growth to reach the dimensions or ages of the virgin timber, a considerable period of time must, as a general rule, elapse before much mature timber from them will again be available.

**6. Relation of the State to Forestry.**—Until 1876 no central or technical control was exercised over the Crown forests of the Cape Colony, but in that year a Department of Forests and Plantations was constituted, and in 1881 a Superintendent of Woods and Forests was appointed. In 1891 this post was abolished, and the four Conservancies into which the Colony had been divided were thereafter administered independently by four Conservators, until in 1905 a Chief Conservator of Forests was again appointed. In the Transvaal and the Orange Free State the Crown Colony Governments, about the year 1903, established Forest Departments as sub-divisions of the respective Agricultural Departments. In Natal no settled policy was followed, but the post of Conservator of Forests was twice made and abolished, the administration of the forests being in the hands of the Director of Agriculture from 1908 onwards. When the Union was established in 1910 the four Departments were immediately combined under one Chief Conservator of Forests, and uniformity of administration has since been maintained. In 1913 a *Forest Act* for the Union was passed (Act No. 16 of 1913). This Act, which came into force on the 1st November, 1913, consolidates and amends the forest laws previously in force in the various Provinces of the Union; and relates to forest tenure, forest reservation, demarcation, and the regulation and protection of forests. With certain modifications it follows the principles laid down by the Cape *Forest Acts* No. 28 of 1888 and No. 20 of 1902.

In terms of the Union Act forest reserves consist of both demarcated and undemarcated reserves. The penalties imposed in respect of offences within the demarcated forests are, as a rule, severer than those levied in the case of offences in undemarcated forests. The Act confers upon the Government the power of expropriation of land for certain forestal purposes and provides that no servitudes can now be acquired by prescription over the forest estate. Certain portions of the Act deal specifically with the protection of private forests, but, in addition, any owner of a private forest may have any or all of the provisions of the Act applied to his forests for their better protection. All trees growing on the side of any road and not being on private property are, in terms of the Act, subject to the control of the Forest Department, provided they are not within the limits controlled by a municipality or other similar public body.

On the 31st March, 1921, the forest reserve areas comprised 1,693,116 acres demarcated, and 520,986 acres undemarcated, representing a total of 2,214,102 acres.

Demarcation is still proceeding, especially in the Transkeian Territories, where a considerable area of timber forest remains to be dealt with.

**7. Policy of the Forest Department.**—The policy of the Forest Department may be briefly stated to be as follows:—

- (a) To protect and conserve the indigenous timber forests and to utilize their products in such a manner as not to impair but rather to increase their future productivity. Funds are voted annually by Parliament for this purpose, and are mainly spent on protection from fire, and on artificial reproduction where natural regeneration is lacking. The destruction of young growth by natives for hut-wattles has been almost entirely stopped as a result of the establishment of plantations of exotic species to supply this product. The cash revenue derived from the indigenous forests during the financial year 1920-21 was £48,413. In addition many thousands of pounds' worth of forest produce (chiefly firewood and hut-wattles) were removed free of charge.
- (b) To increase the production of timber in the country by the formation and proper management of plantations of exotic trees, numerous species, yielding

either the ordinary softwoods of commerce or durable softwoods of the cedar and cypress classes, or durable hardwoods such as some of the eucalypts, are principally employed, the selection of species varying in different parts of the country according to the climate and soil.

The afforested area of the Government plantations on the 31st March, 1921, was 86,342 acres. The expenditure under this head during the financial year 1920-21 was £112,634, and the cash revenue derived from the plantations in the same period was £72,841. These figures include those for the railway sleeper plantations, the management of which is undertaken by the Forest Department, and also include the cost of raising transplants for sale to the public, and revenue derived from this and from sales of seed.

A good deal of the vacant ground included in the forest reserves is suitable for afforestation, with which steady progress is being made.

The earlier plantations are beginning to yield considerable returns from thinnings, but mature timber will not be ready for cutting for some years, except on small areas.

The Department also undertakes the reclamation of drift-sands on the coast, where required, in addition to protecting the natural vegetation, with a view to preventing the formation of new drift-sands.

- (c) To encourage the general afforestation of the country by inducing farmers and others to plant trees for purposes of shelter, to provide wood for fuel, and for other local uses. With this object the Forest Department disposes of forest trees and seeds at very low prices, and it is always ready to give advice as to the selection of species, methods of cultivation, and the like. Its officers also give lectures at some of the Agricultural Schools.

During the financial year 1920-21, 4,697,622 transplants were sold and otherwise disposed of from the Government nurseries; of this number some 133,307 were issued gratis to Government institutions. By far the greater proportion of these trees was planted in the Transvaal and the Orange Free State, on the treeless high veld.

While only a few private plantations of any extent have been established with the object of producing mature saw timber, fairly large areas have been planted by companies or private individuals with the object of producing mine-props.

The most extensive private plantations, however, are those of black wattle for the production of tan-bark, and the area of these in Natal, where the industry is centred, is estimated to be approximately 220,000 acres, the total area for the Union being probably about 288,000 acres.

**8. Organization of the Forest Department.**—The Department is controlled by the Chief Conservator of Forests, who is also the Accounting Officer, and it is a sub-department of the Department of State controlled by the Minister of Agriculture.

The Department is divided into seven Conservancies, which in turn are divided into districts. These are as follows:—

**CAPE PROVINCE, WESTERN CONSERVANCY.**—Conservator of Forests, Cape Town. District Forest Officers, Tokai, Kluitjes Kraal, Elgin.

**CAPE PROVINCE, MIDLAND CONSERVANCY.**—Conservator of Forests, Kuysna. District Forest Officers, George, Knysna, Storms River.

**CAPE PROVINCE, EASTERN CONSERVANCY.**—Conservator of Forests, King William's Town. District Forest Officers, King William's Town, Fort Cunynghame, Port Elizabeth, Stutterheim, Keiskama Hoek.

**CAPE PROVINCE, TRANSKEIAN CONSERVANCY.**—Conservator of Forests, Umtata. District Forest Officers, Butterworth, Kokstad, Umtata, Mount Frere.

**TRANSCAAL CONSERVANCY.**—Conservator of Forests, Pretoria. District Forest Officers, Doornboom, Pretoria.

**ORANGE FREE STATE CONSERVANCY.**—Conservator of Forests, Bloemfontein. District Forest Officer, Bloemfontein.

**NATAL CONSERVANCY.**—Conservator of Forests, Pietermaritzburg. District Forest Officers, Pietermaritzburg, Eshove.

The number of District Forest Officers, including Assistant District Forest Officers, is thirty. Each district usually comprises several forest stations, which are in charge of Foresters, of whom there are approximately one hundred and thirty-six.

**FOREST SCHOOL.**—A lower-grade forest school is conducted at Tokai, Cape Province, for the training of Foresters, the course occupying nine months after an apprenticeship period of one year.

**RESEARCH BRANCH.**—This is attached to the office of the Chief Conservator of Forests, Pretoria, and undertakes research and the collection of data relating to all branches of forestry, especially silviculture and the utilization of forest products. It includes charge of herbarium and museum. Investigations into the seasoning of wood in modern kilns are now being carried out.

**RECRUITMENT OF OFFICERS.**—Officers of the higher grade are recruited from South African students who have obtained the degrees or diplomas of the European or American forest schools of high standing. The Government gives nominations in advance, and sometimes grants a few scholarships to enable selected students to attend the forest schools.

**9. Revenue and Expenditure of Forest Department.**—The subjoined tables give particulars of expenditure and revenue of the Union Forest Department in the financial years 1919-20 and 1920-21, distinguishing railway sleeper plantations from ordinary forestry operations:—

### FORESTRY EXPENDITURE AND REVENUE, FINANCIAL YEARS 1919-20 AND 1920-21.

#### (a) EXPENDITURE.

Forestry (exclusive of Railway Sleeper Plantations).			Railway Sleeper Plantations.		
Heading.	1919-20.	1920-21.	Heading.	1919-20.	1920-21.
	£	£		£	£
Salaries and allowances..	68,672	84,131	Salaries and allowances..	6,351	8,973
Transport.....	10,558	12,606	Transport.....	227	242
Nurseries and plantations.	56,137	76,922	Nurseries and plantations.	22,982	26,498
Forest protection and development.....	7,637	12,583			
Uniforms.....	1,918	2,034			
*Afforestation with white labour.....	21,604	28,838			
Scholarships and School of Forestry.....	3,271	1,980			
Miscellaneous.....	1,206	1,628			
<i>Expenditure from Loan Funds.</i>					
Loan plantations.....	41,227	45,257			
Soldiers' scholarships.....	—	2,391			
Employment of soldiers on loan plantations.....	5,396	5,075			
Miscellaneous.....	17	2			
<i>Expended from Mines Dept. Funds.</i>					
Unemployment relief.....	—	17,128			
<b>TOTAL.....£</b>	<b>217,643</b>	<b>290,575</b>	<b>TOTAL.....£</b>	<b>29,560</b>	<b>35,713</b>

#### (b) REVENUE.

	£	£		£	£
Sales of—			Sales of—		
Timber.....	75,641	56,179	Timber.....	2,521	3,642
Firewood.....	11,574	11,085	Firewood.....	1,108	2,026
Charcoal.....	41	29	Charcoal.....	789	879
Hut-wattles, etc.....	3,164	4,215	Wattles.....	1,585	2,111
Bark.....	679	756	Bark.....	—	337
Minor Produce.....	30,318	37,544	Minor produce.....	4,558	4,146
<b>TOTAL.....£</b>	<b>121,415†</b>	<b>110,498‡</b>	<b>TOTAL.....£</b>	<b>10,561</b>	<b>13,140</b>

\* Refers to two schemes inaugurated during 1917-18 at the Jonkersburg and Frenchhoek Forest Reserves where white labour of the "poor white" class is wholly employed.

† Value of gratis issues in addition to sales amounted to £21,160.

‡ Value of gratis issues in addition to sales amounted to £12,518.

10. *Imports of Unmanufactured Timber.*—The subjoined table gives particulars of the quantity and value of unmanufactured timber imported into the Union during a series of years:—

**QUANTITY AND VALUE OF UNMANUFACTURED TIMBER IMPORTED INTO THE UNION, 1910 TO 1921.**

Year.	Teak.		Hickory.		Jarrah and Karri.		Mahogany.	
	Cub. Ft.	£	Cub. Ft.	£	Cub. Ft.	£	Cub. Ft.	£
1910...	230,111	82,965	42,031	5,723	256,773	17,372	8,410	1,800
1911...	226,361	84,028	55,774	9,622	279,358	19,739	11,545	2,850
1912...	160,800	67,692	80,325	10,977	274,825	20,299	11,318	5,111
1913...	224,423	97,776	40,617	6,557	405,528	28,742	11,793	3,857
1914...	211,798	86,364	21,296	3,008	679,197	43,185	5,802	1,430
1915...	116,527	52,315	16,231	2,733	119,410	9,061	4,022	1,100
1916...	62,852	19,027	11,943	2,190	237,907	22,504	4,022	1,569
1917...	102,923	61,553	2,253	458	66,293	6,207	592	278
1918...	118,897	43,117	—	—	111,566	10,881	10,573	2,917
1919...	300,804	183,255	4,563	1,376	160,000	18,727	3,751	723
1920...	300,448	237,647	4,497	2,516	242,406	32,000	24,406	9,581
1921...	213,874	148,055	1,724	683	273,966	59,209	178,557	27,739

Year.	Oak.		Pine.		Poplar.*		Walnut.	
	Cub. Ft.	£	Cub. Ft.	£	Cub. Ft.	£	Cub. Ft.	£
1910.	95,940	12,552	11,296,621	636,927	102,490	14,761	68,488	7,670
1911.	97,445	12,851	10,782,085	581,056	74,171	10,736	67,847	7,683
1912.	137,618	18,350	7,756,330	449,981	100,990	14,563	101,320	12,706
1913.	153,124	20,655	10,054,938	570,080	98,457	12,601	67,674	9,850
1914.	114,782	15,733	7,822,898	409,597	42,079	5,774	42,637	6,337
1915.	194,633	26,439	4,050,136	248,506	34,539	5,212	42,182	5,238
1916.	196,443	35,933	5,290,474	432,912	50,954	8,155	33,863	6,304
1917.	157,728	27,280	4,406,812	429,822	23,026	3,568	23,068	3,672
1918.	389,668	79,102	3,568,148	473,598	38,213	7,162	7,284	943
1919.	165,562	39,406	4,173,818	604,823	31,218	9,756	3,866	2,259
1920.	427,719	209,758	8,778,049	1,594,999	46,923	24,261	24,526	12,308
1921.	154,493	67,148	4,008,672	652,011	11,870	5,736	16	13

Year.	Other Timber (not otherwise described).		Floorings and Ceilings.		Other (planned and grooved).	
	Cub. Ft.	£	Cub. Ft.	£	Cub. Ft.	£
1910.....	785,162	48,504	2,858,616	182,344	290,703	30,726
1911.....	1,276,286	57,150	2,806,752	192,395	275,509	33,536
1912.....	2,253,067	120,370	2,844,430	194,838	295,150	38,626
1913.....	1,113,828	64,944	3,982,194	260,501	351,827	38,110
1914.....	1,026,419	63,358	2,041,974	143,434	176,930	18,927
1915.....	490,011	37,531	1,012,261	70,665	110,165	12,309
1916.....	397,966	39,758	1,192,961	156,416	108,858	12,572
1917.....	403,568	29,087	900,859	145,290	55,638	7,245
1918.....	581,753	57,529	933,535	209,277	53,409	11,597
1919.....	577,063	75,963	1,036,575	204,179	53,065	11,380
1920.....	902,531	177,297	2,216,443	545,976	165,089	49,352
1921.....	657,458	36,710	1,127,953	244,350	35,383	12,188

\* Probably this is chiefly Yellow Poplar or Tulp and not true Poplar (Populus).

In addition, manufactured timber to the value of £707,238 and £359,375 was imported in 1920 and 1921, making a total value of £3,803,588 and £1,663,217 respectively.

The exports of South African woods during 1920 and 1921 were of a value of £11,687 and £7,339 respectively.

11. **Forest Products.**—The yield from the Government forest reserves and plantations during the financial years 1916-17 to 1920-21 was as follows:—

**GOVERNMENT FOREST RESERVES AND PLANTATIONS—YIELD OF TIMBER, 1916-17 TO 1920-21.**

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	Cub. Ft.	Cub. Ft.	Cub. Ft.	Cub. Ft.	Cub. Ft.
<b>From Indigenous Forests—</b>					
Timber*.....	1,006,994	960,808	1,189,383	1,124,819	1,208,563
Firewood.....	1,888,339	1,861,044	2,267,375	1,141,584	2,229,183
Hut-wattles, fencing droppers, etc....	55,987	24,326	65,893	80,679	125,870
<b>From Plantations—</b>					
Timber*.....	444,640	629,362	603,080	1,328,321	629,634
Firewood.....	1,219,707	1,594,260	1,988,179	1,592,478	1,195,838
Hut-wattles, fencing droppers, etc....	79,163	106,009	135,060	108,700	121,108
<b>From Railway Sleeper Plantations—</b>					
Timber*.....	57,797	78,930	75,830	70,958	77,261
Firewood.....	242,133	534,091	123,081	112,068	201,928
Hut-wattles, fencing droppers, etc....	5,384	31,595	35,496	46,784	67,282
<b>TOTAL.....</b>	<b>5,000,144</b>	<b>5,620,515</b>	<b>5,884,577</b>	<b>5,606,205</b>	<b>5,847,667</b>

\* Includes mine-props, fencing poles, etc.

Of wood produced other than on the forest reserves, a large quantity is cut annually in the wattle plantations, and though a good deal of it is wasted owing to inaccessibility, much of it is used for fuel, mine-props, etc., and a small part of it is converted into boxwood. Private plantations yield a large proportion of the props used in the gold and other mines. Considerable quantities of wood from the scrub forests on private property are used for fuel, charcoal, fence posts, and other local requirements. A small amount of wood in both scrub and timber forests on private ground is converted into sawn timber.

A large proportion of the sawn wood produced in the Union is used for wagonwood and furniture for which purposes many of the South African woods are particularly suitable. Yellowwood is used for railway sleepers as well as for general construction timbers. Smaller proportions of the total are converted into such articles as boxes and tool-handles.

The following table gives the production from all plantations and indigenous forests in the Union, as returned at the Agricultural Census of 1921, in respect of the year ended 30th April, 1921:—

**PRODUCTS FROM PLANTATIONS AND INDIGENOUS FORESTS, YEAR ENDED 30th APRIL, 1921.**

Product.	Cape.		Natal.		Transvaal.		Orange Free State.		Union.
	Plantations.	Forests.	Plantations.	Forests.	Plantations.	Forests.	Plantations.	Forests.	
Railway sleepers									
No.	3,100	44,400	3,000	4,200	—	17,000	—	200	71,900
Mine props...No.	3,589	2,593	139,116	24	26,120	4,985	21	123	176,573
Wagon wood									
Cub. ft.	6,601	175,620	2,100	2,700	1,400	67,400	—	—	255,821
<b>Timber—</b>									
For industrial purposes* C. ft.	645,900	741,900	297,700	86,200	29,300	30,800	27,400	—	1,840,300
For non-industrial purpose†									
Cub. ft.	949,300	920,725	108,700	43,600	438,500	91,600	51,900	5,800	2,610,125
Fuel and charcoal wood. Wgnlts.									
Charcoal (manufactured)....lb.	43,216	113,805	43,476	2,081	12,590	36,880	3,047	5,691	261,686
	340,100	2,012,900	1,196,300	22,000	1,598,500	1,637,300	25,600	343,900	7,176,600

\* E.g. Saw timber, Railway and Harbour works, buildings, match factories, etc.  
 † E.g. Fencing posts, fencing droppers, building spars, etc.

12. **Minor Forest Industries.**—(i) *Wattle Bark.*—This is by far the most important of the minor forest industries of the Union. It is a well-established one, and promises to have a future of continued expansion and prosperity. It has been developed by private

enterprise, notably in Natal, where, as already mentioned, the greater proportion of the approximate total of 288,000 acres of private wattle plantations is situated. The area of wattle on the Government plantations is insignificant by comparison, the areas which exist consisting for the most part only of belts established for the purpose of fire protection.

The following table gives the production of wattle bark from all plantations in the Union, as shown in the Agricultural Census of 1921:—

**PRODUCTION OF WATTLE BARK IN THE UNION, YEAR ENDED 30th APRIL, 1921**

Heading.	Cape.	Natal.	Transvaal.	Orange Free State.	Union.
Area clear cut Acres.	486	17,450	1,463	—	19,399
Yield.....lb.	1,729,700	109,361,600	3,484,400	—	118,575,700

The exports of (i) wattle bark and (ii) bark extract from the Union (the Cape of Good Hope and Natal Provinces) during a series of years were as follows:—

(i) **WATTLE BARK—EXPORTS, 1915 TO 1921.**

Year.	United Kingdom.	Australia.	United States.	Germany.	Japan.	Belgium.	Holland.	Other Countries.	Total.
QUANTITY.									
1915..	Tons. 23,968	Tons. 8,496	Tons. 1,540	—	Tons. 3	—	—	Tons. 323	Tons. 44,831
1916..	22,299	8,817	12,733	—	890	—	—	9,082	56,971
1917..	25,508	9,041	3,138	—	1,966	—	—	6,823	46,375
1918..	29,960	4,253	2,479	—	5,764	—	—	1,506	53,962
1919..	20,909	6,946	20,291	—	5,937	1,810	2,620	4,909	63,222
1920..	26,480	3,213	20,470	2,466	5,682	2,220	2,183	5,858	78,911
1921..	14,298	3,199	6,777	28,188	10,985	1,449	2,781	2,596	79,942

VALUE.

Year.	£	£	£	£	£	£	£	£	£
1915..	150,415	35,102	6,156	—	13	—	—	3,558	195,244
1916..	129,287	24,772	59,570	—	4,063	—	—	43,172	254,844
1917..	181,116	39,856	14,266	—	9,285	—	—	29,479	213,982
1918..	218,484	19,472	12,232	—	29,700	—	—	7,332	287,220
1919..	135,664	35,854	122,026	—	35,347	11,797	19,578	25,830	384,096
1920..	325,697	23,653	108,647	22,160	44,467	18,127	16,455	42,309	672,515
1921..	90,688	16,482	36,476	214,886	60,914	8,791	16,203	12,978	457,318

(ii) **BARK EXTRACT—EXPORTS, 1916 TO 1921.**

Year.	United Kingdom.	Australia.	United States.	Germany.	Japan.	Belgium.	Holland.	Other Countries.	Total.
QUANTITY.									
1916..	Tons. 491	—	—	—	—	—	—	—	491
1917..	1,184	45	6	—	45	—	—	112	1,392
1918..	3,564	292	—	—	133	—	—	180	4,169
1919..	6,513	249	35	—	13	—	31	39	6,880
1920..	7,641	310	713	—	217	59	17	641	9,498
1921..	3,590	40	684	714	63	238	92	46	5,489

VALUE.

Year.	£	£	£	£	£	£	£	£	£
1916..	14,930	—	—	—	—	—	—	—	14,930
1917..	42,202	1,900	168	—	1,550	—	—	4,000	49,520
1918..	103,600	10,360	—	—	4,505	—	—	6,410	124,875
1919..	204,440	7,094	1,089	—	1,300	—	940	1,223	216,086
1920..	293,449	11,043	16,292	—	8,124	2,261	581	22,210	323,970
1921..	72,296	697	15,444	12,595	1,550	4,501	1,872	854	112,809

The main market for the bark is Germany, but during the War the United Kingdom occupied the leading position in this respect. The leather manufacturers in Great Britain, have, however, for the most part, required their tanning material in the form of extract. Efforts have been made to secure a greater market for the bark in Great Britain, and factories for the production of the extract have been established in South Africa.

(ii) *Buchu*.—This product, which is used for medicinal purposes, consists of the dried leaves of two or three species of *Barosma*, shrubs which grow on the mountains of several of the south-western districts of the Cape Province. The most valuable kind is *Barosma betulina*, which grows principally in the Cedarberg Mountains, but also in the Tulbagh, Ceres, and Piquetberg Divisions. There is a considerable demand for this product in Europe and America, and large quantities are exported annually. The export in 1921 was 124,842 lb., value of £21,257, or 3s. 6d. per lb.

The greater part of the output is obtained from privately owned lands.

During 1920-21 the revenue derived from buchu collected on the forest reserves and railway sleeper plantations was £12,975, the quantity collected being 27,000 lb.

(iii) *Berry Wax*.—This is obtained from the berries of *Myrica cordifolia*, a shrub growing on the coast sands in the neighbourhood of Cape Town. It is used locally for floor polish, etc., and is also suitable for soap manufacture. A few tons of it are exported annually.

13. **Reserved Indigenous Trees.**—In terms of regulations framed under the *Forest Act*, No. 16 of 1913, the trees named in the following list are reserved indigenous trees within the several Provinces of the Union:—

**LIST OF RESERVED INDIGENOUS TREES.**

Botanical Name.	English Name.	Dutch Name.
<i>Acacia albidia</i> , Delile.....	—	—
<i>Acacia giraffae</i> , Burch.....	Camel Thorn.....	Kameeldoorn.
<i>Acacia pallens</i> (Benth), Rolfe.....	Knobthorn.....	Knopjesdoorn.
<i>Adina Galpini</i> , Oliver.....	African Teak.....	Mingerhout.
<i>Afzella quanaensis</i> , Welw.....	Rhodesian Mahogany.....	—
<i>Albizia fastigiata</i> , Oliv.....	Flat Crown.....	—
<i>Apodytes dimidiata</i> , E. Mey.....	White Pear.....	Witte Peer.
<i>Bolusanthus speciosus</i> (Bolus), Harms.....	Elephant's Wood.....	Van Wijkhout.
* <i>Brachylena dentata</i> , Less.....	Malbar.....	Malbar.
*† <i>Brachylena discolor</i> , D.C.....	Forest Vaalbosch.....	Vaalbosch.
<i>Bridelia mierantha</i> , Baill.....	—	—
<i>Buxus Macowani</i> , Oliv.....	Cape Box.....	Bulg mij niet.
<i>Callitris arborea</i> , Schroder.....	Glanwilliam Cedar.....	Ceder.
<i>Calodendron capense</i> , Thunb.....	Wild Chestnut.....	Kaastanjehout.
* <i>Celastrus acuminatus</i> , L.....	Silkbark.....	Zijdebaat.
† <i>Celastrus pedunculatus</i> , Sonder.....	Zwarthout.....	Zwarthout.
<i>Celtis rhamnifolia</i> , Presl.....	Camdeboo Stinkwood.....	Witte Stinkhout, Camdeboo Stinkhout, Witgatboom.
<i>Chrysophyllum viridifolium</i> .....	—	—
<i>Combretum Kraussii</i> , Hochst.....	Bush Willow.....	Rodeblad.
<i>Combretum porphyrolepis</i> , Engl. and Diels.....	Leadwood.....	Loodhout.
<i>Croton</i> sp. (Slm 2435).....	—	—
<i>Cryptocarya</i> sp.....	—	—
<i>Cunonia capensis</i> , L.....	Red Alder.....	Rode Els.
<i>Curtisia faginea</i> , Ait.....	Assagal Wood.....	Assagalhout.
<i>Cussonia umbellifera</i> , Sond.....	Coast Cabbage Wood.....	—
<i>Cycloctenium argutus</i> , Mill.....	—	—
<i>Diospyros mespiliformis</i> , Hochst.....	Hill Matomi.....	Jackhalsbesje.
<i>Ekebergia capensis</i> , Sparm.....	Dog Plum, Cape Ash.....	Esehout.
<i>Ekebergia Meyeri</i> , Presl.....	—	Esehout.
<i>Elaeodendron croceum</i> , D.C.....	Saffron Wood.....	Saffraanhout.
<i>Elaeodendron sphaerophyllum</i> , Presl.....	Cape Cherry.....	Koodoobesje.
‡ <i>Erythrina caffra</i> , Thun.....	—	Kafferboom.
<i>Eugenia Gerrardi</i> , Harv.....	—	—
† <i>Eugenia Zeyheri</i> , Harv.....	White Underbush.....	—
† <i>Excoecaria africana</i> , Mull.....	—	—
† <i>Excoecaria caffra</i> .....	Cape Sandal.....	—
<i>Faurea saligna</i> , Harv.....	Boekenhout.....	Beukehout.
<i>Faurea</i> sp.....	—	Beukehout (Pondoland).
<i>Garcinia Gerrardi</i> , Harv.....	Ebony.....	—
<i>Gardenia Rothmannia</i> , L.....	Wild Gardenia.....	Wilde Katjepiering.

\* Not reserved in the Eastern Conservancy.  
 † Not reserved in the Transkeian Conservancy.  
 ‡ Not reserved in the Natal Conservancy.  
 § Not reserved in the Transvaal Conservancy.



## LIST OF RESERVED INDIGENOUS TREES—continued.

Botanical Name.	English Name.	Dutch Name.
<i>Gonioma kamassi</i> , E. Mey.....	Kamassi.....	Kamassi.
<i>Harpophyllum caffrum</i> , Benth.....	Kaffir Plum.....	Kafferpruim, Zuurbeaja.
<i>Heywoodia lucens</i> , Sim.....	Cape Ebony.....	—
† <i>Homallium rufescens</i> , Benth.....	—	—
† <i>Ilex capensis</i> , Sond. and Harv.....	Water Tree.....	Wittehout, Waterhout.
<i>Kiggelaria africana</i> , L.....	Wild Peach.....	Spekhout, Wilde Perske.
† <i>Kiggelaria Dregeana</i> , Turcz.....	Wild Peach.....	Spekhout, Wilde Perske.
* <i>Lachnostylis capensis</i> , Turcz.....	Cogwood.....	Koolhout.
<i>Leucadendron argenteum</i> , R. Br.....	Silver Tree.....	Witteboom.
<i>Millettia caffra</i> , Meisn.....	Kaffir Ironwood, Umzimbiti.....	Kaffer Ijzerhout, Umsimbiti.
<i>Mimusops obovata</i> , Sond.....	Red Milkwood.....	Rode Melkhout.
<i>Myrsine melanophloeos</i> , R. Br.....	Cape Beech.....	Beukehout.
† <i>Nuxia floribunda</i> , Benth.....	Wild Alder.....	Vlier.
<i>Ochna arborea</i> , Burch.....	Cape Plane.....	Rodehout.
† <i>Ochna</i> sp.....	Plane.....	Rodehout.
<i>Ocotea bullata</i> , E. Mey.....	Black Stinkwood.....	Stinkhout.
<i>Olea foveolata</i> , E. Mey.....	Bastard Ironwood.....	Ijzerhout.
<i>Olea laurifolia</i> , Lamk.....	Black Ironwood.....	Regte Zwarte Ijzerhout.
<i>Olea verrucosa</i> , Link.....	Wild Olive.....	Olijvenhout.
<i>Olina cymosa</i> , Thunb.....	Mountain Hard Pear, Red Berry.....	Rooibessie, Rodehout.
<i>Pyllanthus amapanensis</i> .....	Engossa Red Pear.....	—
<i>Platylophus trifoliatus</i> , Don.....	White Elder.....	Witte Ela.
† <i>Plectronia Mundiana</i> , Pappe.....	Rock Alder.....	Klip Esse.
<i>Plectronia obovata</i> .....	Quar.....	Quar.
<i>Pleurostylia capensis</i> , Oliv.....	Coffee Pear.....	Harde Peer.
<i>Podocarpus elongata</i> , L'Herit.....	Outeniqua or Bastard Yellowwood.....	Geelhout.
<i>Podocarpus Thunbergii</i> , Hooker.....	Real or Upright Yellowwood.....	Oprechte Geelhout.
<i>Ptaeroxylon utile</i> .....	Sneezewood.....	Nieshout.
<i>Pterocarpus angolensis</i> , D.C.....	—	Kajat.
<i>Pterocelastrus variabilis</i> , Meisn.....	Candlewood.....	Kershout.
<i>Pygeum africanum</i> , Hook.....	Bitter Almond, Red Stinkwood.....	Bitter Amandel, Rode Stinkhout.
<i>Rhamnus Zeyheri</i> , Sond.....	Red Ivory.....	Rode Ivoor.
<i>Rhus baevigata</i> , L.....	Red Currant.....	Kirrhout, Bos Taaibos.
<i>Rhus longifolia</i> , Sonder.....	Red Cape Beech.....	Rode Melkhout.
†† <i>Royena lucida</i> , L.....	Zwartbast.....	Zwartbast.
†† <i>Scelopia Ecklonii</i> , Arn.....	Red Pear.....	Rode Peer.
<i>Scelopia Mundtii</i> , Arn.....	Red Pear.....	Rode Peer.
<i>Scelopia Zeyheri</i> , Arn.....	Thorn Pear.....	Doornpeer, Welvedoorn.
<i>Sideroxylon inerme</i> , L.....	White Milkwood.....	Witte Melkhout.
<i>Strychnos Athertonii</i> , Harv.....	Cape Teak.....	Kapatenhout.
<i>Strychnos Henningii</i> .....	Hard Pear.....	Harde Peer.
<i>Syzygium cordatum</i> , Hochst.....	Water Berry.....	Waterbeaja.
<i>Syzygium</i> sp.....	—	Water Peer.
<i>Terminalia sericea</i> , Burch.....	—	Vaalbosch.
<i>Toddalia lanceolata</i> , Lamk.....	White Ironwood.....	Witte Ijzerhout.
<i>Tricalysia lanceolata</i> .....	—	Tofballie.
<i>Trichilia emetica</i> , Vahl.....	Natal Mahogany.....	Rooi Essehout.
<i>Trichocladus cinnatus</i> , Pers.....	Underbush.....	Onderbos.
†† <i>Trichocladus ellipticus</i> , E. and Z.....	Underbush.....	Onderbos.
<i>Virgilia capensis</i> , Lamk.....	Keur.....	Keur.
<i>Vitex moolensis</i> , Pearson.....	—	—
<i>Zanthoxylon capense</i> , Harv.....	Knobwood.....	Paardepraam.
And all Exotic Trees.		

\* Not reserved in the Eastern Conservancy.

† Not reserved in the Transkeian Conservancy.

†† Not reserved in the Natal Conservancy.

## § 13. Fisheries.

1. **The Fishing Industry of the Cape of Good Hope.**—(i) *History of the Industry.*—The fishing industry is one which has to a large extent been neglected, and the earliest settlers in this country found little encouragement in developing it. Van Riebeeck, the first Governor, issued peremptory instructions that they were not to “waste their time in fishing,” and this continued to be the spirit in which the calling was viewed until comparatively recent times. Some of the freed slaves, were, however, allowed to engage in fishing. These were chiefly Malays, who to this day constitute the chief fishing population.

\* Contributed by J. D. F. Gilchrist, M.A., Ph.D., D.Sc., Marine Biologist, Cape Province.

Long after the time of van Riebeeck, obstacles were placed in the way of the development of the fishing industry, and only 150 years ago Colonists were forbidden to establish fishing stations at any distance from Cape Town, as this necessitated protection from headquarters. Fishing was, indeed, allowed at Saldanha Bay, but, as a 15 per cent. royalty was demanded on the proceeds, no one cared to take advantage of the permission. The native fishermen pursued their calling with the aid of small open boats, which they carried up on to the beach out of the reach of the waves on each return from the fishing grounds, a habit which they have preserved up to the present, when the necessity for it has ceased, as for instance in Table Bay, where it is now quite safe to anchor the boats. They fish almost exclusively by hook and hand line, and, to a limited extent, by seine nets in certain localities. Drift and trammel nets are unknown, and set nets are not much used. There is no long line fishing. Until comparatively recently it was often easy to glut the limited market with fish, and to prevent such an undesirable state of affairs the fishermen regulated the quantities of fish caught, and little was to be feared from any disturbance of their monopoly.

(ii) *Later Development.*—Within the last thirty or forty years, owing partly to the increased white population and the consequent demand for fish, attention has been directed to the possibilities of developing the fisheries. Modern methods of fishing, such as long line fishing and trawling, were attempted by private enterprise, but did not prove successful. The use of the long line was rendered difficult on account of the large number of dog-fish which infest South African waters. Trawling was tried in Table Bay and elsewhere. At Port Elizabeth it was taken up by the steam tugs in their spare time, and an area in Algoa Bay, of somewhat limited extent, was regularly visited, and afforded a small supply of soles. In the year 1895 the attention of the Government of the Cape Colony was drawn to the undeveloped state of the fisheries, and the need for some action to be taken in the matter. An officer was appointed for the purpose of obtaining definite and reliable information as to the resources of the South African seas, and to advise as to what steps should be taken to place the industry on a more satisfactory basis, both with regard to its development and to its conservation. A steam trawler, the *Pieter Faure*, specially designed for experimental work, was built, and a systematic investigation commenced. This investigation was initiated and carried out under the Department of Agriculture, of which the late Sir Pieter Faure was then Secretary. Details of the work are embodied in reports of Government biological and marine investigations in South Africa, published by the Government of the Cape of Good Hope. Briefly stated it was found that, while long line fishing and net fishing generally were not impracticable, yet the most promising line of development was that of trawling. Though the West Coast proved unsuitable, some very large hauls of the trawl were made in False Bay, and, on proceeding to the large area of the Agulhas Bank, certain extensive pieces of ground were, after careful survey, found not only to be suitable for trawling, but to afford phenomenal quantities of soles. The trawling area in False Bay proved to be limited and somewhat patchy, and, although two small vessels, owned by private firms, soon afterwards began working the ground surveyed, no very important progress was made. The soles were limited as to numbers, small, and of inferior quality. On the other hand, the area found further afield (first at Mossel Bay), though admirably adapted for trawling, and with an abundant supply of valuable soles, was so far removed from the market that some difficulty was experienced in opening it up. Further survey showed that other areas, both on the Agulhas Bank and on the East Coast near Bird Islands, were excellent trawling grounds, and several large modern trawlers are now landing fish from these areas, so that the fish supply has been recently about doubled. The fisheries survey was resumed in 1920, a trawler, s.s. *Pickle*, being utilized for the purpose, and valuable results have accrued from their more recent investigations. In 1911 (according to Census returns), the catch of fish by Cape fishermen was about 116,000 cwt., while in 1913 (according to Customs returns) the catch of fish by Cape trawlers represented 125,000 cwt. Subsequent figures are given in paragraph (vii) below.

(iii) *Cape Fishing Pursuits.*—The development of Cape fisheries has not been along the lines customary to such enterprises. Owing to the lack of harbours in which large boats can find shelter, and to some extent to the apathy and conservatism of the native fishermen, there has been no transition stage from the utilization of small open rowing boats to that of large modern steam vessels, and there are no large-decked sailing boats which find shelter in small fishing harbours. The construction of small fishing harbours is the next desideratum in the progress of the fishing industry to allow of the use of the decked sailing boats so characteristic of the fishing industry of Europe. Initial steps have already been taken in this direction, and the accomplishment of the desired object would probably mean the rise of a new and enterprising race of fishermen, and probably the improvement of certain branches of fishing at present neglected. The fishing industry and its possible development cannot, however, be exactly on the same lines as in Europe, the fish themselves being in some degree different in kind and habit; but there is enough similarity to justify the conclusions—already partly proved—that there is a great opening for improved methods in the catching, curing, and distribution of fish on modern lines.

(iv) *Fish Varieties*.—The following brief review of the Cape fish and fisheries gives a concrete idea of the industry and its possibilities:—

- (a) *Snoek*.—The *Snoek* (the *Barracouta* of Australia) was about twenty years ago one of the most abundant of Cape fish. At that time it was caught in enormous numbers during the season, and was exported to Mauritius. It is a fish peculiar to the southern hemisphere, occurring in the waters round Chili, Tristan da Cunha, the south-west of the Cape, and the south-west of Australia. Of recent years it has, to a large extent, disappeared, and with it one of the most characteristic features of the Cape fisheries. It may be that this fish is to be found in other localities too distant to be visited by small open boats.
- (b) *Silverfish, Hottentots, Pangas, Red Stumpnose, etc.*—These fish are more or less stationary in their habits, and are the staple fish of the fishing industry. They are caught by hand lines, and are usually fairly abundant, though of late years the fishermen complain of scarcity. This they attribute, among other things, to the destruction of the fry and eggs by the trawl. This question and the kindred one of the destruction of immature fish was investigated by the Cape Government by means of the prospecting steamer and a small marine laboratory. It was shown that the allegations were without foundation, and the new industry was saved from the untimely end which was the fate of a previous venture, referred to below. It has been demonstrated on a small scale that some of these fish are well adapted to the process of smoking, and they would undoubtedly compete satisfactorily with the great quantities of imported smoked fish with which the South African market is supplied.
- (c) *Geelbek, Kabeljauw, and Stockfish*.—These are among the most important of the large migratory fish. The *Geelbek* (often known as the *Cape Salmon*) is a large handsome fish with a superficial resemblance to the salmon, but with no real affinity to the *Salmonidae*. It is not often caught in the trawl, but is frequently taken in large quantities by hook and line. The *Kabeljauw* and the *Stockfish* are said to be identical with the *Maigre* and the *Hake* of European seas. They are caught both by line fishing and by trawl, by the first named sometimes in great quantities. With these larger migratory fish is included the brilliantly coloured *Seventy-four*, more abundant in the warmer waters of the East Coast, where it is known as the *Silverfish*, the *Silverfish* of the West Coast being known as *Carpenters*. With modern methods of fishing and with larger boats, which would enable the line fishermen to proceed further out to sea, these large and valuable fish could doubtless be procured in greater quantities.
- (d) *Smaller Migratory Fish*.—Among the smaller migratory fish are the *Mackerel*, the *Harder*, the *Herring*, and the *Anchovy*. The *Mackerel* is very little different from the European species, and occurs abundantly at certain seasons. It is not, however, looked upon with favour by the fishing community, and is even regarded as poisonous, and indeed it may have proved so when preserved by some of the rough-and-ready methods once in vogue. An enterprising American some years ago visited the Cape with a schooner and brought nets for the express purpose of procuring a fish which is appreciated at its true value in America. Great quantities were procured, but the native fishermen made such strong representations as to the damage caused, especially to the *spawn* of fish, that in the absence of better information, the Legislature was induced to pass a law forbidding the use of such nets. Of the smaller migratory fish neither the *Herring* or *Sardine*, nor the *Anchovy*, is put on the South African market, which is flooded with tinned sardines, smoked herring and haddocks, and other European fish.
- (e) *Flat Fish*.—The investigations of the Government have shown that a sole, equal in value to the European sole, occurs in great abundance on the Agulhas Bank. South Africa is now better supplied with this fish than Britain, and its exportation in ice to Europe may be quite a feasible enterprise.
- (f) *Crawfish*.—A species of crawfish occurs very abundantly in the colder waters of the West Coast, from Cape Point northwards. For many years, owing to defective canning and other causes, the crawfish industry made little or no progress, but recently great advances have been made, and at the present time a very extensive export trade is being carried on. Thus in 1920 there were fifteen factories engaged in this industry, each dealing on an average with more than a million crawfish.
- (g) *Oysters*.—The *Rock oyster* was formerly very abundant; a fair supply is yet obtained from some places, and for these good prices are secured. The supply has, however, become very limited, yet there is every prospect that with artificial propagation and adequate care a valuable industry may be established. The *English Oyster* might be cultivated in some of the more sheltered bays, such as

Saldanha Bay, Knysna, and Zwartkops. Experiments have actually been made in this direction, but, although the oyster thrives well, no sustained and systematic oyster culture has been attempted.

(v) *Whales*.—Of recent years great improvements in the method of capturing whales and in their subsequent treatment have been effected; and various species, formerly of little value, now comprise the basis of important industries in various parts of the world. In South Africa the revival of this old industry has been rapid. The value of whale oil exported from South Africa in 1920 was £233,079, and in 1921, £26,191.

(vi) *River and Enclosed Water Fisheries*.—The rivers of the Cape Province were remarkable for the poverty of their fish fauna. The *Kurper*, or native carp, is a small fish; the *Wil-visch*, a kind of barbel, is of little value from a sporting or economic point of view; and the same is to be said of the *Moggel* or mud-fish. Trout, carp, and other fish have been introduced from overseas, and have proved a success. Trout are now established in many rivers in the Cape, Natal, and Transvaal Provinces, and in Rhodesia. The introduced carp thrive remarkably well in the numerous dams and enclosed waters in the country; and there is a continuous and growing demand for the ova and fry of trout and carp which are reared at the Government hatcheries.

(vii) *Statistics*.—The following tables (i) and (ii) give figures relating to the whaling and fisheries industries of the Cape of Good Hope:—

(i) **WHALING INDUSTRY, CAPE OF GOOD HOPE, 1915 TO 1920.**‡

YEAR.	COMPANIES OPERATING.	PERSONS EMPLOYED.		VESSELS EMPLOYED (STEAM).	WHALES CAPTURED.	VALUE OF CATCH.
		WHITE.	OTHER.			
1915.....	3	175	235	13	855	£ 106,100
1916.....	4	204	320	16*	925	132,500
1917.....	3	169	322	14	1,047	227,200
1918.....	3	155	250	13†	643	176,433
1919.....	2	130	177	12‡	640	237,375
1920.....	2	85	230	16	674	193,710

\* Exclusive of 3 motor-boats. † Exclusive of 2 motor-boats. ‡ Exclusive of 4 motor-boats.  
§ There were no whaling operations in 1921.

(ii) **FISHERIES (EXCLUDING WHALING), CAPE OF GOOD HOPE, 1914 TO 1921.**

YEAR.	FISH LANDED.		PERSONS EMPLOYED (ALL RACES).	VESSELS EMPLOYED.		TOTAL.
	Quantity.	Value.		Steam and Motor-boats.	Sailing and Rowing-boats.	
1914.....	lb.	£	4,542	88	874	962
1915.....	•	30,819	3,911	83	735	818
1916.....	•	•	3,600	110	725	836
1917.....	10,089,709†	121,561	3,910	130	676	806
1918.....	7,973,212‡	67,095	4,597	157	730	887
1919.....	23,494,629	171,563	4,761	154	773	927
1920.....	•	•	2,200	201	810	1,011
1921.....	38,213,362	336,040	4,127	192	764	956

\* No figures available.  
† Represents catch of the following stations: Simonstown (including all stations in southern part of Cape Peninsula), Hout Bay, Bredasdorp (Struis Bay), Mossel Bay, Knysna, Port Elizabeth, and East London.  
‡ Represents catch at the stations mentioned in the preceding note and at Somerset Strand.

2. *The Fishing Industry of Natal*.—(i) *Early Legislation*.—As early as the year 1867 the fisheries of Natal were made the subject of legislation, a law being promulgated in that year to regulate the capture of fish within the bay or harbour of Natal. An amended Law (No. 13 of 1880) made extended provision for the same purpose and over the same area.

By this law licences for the capture of fish by fish kraals and certain specified nets were obtainable on payment of an annual licence fee of £1. Contraventions of the enactment were punishable by fine, or in certain cases by imprisonment for a period not exceeding one month. Half the amount of fines recovered was payable to informers. In 1881 the Government of Natal appointed a Commission to inquire into the subject of the pollution of streams in the coast districts of Natal. This Commission, while not directly connected with the fishing industry, put forward valuable recommendations affecting the interests of the Natal fisheries.

(ii) *Later Legislative Provision.*—In 1883 the Natal Fisheries Industry Commission recommended the framing of an amended and more comprehensive law, with the result that in the ensuing year the *Fisheries Law* (No. 21 of 1884) was passed with jurisdiction extending to all waters of the Colony of Natal in which fish were found. The control of the waters of the bay of Port Natal, of the ocean beach to Umgeni, and over the tidal waters of the rivers Umgeni, Umbilo, and Umhlatuzana, was vested in the Natal Harbour Board, and of all other districts in the magistracy of the Division. This law contained provisions and penalties similar to those previously in existence, and also fixed close seasons. Provision was further made for the taking and culture of oysters, whilst the pollution of fishing areas was also dealt with. Laws No. 18 of 1887, No. 27 of 1890, and No. 17 of 1901, extended the provisions of the law referred to, and further regulated and protected salmon and trout fisheries. In 1903 a change in the administration of these enactments was brought about by the appointment of a fisheries inspector, and the gradual absorption of the administrative work in so far as coastal fisheries were concerned, in one office, under the direction of the secretary to the Natal Harbour Department. As a result of the experience thus gained, the *Coast Fisheries Act* (No. 31 of 1906), operative from the 1st January, 1907, was promulgated repealing all existing statutes relating to coast or sea fisheries, the inland or fresh-water fisheries being governed as previously. From that date the Natal Fisheries Department became more fully organized. An extended scheme of licensing was instituted. The fees ranged from 10s. to £10 per annum, according to the nature of the licences issued, and the penalties for contraventions of the law were increased. The Act of 1906 was amended and added to by the Natal Provincial Council in Ordinances No. 12 of 1912, No. 2 of 1913, and No. 4 of 1914, dealing principally with the whaling industry and the question of pollution. In view of the larger experience gained, the greater interest displayed in the potential value of the local fisheries, and the more extended operations of those concerned, the opportunity was taken in 1916 of re-codifying the governing enactments by the passage through the Natal Provincial Council of the *Natal Fisheries Ordinance*, No. 11 of 1916, a measure which provides for the conservation, control, protection, and regulation of the fisheries of Natal. This Ordinance embraced the coastal and inland fisheries and virtually repealed all previous enactments; and it is anticipated that the measure will prove of considerable value. The Ordinance became operative on the 1st July, 1916, but only of practical effect from the 1st January, 1917, with the promulgation of a code of regulations. The Ordinance and Regulations were drafted by the Natal Fisheries Advisory Board and the Natal Fisheries Board respectively. Provision is made for a comprehensive system of licensing and for effective supervision, while substantial penalties are enforceable for offences. In its terms the Ordinance provides for effective supervision under the Natal Fisheries Department, and for the constitution of the Natal Fisheries Board, while prospective work in the direction of scientific inquiry and development are amply provided for when the Administration is able to undertake or direct such action in the interests of the industry.

Regulations governing the licensing and control of the Inland Fisheries were promulgated and became operative on the 1st September, 1919.

(iii) *Natal Fisheries Department.*—The establishment of the Natal Fisheries Department at the end of 1921 consisted of (a) the Natal Fisheries Board of seven members, with the Principal Fisheries Officer as secretary; (b) the officials of the Department; (c) forty-two persons acting as honorary fisheries inspectors in the various districts of the Province; and (d) the Curator, Provincial Trout Hatchery at Estcourt.

(iv) *Commissions and Boards.*—In 1901 certain investigations on Natal Fisheries were conducted under the direction of Dr. J. D. F. Gilchrist, Government Biologist of the Cape of Good Hope, during a limited period of the year and over a limited area. The results of these investigations will, it is proposed, be followed by extended inquiries leading to a more established industry, the potentialities of which are now being fully realized. The recommendations of Government Inquiry Commissions in 1911 and 1914 were followed in December of the latter year by the appointment of the Natal Fisheries Advisory Board; and this body was succeeded on the 1st July, 1916, by the Natal Fisheries Board constituted under the Ordinance of that year. As a result of representations made in the Provincial Council, another Commission was, in December, 1920, appointed by the Administrator to investigate and report on matters affecting the fishing industry in the Province, and a report by this body was issued on the 23rd April, 1921, the recommendations contained therein receiving the attention of the Administration.

(v) *Fish Varieties.*—The following list includes the more important edible species of fish obtained on the Natal coasts:—

FISH FOUND IN NATAL WATERS.

<i>Local Name.</i>	<i>Scientific Name.</i>	<i>Local Name.</i>	<i>Scientific Name.</i>
Barracuda.....	<i>Cyblum commersoni.</i>	Pampano.....	<i>Trachynotus ovatus.</i>
Blackfish.....	<i>Dinoperca quicketti.</i>	Parrotfish.....	<i>Julis umbrostigma.</i>
Blacktail.....	<i>Sargus rondeletti.</i>	Prodigal Son.....	<i>Elacate nigra.</i>
Bream, Silver.....	<i>Chrysophrys natalensis.</i>	Pike, Sea.....	<i>Sphyræna jello.</i>
Bream, River.....	<i>Chrysophrys aostaurus.</i>	Queen-Fish.....	<i>Chorhemus saneti-petri.</i>
Bream, Black.....	<i>Chrysophrys rolinsoni.</i>	Ribbon-fish.....	<i>Trichurus laumela.</i>
Bream, Butter.....	<i>Cyphosus fuscus.</i>	Salmon.....	<i>Sciaena aquila.</i>
Bream, Bronze.....	<i>Cantharus natalensis.</i>	Salmon, Rock.....	<i>Lutianus salmonoides.</i>
Brusher.....	<i>Sargus durbanensis.</i>	Sand-fish.....	<i>Platycephalus insidiator.</i>
Cod, Rock*.....	<i>Epinephelus Sp.</i>	Shad.....	<i>Pomatomus satrix.</i>
Concertina Fish.....	<i>Drepane punctata.</i>	Springer.....	<i>Klops machnata.</i>
Galjoen.....	<i>Dipterodon capensis.</i>	Snock.....	<i>Cyblum lineatum.</i>
Garrick.....	<i>Lichia amia.</i>	Stonedish.....	<i>Scorpius lithophilus.</i>
Geelbek.....	<i>Otolithus argilidens.</i>	Surgeon.....	<i>Acanthurus natoides.</i>
Greyskin.....	<i>Diagramma ariseum.</i>	Tassefish.....	<i>Polynemus sextarius.</i>
Grunter.....	<i>Pristigaster epercardare.</i>	Threadfin.....	<i>Chærope natalensis.</i>
King-fish.....	<i>Caranx hippos.</i>	Wrasse.....	<i>Sargus cervinus.</i>
Lady-fish.....	<i>Abula conorhynchus.</i>	Zebra.....	
Moonfish.....	<i>Trachynotus russellii.</i>		
Mullet, Red.....	<i>Upeneus natalensis.</i>		
Mullet, Grey.....	<i>Mugil capito.</i>		
Mussel Cracker.....	<i>Pagrus nigripinnis.</i>		

and *Chupeled Sp.,* *Keating's,* Sardines, Anchovies, etc.

\* A large number of species of rock-cod, including the Black Sea Bass.

The species of edible fish generally taken by line-fishing vessels near shore include the following:—

<i>Local Name.</i>	<i>Scientific Name.</i>	<i>Local Name.</i>	<i>Scientific Name.</i>
Barbol.....	<i>Galeichthys feliceps.</i>	Leather Jacket....	<i>Basilistes mitis.</i>
Blueskin.....	<i>Dentex natalensis.</i>	Scavenger.....	<i>Lethrinus scoparius.</i>
Dagger-head.....	<i>Pagrus pugicephalus.</i>	Scotchman.....	<i>Dentex, præorbitalis.</i>
Dane.....	<i>Chrysophrys dentatus.</i>	Slinger.....	<i>Chrysophrys puncteus.</i>
Englishman.....	<i>Chrysophrys anglicus.</i>	Soldier.....	<i>Dentex miles.</i>
Grayskin.....	<i>Lutianus griseus.</i>	Wrasse, Deep Sea.	<i>Cosmophrys sp.</i>

The edible species for which little or no market use is found include the following:—

<i>Local Name.</i>	<i>Scientific Name.</i>	<i>Local Name.</i>	<i>Scientific Name.</i>
Dog-fish.....	<i>Scyllium sp.</i>	Shark, Blackfin...	<i>Caraharias limbatus.</i>
Eels, Rock*.....	<i>Muraena.</i>	Shark, Blue.....	<i>Odontaspis tricuspidatus.</i>
Hounds.....	<i>Mustelus sp.</i>	Shark, Tiger.....	<i>Galeocerda rayneri.</i>
Ray, Eagle.....	<i>Dicerobatis eregodoo.</i>	Shark, Hammer-headed.....	<i>Zygaena sp.</i>
Ray, Marbled.....	<i>Trygon uarnak.</i>	Shark, Sand.....	<i>Rhinobatus columnæ.</i>
Ray, Short Tail...	<i>Trygon sp.</i>	Skate, Bonnet....	<i>Aetobata narinari.</i>
Saw-fish.....	<i>Pristis sp.</i>		
Shark, Black.....	<i>Caraharias melanopterus.</i>		

\* Several species.

(vi) *Revenue and Expenditure.*—Statistical returns of the Natal Fisheries are not available prior to 1907, and then only on information furnished to a limited extent. As the importance of the work became fully evident, and facilities for securing statistical data were gained, records were instituted for comparative and other purposes.

So far as the figures and information are available, the following table may be taken as reflecting the position of the Natal Fisheries for a series of years :—

**NATAL FISHERIES—REVENUE AND EXPENDITURE, 1916 TO 1921.**

Particulars.	1916.	1917.	1918.	1919.	1920.	1921.
Revenue.....	£ 1,235	£ 1,269	£ 1,178	£ 1,353	£ 1,280	£ 1,225
Expenditure.....	777	842	1,042	1,600	4,269*	4,472*

\* Including part cost of fisheries survey—£2,624.

(vii) *Whaling Industry.*—The whaling industry in Natal waters was established in 1908. The species of whales found off the Natal coast include the following :—

Humpback Whale.....	<i>Megaptera nodosa islandii.</i>
Common Borqual or Finner.....	<i>Balaenoptera physalus.</i>
Blue Whale.....	<i>Balaenoptera musculus.</i>
Rudolph's Borqual or Selval.....	<i>Balaenoptera boisealis.</i>
Sperm, or Cachalot.....	<i>Physeter macrocephalus.</i>

Occasionally the Right Whale, or Nordkaper, is met with during the whaling period. The number of whales killed between the years 1908 to 1921 was 9,832. The Dolphin is abundant all the year round. The species found in Natal waters is *Gray's Turriops catalania*, a species very destructive to shoal fish.

The subjoined particulars gives the results of the operations for a series of years :—

**WHALING INDUSTRY, NATAL, 1917 TO 1921.**

Particulars.	1917.	1918.	1919.	1920.	1921.
Companies operating.....No.	2	1	2	2	3
Capital invested.....£	—	—	—	424,047	524,027
Persons employed.....No.	596	119	366	489	786
Vessels employed.....No.	8	3	11	15	17
Whales captured.....No.	176	142	641	704	1,071
Oil produced.....Tons.	1,101	739	3,256	4,346	6,255
Fertilizers....."	457	217	958	1,215	2,447
Bolled bone....."	148	107	268	628	1,045
Whale finners....."	—	—	11	28	27
Whale meat....."	—	—	55	—	—
Value of production.....£	36,901	33,210	174,635	238,617*	188,800

\* It is difficult for the companies to render accurate monthly returns, as most of the products of the whales are dispatched to European markets for sale on consignment, which necessarily means that the actual values are not obtainable until months later. Therefore, these figures must be treated as estimates only.

(viii) *Further Statistics.*—The following table gives the extent and value of the catch in Natal waters during the a series of years, together with the average price per lb. :—

**FISHERIES (EXCLUDING WHALING), NATAL, 1912 TO 1921.**

YEAR.	FISH LANDED.				
	By Seagoing Craft.	By Seiners.	By Kraal.	By Licensed Anglers and by other means.	Total.
(a) QUANTITY.					
	lb.	lb.	lb.	lb.	lb.
1912.....	2,289,700	300,547	12,757	16,661	2,619,665
1913.....	2,399,648	285,470	18,228	22,003	2,725,349
1914.....	2,257,191	261,654	31,595	29,007	2,579,447
1915.....	2,146,001	331,926	19,857	57,943	2,555,727
1916.....	2,377,520	328,963	13,902	56,012	2,776,397
1917.....	2,378,554	349,068	7,678	26,104	2,761,404
1918.....	1,967,123	338,558	5,844	17,361	2,328,886
1919.....	1,978,005	212,543	10,617	33,945	2,235,110
1920.....	2,786,882	327,565	11,450	50,800	3,176,697
1921.....	2,717,733	248,369	12,639	83,162	3,061,903

FISHERIES (EXCLUDING WHALING), NATAL, 1912 TO 1921—*continued.*

YEAR.	FISH LANDED.				Total.
	By Seagoing Craft.	By Seiners.	By Kraal.	By Licensed Anglers and by other means.	
(b) VALUE.					
	£	£	£	£	£
1912.....	23,230	2,632	143	202	26,207
1913.....	23,717	2,534	237	277	26,765
1914.....	23,367	2,372	398	337	26,474
1915.....	21,180	2,916	258	733	25,087
1916.....	23,246	2,890	189	704	27,029
1917.....	25,974	3,049	107	327	29,457
1918.....	21,976	3,600	85	217	25,778
1919.....	21,608	3,350	180	609	25,747
1920.....	35,660	5,162	234	1,007	42,063
1921.....	50,003	3,343	294	1,965	54,735

YEAR.	(c) AVERAGE PRICE PER LB.				
	d.	d.	d.	d.	d.
1912.....	2.43	2.10	2.32	2.96	2.40
1913.....	2.38	2.13	3.11	3.00	2.36
1914.....	2.49	2.17	3.02	2.79	2.46
1915.....	2.36	2.10	3.17	3.03	2.36
1916.....	2.35	2.11	3.25	3.02	2.34
1917.....	2.62	2.09	3.35	3.00	2.56
1918.....	2.68	2.48	3.49	3.00	2.66
1919.....	2.62	3.78	4.06	4.30	2.76
1920.....	3.07	3.78	4.91	4.76	3.18
1921.....	4.41	3.23	5.58	3.16	4.25

YEAR.	CRUSTACEA AND OTHERS.				Total Fish, Crustacea, etc.
	Prawns and Shrimps.	Crabs and Crayfish.	Turtle	Oysters.	

YEAR.	(a) QUANTITY.				
	lb.	lb.	lb.	doz.	lb.*
1912.....	11,790	3,356	98	19,032	2,634,909
1913.....	14,589	2,996	328	17,891	2,743,262
1914.....	18,844	5,734	464	13,577	2,604,489
1915.....	22,254	4,953	352	11,405	2,583,286
1916.....	22,177	4,026	385	17,747	2,802,985
1917.....	13,134	2,380	—	17,741	2,776,918
1918.....	24,203	1,761	—	15,444	2,354,850
1919.....	27,576	4,507	—	16,638	2,267,193
1920.....	21,863	4,391	150	22,021	3,203,101
1921.....	28,290	8,063	—	14,680	3,098,256

\* Excluding oysters.



FISHERIES (EXCLUDING WHALING), NATAL, 1912 TO 1921—*continued*.

YEAR.	CRUSTACEA AND OTHERS.				Total Fish, Crustacea, etc.
	Prawns and Shrimps.	Crabs and Crayfish.	Turtle.	Oysters.	

## (b) VALUE.

	£	£	£	£	£
1912.....	590	69	1	812	27,679
1913.....	728	67	3	779	28,342
1914.....	767	116	2	601	27,960
1915.....	710	115	3	527	26,442
1916.....	849	85	4	840	28,807
1917.....	575	61	—	873	30,966
1918.....	816	48	—	754	27,396
1919.....	972	128	—	813	27,660
1920.....	1,140	156	3	1,066	44,448
1921.....	1,257	263	—	734	56,989

## (c) AVERAGE PRICE PER LB.

	d.	d.	d.	(per doz.) d.	d.*
1912.....	12.00	4.90	1.98	10.24	2.45
1913.....	11.82	5.35	2.37	10.45	2.41
1914.....	9.76	4.87	0.84	10.64	2.52
1915.....	7.75	5.97	1.74	11.09	2.41
1916.....	9.19	5.06	2.50	11.35	2.39
1917.....	10.51	6.15	—	11.82	2.60
1918.....	8.09	6.54	—	11.71	2.72
1919.....	8.45	6.81	—	11.72	2.84
1920.....	12.50	8.47	4.00	12.00	3.25
1921.....	10.66	7.82	—	12.00	4.35

\* Excluding oysters.

The table given below indicates the number of fishing vessels employed in connection with the Natal fishing industry:—

## VESSELS EMPLOYED, NATAL, 1915 TO 1921.

Heading.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
Surf fishing-boats.....	44	55	58	55	41	41	32
Steam fishing-boats.....	8	9	8	9	6*	6	6
TOTAL.....	52	64	66	64	47	47	38

\* In addition to this number three boats licensed from East London brought captures of fish to Durban.

The subjoined table gives particulars for the years 1919 to 1921 of persons (exclusive of middlemen and vendors, of whom no record has yet been available) obtaining employment, wholly or partially or in conjunction with some other calling, in the Natal fishing and whaling industries, and of the divisions in which they were so employed:—

**NATAL FISHERIES—NUMBER OF PERSONS EMPLOYED, 1919 TO 1921.**

Class.	1919.				1920.				1921.			
	White.	Native.	Asiatic and other.	Total.	White.	Native.	Asiatic and other.	Total.	White.	Native.	Asiatic and other.	Total.
Deep-sea fishing	26	122	23	171	27	94	24	145	38	131	23	192
Net fishing....	7	10	276	293	11	21	210	242	6	30	173	209
Kraal fishing...	3	3	1	7	2	2	1	5	4	3	1	8
Crab fisheries..	31	1	23	55	32	—	13	45	44	1	19	64
Oyster fisheries.	10	90	6	106	10	67	16	93	8	—	56	57
Professional anglers.....	4	—	125	129	12	3	109	124	1	43	5	56
Fish factory...	2	—	—	2	—	—	—	—	2	—	—	2
Whaling.....	112	205	49	366	151	295	43	489	184	497	55	736
<b>TOTAL.....</b>	<b>195</b>	<b>431</b>	<b>503</b>	<b>1,129</b>	<b>245</b>	<b>482</b>	<b>416</b>	<b>1,143</b>	<b>287</b>	<b>705</b>	<b>332</b>	<b>1,324</b>

## CHAPTER XVII.

### MINES.

#### § 1. Discovery of Minerals and Development of Mineral Wealth of South Africa.\*

1. **Bibliography.**—A bibliography of the principal publications dealing with the mineral resources of the country will be found at the end of this chapter. A list of mining concerns in the Union will be found in the Government Directory of Industrial Establishments, issue No. 3.

2. **Gold and Diamonds.**—To the world at large South Africa's importance as a mineral producer is due to its being practically the only source of diamonds and the most important producer of gold. The economic place of mining, therefore, in the history of South Africa is a large one, for the discovery of minerals has not only had an important effect upon the prosperity of the country itself, but has materially influenced the trade of the whole world.

Going back to ancient history, southern Africa in former days was intimately connected with mining, and, all through the old records, mention is made of gold exports that did so much to enrich the eastern and north-eastern coast trade. The golden stories told by the old chroniclers were no doubt exaggerated, but they stimulated pioneering enterprise and caused numerous expeditions to be formed for penetrating the coast lands and getting into the rich gold-bearing interior of Monomatapa, Sofala, and other old African provinces. In former days the Portuguese were responsible for most of the exploration of the gold-bearing areas. Only the northern and eastern territories were exploited, and no gold had ever been obtained from the phenomenally rich district now called the Witwatersrand gold fields.

In the early days of the occupation of the Cape, followed by the formation of the Dutch Republics, the existence of payable minerals was unknown, and this accounts in a large degree for the tremendous struggles that the pioneers had to found successful settlements with nothing valuable at hand to export or exchange.

In 1870 the barren scantily populated areas of Griqualand West were found to be diamond bearing and the enormous diamond production which followed brought trade and prosperity that changed the whole political aspect of South Africa.

The Transvaal Republic, on the verge of bankruptcy, was saved first by the discovery of various small gold-bearing fields and secondly by the opening up of the world-famed Witwatersrand.

The Orange Free State, although still essentially a pastoral country, obtained very necessary direct financial assistance by relinquishing all rights to a strip of border territory containing at least a portion of the Kimberley diamond fields, and greatly increased its revenue by trade relations with the diamond mines worked during 1870 and the following years.

Rhodesia, with gold workings centuries old, attracted both English and German empire builders by reason of its mineral possibilities, and was eventually added to the British Possessions.

All through South African records can be traced the history of large territories gradually being occupied by white races struggling for years to hold their own, and all being helped forward at some period or other by the discovery of payable minerals with the attendant influx of capital and general increase in trade.

3. **Coal.**—The discovery of coal in South Africa had very far reaching effects upon the trade and prosperity of the country. There are no old records as to the extraction of this mineral, but it is probable that both natives and colonists won a little from the outcrop seams some years before any of the coal beds were put to commercial use. In 1878 Dunn and North reported upon the existence of workable coal in the Stormberg beds of Cape Colony, and at Indwe, Molteno, and other localities seams of second-rate coal have been mined for many years.

\* By U. P. Swinburne, A.R.S.M., F.G.S., M.I.M.M., M.I.M.E., Chief Inspector of Mines.

In the Transvaal coal was first opened up near Boksburg in 1887, and the finding of this mineral in close proximity to the Witwatersrand gold fields was of the greatest importance, as the high plateau in which the gold-bearing beds were discovered was practically destitute of timber and there was no railway communication to the coast or to other coal fields. Following upon the discovery at Boksburg, large seams of good coal were opened up in the Middelburg District, and with good railway communication to Johannesburg, the Middelburg collieries now supply the bulk of the coal used by the mines and other industries.

Natal, speaking generally, produces the best coal in the Union and does a large shipping trade. The seams, however, are smaller and deeper than those of the Transvaal; gas and dust exist in some pits, and working costs are higher than in the other Provinces. It is probable that the large bodies of anthracitic coal which exist in Natal will also be worked in the future and that some of the poorer seams now discarded will be utilized for the extraction of by-products.

South Africa has made its name through the production of gold and diamonds, but it is mainly due to the existence of cheap coal that the large output of gold and diamonds has been made possible. On the Witwatersrand proper only a few mines would be working at the present time if a plentiful supply of cheap steam coal was not available.

**4. Copper.**—It is known that copper, tin, and iron deposits were worked by the ancients. Owing possibly to a lack of interest there is, however, very little information available as to the history of any such ancient industry in these metals, but very large workings for both are in existence and are probably partially contemporary with the gold workings. The copper deposits of Katanga (Belgian Congo) are enormous, having already a large output, although the producing stage has only recently been reached. The old copper workings of Rhodesia can be classed as comparatively small and have no great output at present. They cover a very large extent of country, but owing to the low price of the metal have not been very extensively exploited. Further south and in the same class of mineral belt the Messina Copper Mines,\* situated on ancient workings, produced a steady output of mineral for a number of years. So-called ancient copper workings are also abundant elsewhere in the Transvaal, but whether these are the work of natives or of prehistoric miners of Indo-European stock has not been satisfactorily determined.

The existence of copper ore in Namaqualand seems to have been known since the earliest days of colonization, and in the days of Governor Simon van der Stel a futile attempt seems to have been made to turn the knowledge to account. The earliest shipment of copper ore took place in 1852 and was won at Springbokfontein, in Namaqualand. The principal copper producers of the Union have hitherto been the companies exploiting the mines in this neighbourhood. The ore deposits are large irregular pockets situated in metamorphic gneissoid rock and contain principally bornite and copper pyrites. The output is at present declining owing to the larger ore bodies dying out at depth. The country has, however, not been very extensively prospected, and there are indications of numerous mineral belts that are well worth exploring.

Although copper has been discovered in many other localities in South Africa, the chief producer outside Namaqualand is the Messina Copper Mine\* situated in the northern Transvaal within a few miles of the Limpopo River. Extensive ancient workings exist at this point and the mine is located on some of the largest of these. The ore is found as sulphide ores deposited on a line of fissuring in gneiss.

**5. Iron.**—Iron deposits exist all over South Africa and have been worked in bygone ages by a varied class of worker whose traces are still distinguishable, but whose records are too faint to form any reliable history. All through the country the inhabitants and others have probably worked the richer iron deposits in a crude way, smelting large quantities of iron for tools, and as a medium of exchange, while making various pigments from the iron oxides. As all the smelting was done with charcoal, an excellent class of iron was obtained.

The interest taken in South African iron deposits is gradually increasing. With high working costs and a limited market there did not until recently seem to be any prospect of an iron industry for many years to come. The continued shortage of supplies of iron and the high price due to the War have, however, put a new complexion on the case, and three smelting propositions are now being developed. Two establishments, at Vereeniging and Boksburg, for the working up of scrap iron, have been in successful operation for some years, and have proved of great utility in the general scarcity of steel and iron.

**6. Tin.**—There is evidence to show that tin was worked in the past and some of the tin mines of to-day are on areas that were mined fairly extensively by the ancients. The ancient tin workings of the Transvaal and surrounding country are, so far as has been ascertained, confined to deposits and tin-bearing lodes in the granites, quartzites, and felrites, and none of the present day alluvial tin areas had ever been worked by the ancients.

\* Operations suspended 1920 (see § 3, paragraph 2).

7. **Lead.**—The lead deposits of South Africa are small and comparatively unimportant. Bunches of rich galena are found in lowest ore formation from time to time, and the Zeerust and Pretoria Districts have been responsible for the small output of this mineral. During the past two years old works on the argentiferous galena deposits near Argent, some fifty miles east of Johannesburg, have been reopened with, so far, satisfactory results.

8. **Graphite, Corundum, Mica.**—All these exist in the Transvaal and Cape Provinces and have been worked during the past few years. The output, however, is small and no large export trade has been developed. With improved transport facilities and cheaper working costs it is probable that a considerable industry in these minerals will be created when the country returns to more settled conditions.

9. **Asbestos.**—In the Cape Province, the Cape Asbestos Company, the first producer, commenced operations in 1893. In the Transvaal very promising deposits of asbestos of excellent quality have recently been found. The output from this Province, as well as from the Cape, has increased considerably during recent years. Asbestos occurs in Natal and the deposits have recently received attention.

10. **Value of Mineral Production.**—The table hereunder gives the total value of the principal minerals produced in the Union from the earliest dates of existing records. The value of gold is calculated at the standard rate of £4·24773 per fine ounce up to 1919, when the gold premium came into effect, as from the 24th July (see section 2, paragraph 14 below). Copper and tin are valued on the estimated pure metal contained in shipments according to the average current prices in London.

**VALUE OF PRODUCTION OF PRINCIPAL MINERALS IN UNION UP TO  
31st DECEMBER, 1921.**

Classification.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
Gold * .....	21,856	83,821	716,891,281	—	716,996,958
Diamonds .....	170,137,698	—	30,233,958	19,528,932	219,900,588
Coal .....	1,994,491	20,886,490	28,065,857	3,057,338	53,944,176
Copper .....	19,717,456	389	3,200,159	—	22,924,004
Tin .....	61,019	—	4,512,339	—	4,573,358
<b>TOTAL .....</b> £	<b>191,932,520</b>	<b>20,970,700</b>	<b>782,850,094</b>	<b>22,586,270</b>	<b>1,018,339,584</b>

\* Including gold premium, valued at £23,393,421, from the 24th July, 1919.

11. **Details of Mineral Production.**—The total quantity and value of the mineral production of the Union are given hereunder (i) for a period of years and (ii) for the latest year, according to various minerals in each Province :—

**(i) MINERAL PRODUCTION OF UNION, 1915 TO 1921.**

Classification.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
(a) QUANTITY.							
Antimony..... ton	90	722	617	90	32	—	—
Arsenic..... "	—	—	18	18	8	11	2
Asbestos..... "	2,138	4,856	6,220	3,674	3,032	7,112	5,122
Bismuth..... "	—	—	—	—	0·4	—	—
Chrome Ore..... "	—	—	—	—	—	—	400
Coal..... "	8,281,324	10,007,502	10,332,920	9,877,325	10,204,135	11,473,464	11,396,995
Coke..... "	7,279	10,704	15,361	31,739	22,478	22,942	24,954
Copper..... "	28,070	22,542	20,132	6,375	4,375	10,380	158
Corundum..... "	68	755	2,029	3,376	179	261	123
Diamonds..... carat	103,336	2,340,330	2,902,417	2,537,380	2,538,017	2,545,017	806,643
Flint..... ton	453	297	180	220	—	—	—
Gold..... fine oz.	9,096,411	9,296,064	9,018,399	8,418,379	8,331,651	8,158,455	8,128,710
Graphite..... ton	41	90	86	79	86	73	47
Gypsum..... "	2,838	3,990	2,082	2,638	—	—	—
Iron Ore..... "	—	—	—	4,879	3,602	2,564	2,416

\* Included in Quarry Products, quantity not available.

## (i) MINERAL PRODUCTION OF UNION, 1915 TO 1921—(continued).

Classification.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
(a) QUANTITY—continued.							
Iron Pyrite..... "	545	5,277	2,856	4,630	5,532	3,469	4,353
Kaolin..... "	20	—	28	—	—	—	—
Lead..... "	180	402	270	162	756	590	212
Lime..... "	68,989	78,222	89,057	102,372	106,004	119,797	112,325
Magnetite..... "	627	609	781	833	1,024	1,419	1,452
Manganese..... "	—	—	124	544	155	67	808
Mica..... "	2	18	4	5	3	1	1
Mineral Paints..... "	—	22	121	736	240	536	117
Nickel..... "	3	—	—	—	—	—	—
Osmiridium, fine. oz.	—	—	—	—	—	—	510
Salt..... ton	45,164	56,267	57,984	66,754	85,175	88,861	68,379
Silver..... fine. oz.	966,177	968,935	938,146	877,522	891,804	892,593	830,329
Soda..... ton	6,363	6,299	5,716	764	52	—	812
Sulph. of Ammonia..... "	—	—	—	2,503	3,762	1,844	918
Talc..... gal.	44	132	785	670	757	682	413
Tar..... ton	26,050	—	—	—	1,465	25,167	46,065
Tin..... ton	3,441	3,264	2,679	2,206	1,630	2,463	1,425
Tungsten..... "	—	1	9	19	4	—	—
Zinc..... "	352	—	—	—	—	2,349	1,229

## (b) VALUE.

	£	£	£	£	£	£	£
Antimony.....	2,105	15,292	12,428	2,589	550	—	—
Arsenic.....	—	—	—	1,759	663	655	120
Asbestos.....	35,899	83,070	87,364	54,037	66,420	114,195	103,067
Bismuth.....	—	—	—	—	300	—	—
Chrome Ore.....	—	—	—	—	—	—	400
Coal.....	2,142,479	2,730,665	3,275,608	3,224,597	3,416,244	4,519,665	5,072,401
Coke.....	12,880	10,575	28,648	68,062	47,312	48,535	51,180
Copper.....	1,042,314	1,137,380	1,126,040	342,105	234,445	418,269	6,446
Corundum.....	480	7,762	13,038	26,260	1,486	1,446	770
Diamonds.....	399,810	5,728,391	7,713,810	7,114,867	11,734,495	14,762,899	3,103,448
Flint.....	2,327	1,587	1,120	1,491	—	—	—
Gold †.....	38,639,065	39,490,990	38,307,675	35,756,003	30,279,590	45,605,764	43,082,162
Graphite.....	1,204	1,780	2,500	2,294	2,630	2,330	1,496
Gypsum.....	8,429	11,983	5,092	6,843	—	—	—
Iron Ore.....	—	—	—	7,720	1,081	811	689
Iron Pyrite.....	939	8,019	4,463	7,002	8,894	5,014	6,622
Kaolin.....	10	—	19	—	—	—	—
Lead.....	1,836	5,202	3,761	1,886	4,973	5,270	3,363
Lime †.....	110,560	115,750	131,373	158,245	201,958	244,745	255,196
Magnetite.....	1,668	1,766	2,050	2,184	2,723	3,780	2,581
Manganese.....	—	—	641	1,905	776	277	864
Mica.....	150	1,185	877	1,185	369	500	802
Mineral Paints.....	—	45	305	1,427	572	1,049	323
Nickel.....	35	—	—	—	—	—	—
Osmiridium.....	—	—	—	—	—	—	6,801
Salt †.....	82,089	106,303	110,566	163,722	193,067	197,068	162,919
Silver.....	105,245	106,311	172,997	187,008	228,804	245,871	137,441
Soda.....	20,949	25,121	29,377	11,099	753	—	4,527
Stentite.....	—	—	—	—	—	—	—
Sulphate of Ammonia.....	—	—	—	86,209	102,930	63,088	19,470
Talc.....	218	586	1,962	1,713	2,170	2,227	1,306
Tar.....	881	—	—	—	136	3,382	5,104
Tin.....	331,420	339,571	346,016	440,995	277,925	435,690	136,688
Tungsten.....	—	252	1,551	3,647	699	—	—
Zinc.....	2,214	—	—	—	—	15,614	8,410
Miscellaneous Articles (Bricks, Cement, *Barthenware, Pipes, etc.) † Quarry Products...	584,870	645,773	880,819	879,777	1,079,128	1,556,337	2,010,764
	—	—	—	61,525	68,275	75,647	78,693
TOTAL..... £	43,531,009	50,593,359	52,260,190	48,617,515	56,959,377	63,332,127	54,268,086

\* Included in "Quarry Products."

† Particulars regarding the following are also included in tables given in Chapter XVIII (Manufacturing Industries):—Lime, salt, and miscellaneous articles (bricks, cement, etc.).

‡ Premium included 1919, 1920, and 1921—£3,883,981, £10,960,842, and £3,563,598 respectively.

§ Including other Coal By-products (pitch, carbolinum, and disinfectants), value £238.

## (ii) MINERAL PRODUCTION OF EACH PROVINCE IN THE UNION, 1921.

Classification.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
(a) QUANTITY.					
Arsenic.....ton	—	—	2	—	2
Asbestos.....	3,467	62	1,593	—	5,122
Chrome Ore.....	—	—	400	—	400
Coal.....	5,778	3,525,989	6,947,362	917,776	11,396,905
Coke.....	—	24,515	439	—	24,954
Copper.....	113	—	45	—	158
Corundum.....	—	—	123	—	123
Diamonds.....carat	238,470	—	424,486	148,687	806,643
Gold.....fine oz.	2	27	8,128,681	—	8,128,710
Graphite.....ton	—	—	47	—	47
Iron Ore.....	—	334	2,082	—	2,416
Iron Pyrite.....	—	—	4,353	—	4,353
Lead.....	—	—	212	—	212
Lime.....	45,314	3,893	61,118	3,000	113,325
Magnesite.....	—	—	1,452	—	1,452
Manganese.....	—	—	303	—	303
Mica.....	—	—	1	—	1
Mineral Paints.....	—	77	40	—	117
Osmiridium.....fine oz.	—	—	510	—	510
Salt.....ton	38,461	—	14,226	15,692	68,379
Silver.....fine oz.	—	1	830,328	—	830,329
Soda.....ton	—	—	312	—	312
Sulphate of Ammonia.....	—	918	—	—	918
Talc.....	—	—	413	—	413
Tar.....gall.	—	—	46,085	—	46,085
Tin.....ton	9	—	1,416	—	1,425
Zinc.....	—	—	1,280	—	1,280

## (b) VALUE.

	£	£	£	£	£
Arsenic.....	—	—	120	—	120
Asbestos.....	74,489	1,032	27,546	—	103,067
Chrome Ore.....	—	—	400	—	400
Coal.....	4,524	2,493,387	2,296,025	278,465	5,072,401
Coke.....	—	50,723	457	—	51,180
Copper.....	5,026	—	1,420	—	6,446
Corundum.....	—	—	770	—	770
Diamonds.....	1,305,221	—	1,254,151	544,076	3,103,448
Gold.....	10	141	43,082,011	—	43,082,162
Graphite.....	—	—	1,496	—	1,496
Iron Ore.....	—	168	521	—	689
Iron Pyrite.....	—	—	6,632	—	6,632
Lead.....	—	—	3,363	—	3,363
Lime.....	98,947	10,452	138,776	7,011	255,186
Magnesite.....	—	—	3,581	—	3,581
Manganese.....	—	—	866	—	866
Mica.....	—	—	802	—	802
Mineral Paints.....	—	153	180	—	333
Osmiridium.....	—	—	6,801	—	6,801
Salt.....	85,804	—	41,480	35,634	162,918
Silver.....	—	—	137,441	—	137,441
Soda.....	—	—	4,527	—	4,527
Sulphate of Ammonia.....	—	19,470	—	—	19,470
Talc.....	—	—	1,306	—	1,306
Tar.....	—	—	5,104	—	5,104
Tin.....	1,018	—	138,670	—	139,688
Zinc.....	—	—	8,410	—	8,410
Miscellaneous Articles (Bricks, Cement, Earthenware, Pipes etc.)*	174,842	301,332	1,393,666	200,946	2,010,786†
Quarry Products.....	26,875	4,646	33,776	13,396	78,693
TOTAL.....£	1,776,756	2,881,504	48,530,298	1,079,528	54,268,066

\* Particulars regarding lime, salt, and miscellaneous articles (bricks, cement, etc.) are also included in tables given in Chapter XVIII (Manufacturing Industries). The figures for these items relate to the business year 1920-21.

† Including other Coal By-products (pitch, carbolineum, and disinfectants), value £528.

12. **Wages Earned in Mining.**—The salaries and wages earned by white and coloured employees of mining and allied concerns during 1921 amounted to £20,923,876, distributed as shown in table (i) hereunder. Wages earned in lime works, salt works, and miscellaneous factories are not included in table (i). Earnings on alluvial diamond diggings cannot be ascertained with any degree of accuracy and are therefore excluded. Table (ii) shows in comparative form the earnings from 1910, and in table (iii) the amounts paid out in salaries and wages for a period of years are analyzed according to Provinces and the race of the employees. In table (iv) are given particulars for a series of years of the aggregate and average earnings and payments to white employees on the Witwatersrand gold mines. These figures are calculated from the average number of persons actually in service. The actual average annual earnings of all the persons who find employment on the mines must necessarily be less :—

(i) **SALARIES AND WAGES OF EMPLOYEES ON MINES AND IN ALLIED CONCERNS, 1921.**

PROVINCE.	Gold Concerns.			Diamond Mines.	Coal Mines.	Base Minerals.	Miscellaneous Works.†	Total.
	Large Mines.	Small Mines and Alluvial Diggers.	Metal-lurgical Works and Tailings Works.					
CAPE OF GOOD HOPE.	£	£	£	£	£	£	£	£
European.....	—	165	—	£745,167	1,353	28,097	6,584	781,366
Asiatic.....	—	—	—	32	—	13	—	45
Native and other Coloured.....	—	327	—	†170,150	3,143	59,439	10,801	243,660
TOTAL....£	—	492	—	915,349	4,496	87,549	17,185	1,025,071
NATAL.								
European.....	—	280	30	—	£79,013	2,877	510	382,710
Asiatic.....	—	—	—	—	90,531	—	1,324	91,855
Native and other Coloured.....	—	677	5	—	424,418	2,296	4,014	431,411
TOTAL....£	—	957	35	—	893,963	5,173	5,848	905,976
TRANSVAAL.								
European.....	10,840,949	25,260	17,750	£141,759	544,550	167,381	334,206	11,871,935
Asiatic.....	18,229	—	—	—	271	—	—	18,500
Native and other Coloured.....	*5,946,299	25,586	12,076	79,896	516,568	93,336	57,400	6,731,161
TOTAL....£	16,605,497	50,846	29,826	221,655	1,061,389	260,717	391,606	18,621,596
ORANGE FREE STATE.								
European.....	—	—	—	£151,721	69,019	—	1,855	222,595
Asiatic.....	—	—	—	—	—	—	—	—
Native and other Coloured.....	—	—	—	†77,118	66,904	—	4,416	148,438
TOTAL....£	—	—	—	228,839	135,923	—	6,271	371,033
UNION....£	16,605,497	52,295	29,861	1,365,843	2,095,771	358,439	420,970	20,923,876
Percentage of Total.....	79.8			6.5	10.0	1.7	2.0	100.0

\* Includes £2,709 paid for convict labour.

† Exclusive of expenditure on account of convicts.

‡ Includes power supply companies and quarries.

§ Includes a certain amount paid as gratuity to white employees on retrenchment or in lieu of leave ; the total sum of such gratuities was £103,043 for the Union.



## (ii) SALARIES AND WAGES OF EMPLOYEES ON MINES AND IN ALLIED CONCERNS, 1910 TO 1921.

Year.	Gold Mines and Allied Concerns.	Diamond Mines.	Coal Mines.	Base Minerals.	Miscellaneous Works.†	Total.
	£	£	£	£	£	£
*1910.....	8,008,034	1,535,440	485,760	181,250	108,822	10,415,376
1911.....	14,383,448	2,789,589	842,190	303,271	499,849	18,817,347
1912.....	14,266,300	2,843,703	879,529	333,735	595,448	18,923,765
1913.....	15,553,896	3,031,790	966,221	364,899	665,826	18,497,673
1914.....	12,595,563	2,053,364	991,822	328,099	544,439	16,518,279
1915.....	13,655,373	862,336	1,001,315	359,031	511,620	15,879,675
1916.....	14,374,810	1,006,259	1,168,596	417,820	537,593	17,505,661
1917.....	14,221,841	1,658,300	1,233,871	446,457	568,494	18,178,963
1918.....	14,537,493	1,848,895	1,412,796	403,375	414,757	18,617,366
1919.....	15,077,361	2,218,254	1,529,368	387,287	349,405	19,561,626
1920.....	17,463,231	2,852,701	1,800,510	402,282	415,201	22,933,975
1921.....	16,687,653	1,365,843	2,095,771	353,439	420,970	20,923,676

\* June to December.

† Brick, cement, and pottery works are included up to 1917, and lime and salt works up to 1918. Thereafter figures relative to such are included in Chapter XVIII.

## (iii) SALARIES AND WAGES OF EMPLOYEES ON MINES AND IN ALLIED CONCERNS, SHOWING PROVINCE AND RACE, 1916 TO 1921.

Province and Race.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
CAPE OF GOOD HOPE—						
All Races.....	899,124	1,282,950	1,332,920	1,512,010	1,912,995	1,025,071
NATAL—						
All Races.....	506,713	563,481	628,799	648,750	731,760	905,976
TRANSVAAL—						
All Races.....	15,819,389	15,998,169	16,230,733	16,885,365	19,564,433	18,621,566
ORANGE FREE STATE—						
All Races.....	280,435	344,363	424,854	515,494	724,737	371,033
UNION—						
European.....	9,657,060	10,559,497	11,214,410	12,044,184	14,641,355	13,258,806
Asiatic.....	134,145	139,161	111,916	109,214	116,866	110,400
Native and other Coloured.....	7,714,456	7,489,306	7,290,969	7,408,227	8,175,754	7,554,670
All Races.....	17,505,661	18,178,963	18,617,306	19,561,626	22,933,975	20,923,676

## (iv) AGGREGATE AND AVERAGE EARNINGS AND PAYMENTS TO WHITE EMPLOYEES (INCLUDING STAFF), WITWATERSRAND GOLD MINES, 1907 TO 1921.

Year.	Average Number in Service.	Amount Earned.	Average Earnings per Head.	Salaries to Medical Officers.	Special Payments.†	Total Payments.
		£	£	£	£	£
1907.....	16,766	5,894,182	352	—	—	5,894,182
1908.....	17,593	5,861,243	333	—	—	5,861,243
1909.....	20,625	6,746,598	327	14,074	—	6,760,672
1910.....	23,652	7,673,472	324	28,388	—	7,701,860
1911.....	24,708	8,195,304	332	31,195	—	8,226,499
1912.....	23,817	7,834,455	329	31,484	—	7,865,939
1913.....	23,104	7,503,574	325	33,527	—	7,537,101
1914.....	20,971	6,790,078*	324*	33,937	30,017	6,854,032
1915.....	21,847	7,116,481*	326*	31,802	90,531	7,238,704
1916.....	22,085	7,323,448*	336*	33,578	276,483	7,733,509
1917.....	22,194	7,831,230*	353*	31,818	320,831	8,183,888
1918.....	22,597	8,334,882*	369*	32,383	279,991	8,647,256
1919.....	22,992	9,029,322*	408*	29,909	156,424	9,215,655
1920.....	22,014	11,004,927*	485*	35,422†	6,907	11,047,256
1921.....	20,825	10,314,448*	495*	32,215	448	10,347,111

\* Exclusive of medical officers and men on active service. † Including special payments on behalf of men on active service. ‡ To or on behalf of men on active service.

13. **Average Pay per Shift.**—The average pay per shift for underground employees on the Witwatersrand gold mines in June, 1916 to 1921, is shown in the table hereunder :—

**AVERAGE PAY PER SHIFT, UNDERGROUND MINE EMPLOYEES ON WITWATERSRAND GOLD MINES, (JUNE) 1916 TO 1921.**

Classification.	1916.*	1917.*	1918.*	1919.*	1920.†	1921.†
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
Shift Bosses.....	26 8	29 8	30 4	32 2	35 1	35 11
Timbermen.....	20 0	20 9	20 5	20 10	29 4	29 4
Pipemen.....	19 2	19 6	19 11	20 3	28 6	28 8
Fitters.....	21 8	22 0	22 3	22 7	30 7	30 10
Platelayers.....	18 11	19 3	19 10	20 3	28 6	28 8
Skidmen and Onsetters.....	16 2	16 8	17 0	17 3	25 4	25 9
Trammers (excluding Contractors)....	14 8	15 1	16 5	17 2	25 11	25 10
Pumpmen.....	19 1	18 4	20 7	21 0	29 0	29 0
Miners—Machine Stopping... Contract..	20 10	31 0	34 2	34 10	47 4	49 10
Day's pay	19 5	19 9	20 7	21 8	27 4	33 5
Hand Stopping..... Contract..	25 5	28 7	27 11	30 0	40 6	41 8
Day's pay	19 4	19 11	20 1	20 6	28 6	28 9
Machine Developing. Contract..	37 0	38 7	41 8	45 2	50 2	61 7
Day's pay	19 5	19 3	19 1	19 10	33 5	31 5
Shaft Sinkers..... Contract..	43 10	60 7	58 7	47 8	65 0	68 1
Day's pay	21 9	22 2	27 11	35 2	45 4	46 0
Engine-drivers (Winding).....	21 0	22 10	23 9	23 11	31 2	32 4
Winchdrivers.....	12 6	13 7	14 5	14 7	24 2	23 11

\* Excluding war allowance and overtime.  
 † Including allowances but excluding overtime.

14. **Labour on Mines, etc.**—The subjoined tables show, in respect of persons employed on mines and in allied concerns in the Union, (i) the average number for each of a series of years, and (ii) the average number for 1921 :—

(i) **AVERAGE NUMBER OF EMPLOYEES, MINES AND ALLIED CONCERNS, 1911 TO 1921.**

Year.	Gold.	Diamonds.	Coal.	Base Minerals.	Other.	Total.	Europeans.	Non-Europeans.
1911...	228,875	60,476	24,446	6,159	8,548	328,504	38,282	290,222
1912...	231,955	63,041	24,160	6,795	9,747	335,107	37,175	297,932
1913...	221,183	66,332	26,363	6,550	8,670	329,107	37,467	291,640
1914...	202,385	42,077	27,303	8,214	8,118	288,097	31,944	256,153
1915...	220,255	9,325	25,824	7,349	7,446	279,199	28,836	250,363
1916...	298,054	25,907	29,252	9,174	8,293	310,680	31,124	279,556
1917...	216,742	42,071	31,488	9,806	8,222	308,419	32,897	275,522
1918...	211,773	39,501	31,488	8,033	10,239	301,352	33,410	267,942
1919...	203,610	44,877	32,715	7,421	11,753	300,376	36,164	264,212
1920...	207,808	56,022	34,495	7,320	14,337	320,891	39,813	281,078
1921...	202,930	27,276	39,911	5,981	14,703	290,801	32,626	258,175

(ii) **AVERAGE NUMBER OF PERSONS EMPLOYED ON MINES AND IN ALLIED CONCERNS, UNION, 1921.**

Classification.	Number of Persons.				Proportion of Total Persons Employed.			
	European.	Asiatic.	Natives and other Coloured.	Total.	European.	Asiatic.	Natives and other Coloured.	Total.
Gold.....	21,607	206	181,117	202,930	7.43	0.07	62.28	69.76
Diamonds.....	6,661	20	20,595	27,276	2.36	0.01	7.08	9.88
Coal.....	2,133	2,601	35,177	39,911	0.73	0.89	12.09	13.72
Base Minerals.....	462	—	5,519	5,981	0.16	—	1.89	2.06
Other.....	1,783	—	12,940	14,703	0.61	—	4.45	5.06
<b>TOTAL.....</b>	<b>32,026</b>	<b>2,627</b>	<b>258,175</b>	<b>290,801</b>	<b>11.22</b>	<b>0.96</b>	<b>88.78</b>	<b>100.00</b>

A territorial analysis of the native labourers employed on mines and works in the Transvaal will be found in Chapter XIII.

15. **Nationality of Mine Employees.**—The following tables give the number of European mine employees classified according to their country of birth. In each case the percentage of such number to the total number is also shown:—

(i) **NATIONALITY OF EUROPEAN MINE EMPLOYEES IN SERVICE IN THE UNION ON 31st DECEMBER, 1910 TO 1921.**

Year.	South Africa.		United Kingdom.		Other British Possessions.		Other Countries.		Total.
	No.	%	No.	%	No.	%	No.	%	
1910.....	7,285	27·2	16,829	62·8	1,074	4·0	1,603	6·0	26,791
1911.....	10,307	32·0	18,322	58·4	1,076	3·4	1,652	5·3	31,357
1912.....	10,828	34·6	17,825	57·0	1,038	3·3	1,591	5·1	31,282
1913.....	10,741	36·2	16,570	55·8	906	3·0	1,493	5·0	29,710
* 1914.....	—	—	—	—	—	—	—	—	—
1915.....	10,797	41·0	13,491	51·3	747	2·8	1,294	4·9	26,329
1916.....	12,649	45·6	12,937	46·6	778	2·8	1,383	5·0	27,747
1917.....	13,964	49·0	12,531	44·0	719	2·5	1,267	4·5	28,481
1918.....	14,426	50·2	12,380	43·1	679	2·4	1,228	4·3	28,722
1919.....	15,606	51·5	12,807	42·5	724	2·4	1,107	3·6	30,304
1920.....	14,255	50·8	12,116	43·2	661	2·4	1,023	3·6	28,055
1921.....	13,510	51·5	11,135	42·5	623	2·4	940	3·6	26,217

\* Particulars not available.

NOTE.—These figures do not include alluvial and diamond diggers, regarding whose nationality reliable information is not available; it is, however, well known that the large majority of these are South African born.

(ii) **NATIONALITY OF EUROPEAN MINE EMPLOYEES IN SERVICE IN EACH PROVINCE ON 31st DECEMBER, 1921.**

Classification.	Cape of Good Hope.		Natal.		Transvaal.		Orange Free State.		Union.	
	No.	%	No.	%	No.	%	No.	%	No.	%
South Africa.....	1,010	53·2	286	33·7	11,952	51·9	271	60·0	13,519	51·5
United Kingdom.....	817	43·0	537	63·3	9,624	41·8	157	34·7	11,135	42·5
Other British Possessions.....	16	0·8	16	1·9	583	2·6	8	1·8	623	2·4
Other Countries.....	58	3·0	9	1·1	859	3·7	16	3·5	940	3·6
TOTAL.....	1,899	100·0	848	100·0	23,018	100·0	452	100·0	26,217	100·0

16. **Accidents and Death-Rates on Mines.**—The subjoined table gives details of accidents on mines and death-rates for the year 1921. The death-rate for alluvial diamond digging is omitted because the relative labour figures cannot be obtained accurately:—

**ACCIDENTS AND DEATH-RATES ON MINES, FROM 1911.\***

Year.	Total Number of Accidents.	Fatal Accidents.	Deaths during the Year.	Death-Rate per 1,000 Employees.			
				Metalliferous Mines.	Coal Mines.	Diamond Mines.	All Mines.
1911	2,897	882	1,061	3·89	1·06	2·24	3·51
1912	3,027	785	987	3·65	2·11	1·48	3·22
1913	3,200	793	992	3·57	2·88	2·24	3·31
1914	2,631	593	743	3·09	1·90	1·55	2·80
1915	2,552	608	776	3·05	2·05	0·40	2·93
1916	2,769	635	808	2·99	2·05	0·67	2·79
1917	2,631	545	664	2·53	2·16	1·10	2·37
1918	2,651	498	612	2·43	1·60	1·19	2·23
1919	2,945	516	607	2·36	1·83	1·88	2·25
1920	3,314	550	613	2·34	2·41	0·92	2·21
1921	4,947	434	525	2·14	1·65	1·06	2·03

\* Excluding alluvial diamond diggings.

17. **Stores Consumed by Mines.**—Particulars are given hereunder as to the value of stores consumed by mines in the Union from 1911:—

**VALUE OF STORES CONSUMED BY MINES FROM 1911.**

Year.	Gold Mines.*		Diamond Mines.		Coal Mines.			Base Mineral Mines, Union.	All Mines, Union.
	Transvaal.	Union.	Cape.	Union.	Natal.	Transvaal.	Union.		
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1911.....	11,680	11,687	661	1,450	219	276	545	306	13,988
1912.....	10,274	10,277	672	1,466	205	267	523	307	12,573
1913.....	10,007	10,611	815	1,645	252	331	643	396	13,295
1914.....	10,243	10,246	534	969	241	343	643	292	12,150
1915.....	10,902	10,906	122	139	225	333	618	343	12,006
1916.....	12,318	12,321	232	360	318	417	799	448	13,928
1917.....	12,704	12,705	422	689		512	996	453	14,843
1918.....	12,983	12,984	449	747	494	512	1,084	362	15,177
1919.....	13,196	13,197	638	1,058	610	603	1,302	333	15,890
1920.....	14,303	14,304	848	1,483	658	842	1,597	399	17,843
1921.....	14,440	14,440	719	917	750	1,001	1,854	348	17,359

\* And allied concerns.

18. **Capital Issued by Mines.**—The capital issued by registered mining companies (i) in the Union during a period of years and (ii) in each Province on the 31st December, 1921, is shown in the following tables:—

(i) **CAPITAL ISSUED BY MINES AT 31st DECEMBER, 1911, AND SUCCESSIVE YEARS.**

Year.	Gold Mines.		Diamond Mines.	Coal Mines.			Base Mineral Mines (other than Coal).	Total.
	Witwatersrand.	Other.		Natal.	Transvaal.	Other Provinces.		
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1911...	62,325	11,530	8,619	2,577	3,801	1,356	2,988	93,196
1912...	60,789	10,200	9,032	2,487	3,896	1,350	3,022	90,835
1913...	59,798	8,407	8,504	2,336	4,034	1,346	2,895	87,320
1914...	58,975	7,258	8,235	2,596	4,196	1,352	2,931	85,543
1915...	57,841	6,724	7,603	2,664	3,488	1,355	3,027	82,702
1916...	57,861	6,349	7,655	2,653	3,386	1,351	3,080	82,334
1917...	57,312	7,059	7,075	2,713	2,979	1,107	3,215	82,060
1918...	57,383	6,469	7,666	2,991	3,184	1,103	2,939	81,735
1919...	58,048	7,344	8,061	3,000	3,547	1,163	3,237	85,090
1920...	58,518	7,269	8,826	3,338	4,247	1,346	4,556	88,100
1921...	58,933	5,820	8,508	3,781	4,884	1,366	5,156	88,482

(ii) **CAPITAL ISSUED BY MINES, 31st DECEMBER, 1921.**

Classification.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
Gold Mines.....	—	2,670	64,672,892	112,407	64,787,969
Diamond Mines.....	6,261,552	—	211,964	2,034,740	8,508,256
Coal Mines.....	22,736	3,780,003	4,883,509	1,343,322	10,030,470
Base Mineral Mines (other than Coal).....	1,823,712	178,979	3,050,018	103,051	5,155,760
<b>TOTAL.....</b>	<b>£ 8,108,000</b>	<b>3,962,552</b>	<b>72,818,383</b>	<b>3,598,520</b>	<b>88,482,455</b>

NOTE.—Issued capital of coal mines in the Orange Free State and Natal Provinces includes the total capital of one concern in each of these Provinces engaged in other activities in addition to coal mining.

**19. Mine Dividends Declared.**—The dividends declared by mining companies in the Union during a series of years and in each Province during 1921 are shown in the following tables:—

(i) **MINE DIVIDENDS DECLARED FROM 1911.**

Year.	Gold Mines.		Diamond Mines.	Coal Mines.			Base Mineral Mines (other than Coal).	Total.
	Witwatersrand.	Other.		Natal.	Transvaal.	Other Provinces.*		
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1911.....	7,763	303	2,681	51	237	12	234	11,281
1912.....	7,971	331	3,019	72	303	7	224	11,927
1913.....	8,205	391	3,443	83	265	6	229	12,022
1914.....	8,077	334	1,155	92	301	8	90	10,066
1915.....	7,524	210	—	45	350	3	66	8,198
1916.....	7,192	181	2,242	94	363	3	146	10,131
1917.....	6,559	167	3,022	134	223	3	181	10,289
1918.....	5,205	137	2,682	161	228	5	154	8,572
1919.....	6,097	95	4,659	140	249	—	19	11,109
1920.....	8,276	199	3,918	194	305	37	82	13,011
1921.....	7,164	96	500	275	383	42	9	8,469

\* From 1912 dividends shown were declared in Orange Free State; none in Cape.

(ii) **MINE DIVIDENDS, 1921.**

Classification.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
Gold Mines.....	—	—	7,259,646	—	7,259,646
Diamond Mines.....	400,000	—	100,000	—	500,000
Coal Mines.....	—	275,153	383,318	41,946	700,417
Base Mineral Mines (other than Coal).....	9,306	—	—	—	9,306
<b>TOTAL.....</b>	<b>£ 409,306</b>	<b>275,153</b>	<b>7,742,964</b>	<b>41,946</b>	<b>8,469,369</b>

**§ 2. Gold.\***

**1. Historical.**—Though there is evidence that gold was worked by the ancients to a considerable extent in the northern portion of South Africa, there is little to show that there were early workings in any portion of the Union of South Africa; but vague reports regarding the existence of gold in the Transvaal were current for very many years before outputs were reported. The following are some of the cardinal dates in connection with gold mining in South Africa:—

1868. Carl Mauch mentioned the existence of gold near the Oliphants River.

1870. Gold found in the Murchison Range.

1873. Gold found in the Lydenburg District at Pilgrims Rest and extensive alluvial gold washing continued for many years thereafter.

\* This section (paragraphs 1 to 10) is a summary of an article by Mr. U. P. Swinburne, A.R.S.M., F.G.S., M.I.M.M., M.I.M.E., Chief Inspector of Mines, which appeared in the fourth and previous issues of this Year Book.

1882. De Kaap gold fields started.  
 1884. The brothers Struben commenced quartz mining on the farm *Welleveden* on the Witwatersrand and started a five-stamp battery.  
 1885. The Sheba Mine discovered, and Barberton founded.  
 1885. The first gold from the banket or conglomerate beds of the Witwatersrand panned.  
 1886. Johannesburg founded.  
 1887. The first stamp mill started working banket.  
 1887. Coal discovered at Boksburg.  
 1889. Formation of Chamber of Mines.  
 1890. First cyanide test works and start of the Robinson cyanide works.  
 1891. Chlorination works at the Robinson Mine.  
 1892. Extensive deep level companies formed.  
 1892. Opening of railway to Johannesburg via Orange Free State.  
 1893. Rand Victoria Borehole—Reef found, depth 2,343 feet.  
 1895. Bezuidenhoutville Borehole—Reef, 3,127 feet.  
 1909. \*Sandfilling commenced at the Robinson Mine.  
 1911. Six hundred stamp mill erected at Randfontein.  
 1912. Successful operations on the Far East Rand attracted general attention.  
 1921. Deepest workings Turf Shaft, Village Deep, 6,110 feet.

**2. Witwatersrand Gold Mining.**—The Witwatersrand gold fields are located on an elevated plateau, nearly 6,000 feet above the sea. The Witwatersrand (or white-waters-ridge) projects somewhat above the plateau, and the outcrop of the conglomerate reefs can thus in a measure be said to be the dividing watershed between the Atlantic and Indian Oceans, the tributaries of the Vaal River draining into the Atlantic, and those of the Limpopo or Crocodile River into the Indian Ocean.

The conglomerate beds of the Witwatersrand are composed of quartz pebbles bound together by a siliceous cement containing iron pyrites. The name "banket" has been given to the conglomerate from its general resemblance to an almond sweetmeat with this Dutch name, which, however, refers specially to the ore taken from the oxidized zone, which in the early history of the fields was called "free milling" and was found to extend to only a limited depth. The bankets occur in a series of quartzites and shales, with a normal thickness at Johannesburg of several miles. These are known as the Witwatersrand beds, and constitute a formation presumably succeeding in age the ancient schists of Barberton.

The gold contained in the conglomerate is not often visible to the naked eye, occurring almost invariably in the matrix, its existence in the pebbles having been recognized only in rare instances. The gold is, for the most part, in very fine particles and when examined under the microscope shows sharp crystalline structure, giving no evidence of being rounded and moulded by attrition, as is observable on examination of most gold found in alluvial deposits. There are several series of these conglomerate beds in planes more or less parallel to each other. The most common designation of them, starting from the lowest geological horizon, is as follows:—Main Reef series, Bird Reef, Kimberley series, Elsburg and Black Reefs. Gold is found as an essential constituent in all the banket beds included in the foregoing list, but thus far the Main Reef series only has justified extensive exploitation, and even here only within certain limits.

Improved mechanical methods and labour organization have gradually brought all the chief gold mines to a similar basis as regards both mining and metallurgy and a very satisfactory extraction is obtained throughout the whole banket series of reefs. The success in working these large bodies of comparatively low grade ore may be assigned to the following causes:—(a) The adaptability of the cyanide process to the Witwatersrand ores; (b) the uniformity and character of the gold-bearing deposit; (c) cheap unskilled labour; (d) the proximity of coal deposits; (e) absence of heavy pumping charges; (f) good water supply.

Actual mining on the main gold-bearing area is greatly assisted by a very strong roof which supports all excavations made within reason and which requires a minimum of timbering and other supports. This excellent roof or hanging-wall has its limits, however, and the enormous amount of ore extracted during the past thirty years is beginning to have effect over large worked-out areas causing large falls, earth tremors, and subsidences, and necessitating extensive sandfilling and other precautions to save existing workings and communication ways.

**3. Gold Production (Reef).**—The following table shows the progressive reef gold production of the Transvaal, which in 1921 contributed 62·3 per cent. of the world's gold output:—

\* Sandfilling on the Witwatersrand is the transfer of the waste sand dumps underground through pipes and boreholes and filling up the old stopes, forming a permanent support to the excavations.

**QUANTITY AND VALUE OF GOLD PRODUCED IN TRANSVAAL  
FROM 1884 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Oz.	£		Oz.	£
1884.....	2,376	10,000	1903.....	2,971,416	12,021,781
1885.....	1,414	6,010	1904.....	3,770,963	16,018,026
1886.....	8,171	34,710	1905.....	4,908,087	20,848,273
1887.....	39,880	169,401	1906.....	5,792,823	24,606,336
1888.....	227,749	967,416	1907.....	6,450,740	27,400,992
1889.....	350,909	1,490,568	1908.....	7,056,266	29,973,115
1890.....	440,152	1,869,645	1909.....	7,295,108	30,987,650
1891.....	688,439	2,924,305	1910.....	7,527,108	31,973,123
1892.....	1,069,058	4,541,071	1911.....	8,249,461	35,041,485
1893.....	1,200,218	5,480,498	1912.....	9,107,512	38,686,250
1894.....	1,805,000	7,667,152	1913.....	8,798,336	37,372,949
1895.....	2,017,443	8,509,555	1914.....	8,394,322	35,656,814
1896.....	2,025,510	8,603,821	1915.....	9,093,902	38,628,437
1897.....	2,743,518	11,653,725	1916.....	9,296,618	39,489,522
1898.....	3,823,367	16,240,630	1917.....	9,018,084	38,306,381
*1899.....	3,637,713	15,452,025	1918.....	8,418,292	35,758,636
*1900.....	348,761	1,481,442	1919.....	8,331,294	†35,389,091
*1901.....	258,307	1,097,219	1920.....	8,158,226	†34,635,947
*1902.....	1,717,944	7,297,351	1921.....	8,128,081	†34,528,448

\* War period.

† Not including premium (*vide* paragraph 14 below).

In the early days of modern mining, accurate statistics were seldom available, but the total production of gold from the Union of South Africa from 1868, when gold was first discovered, to the end of 1921 amounts approximately to £717,000,000 including the premium, and the gold was practically all won in the Transvaal.

**4. Methods of Mining.**—The gold-bearing beds of the Witwatersrand are locally known as reefs. They are beds of conglomerate occurring in a pre-Silurian sedimentary formation and strike east and west and dip south. Speaking generally, the reefs are steep at the outcrop, flatten in depth, and again steepen somewhat in the deeper workings. In the early days inclined shafts followed the reefs from the outcrop; as depths increased either compound shafts, in which vertical shafts connected directly with underground inclines, or auxiliary underground incline shafts provided with their own underground winding engines were adopted. Recently many deep vertical shafts have been put down, and in some cases greater depth is being reached by auxiliary underground vertical shafts. Practically all development is done by air-driven machines, and though a good deal of stoping is still done by hand, machines—especially those of the small "Jackhammer" type—are generally used in stopes. Some mines obtain their compressed air by purchase from a large central power-station, while many use electric power developed in four central stations for hoisting and other purposes. With the increase in area from which reef has been removed and the greater depth of working the problem of securing safety from falls of rock has become more difficult and systematic building of packs, either of stone alone or stone and timber to support the hanging-wall, has had to be undertaken.

To prevent miners' phthisis, extraordinary measures by installation and use of water services for dust-allaying have for some years been adopted, and recently increased attention has been given to the provision and distribution of ventilation as a means of diluting and removing the dust inevitably formed despite all precautions.

Previous issues of this Year Book (Nos. 1 to 4) contained fuller particulars as to methods of mining on the Witwatersrand.

**5. Metallurgy of Gold Production.**—The process of extracting the metal from the ore raised from the mines may be summarized as follows. In the first place, the valueless rock is sorted or picked out on picking belts or tables. The gold-bearing rock is then reduced to smaller size in jaw or gyratory stonebreakers, crushed finer in stamp mills and still finer in tube mills. The coarser free gold is caught by amalgamation with mercury, which is effected by carrying the fine ore in a stream of water, either directly from the stamp mills or from the tube mills, over mercury-coated copper plates, the gold being obtained from the amalgam by distilling off the mercury in a retort and smelting the resulting gold "sponge." The coarser sand is separated from the finer "slime" in hydraulic classifiers, and the gold is extracted from the "sand" by "leaching" in vats with cyanide solution. The gold is precipitated on zinc shavings or occasionally zinc dust and recovered by treating it with sulphuric acid, the resulting gold "slime" being filter-pressed, calcined,

and smelted. The gold is extracted from the "slime" by agitation with cyanide solution, decantation or filtering and precipitation on zinc, as in the case of the solution from "sand."

The tendency is to attach greater importance to the tube-milling and slime treatment, and in the most recently designed plants it is proposed to eliminate the stamp mill and the amalgamation process, and to extract gold only by cyanide treatment of the "slime" to which all the ore will be reduced.

The metallurgy of gold production was dealt with in fuller detail in previous issues of this Year Book (Nos. 1 to 4).

**6. Barberton Gold Fields.**—The Barberton gold fields may be said to date from 1885 when the phenomenally rich Sheba Mine was discovered. Speaking generally, the field consists of a number of quartz mining propositions situated in an ancient schist formation and intersected by numerous dykes and intrusions of trap rock. The pay ore runs in chutes and in lenticular segregations often extremely rich at surface but becoming poorer in depth, and frequently cut off by igneous intrusions or dying away in the country rock. For a few years Barberton and the surrounding district produced a considerable amount of gold; but in late years it has taken a relatively small place in the gold production of the Union, the quartz mines being worked on a comparatively small scale by tributors, private owners, and small capitalists. In the Kaapschehoop and Jamestown districts a small amount of alluvial gold is still found from time to time, but at the present time the alluvial digger has ceased to exist in these districts.

A full account of this district will be found in Geological Survey Memoir No. 9: "The Geology of the Barberton Gold Mining District," by A. L. Hall.

**7. Pietersburg and Murchison Range.**—The quartz mines in the Pietersburg district were worked as early as 1870; and there are indications of small ancient workings on some of the gold-bearing reefs. The ore bodies here proved patchy and irregular, and the climate in the lower lying parts of the area is the worst in South Africa. An output of gold has been maintained by these outlying districts for many years past, but all the enterprises, where any considerable capital was employed, were failures, and mining, as in the Barberton district, is almost entirely in the hands of individuals working their own claims or in the hands of small syndicates. The bad climate and lack of transport facilities up to a recent date have prevented the Murchison Range and neighbouring gold fields from attaining a successful development in the hands of individuals and small parties of working miners.

For a full account of this district, *vide* Geological Survey Memoir No. 6: "The Geology of the Murchison Range and District," by A. L. Hall.

**8. Lydenburg and Pilgrims Rest.**—This is the most beautiful part of the Transvaal and has every facility for mining, including water for power and a healthy climate. Forty-five years ago Pilgrims Rest was an important alluvial gold field and is the only part of South Africa that ever gave good results as an alluvial digging. Later the alluvial gold became worked out, and prospecting commenced on the mineralized bedded veins in the dolomites, quartzites, and shales found in this area. In some localities the exploitation of lodes in schist similar to that of the Barberton District has also taken place.

From a fairly early date this gold field attracted capitalists and the more promising areas soon passed out of private hands into the possession of large companies which are still working the auriferous beds. From time to time small finds are made in areas outside the large concessions and company-owned ground, but the bulk of the present day output is obtained from the large companies, and the alluvial digger and small mineowner do not contribute largely towards the production.

A full account of these fields will be found in Geological Survey Memoir No. 5: "The Geology of the Pilgrims Rest Gold Mining District," by A. L. Hall.

**9. Alluvial Gold.**—At the present date it cannot be said that there are any alluvial gold diggings in South Africa, although a few diggers still can be found prospecting the alluvial deposits in the Pietersburg, Barberton, and Pilgrims Rest districts, for in 1920 the output of alluvial gold was only 1,139 fine ounces from all Transvaal Districts. In 1873, and for some years following, a considerable quantity of so-called alluvial gold was won at Pilgrims Rest and Barberton districts until the deposits were worked out and the diggers turned their attention to the gold-bearing reefs and beds. At the Duivels Kantoor the sandstones of the Black Reef series contain alluvial deposits of small extent and numerous nuggets of gold have been found in this locality. In 1898 a fifty-two-ounce nugget was found on the main coach road near the Duivels Kantoor, and this nugget was shown at the Paris Exhibition in 1900. The gold from these fields has apparently been derived from the dolomites and other formerly overlying rocks which have now disappeared through erosion.

Alluvial gold recovered in the Transvaal from the date of the British occupation up to the 31st December, 1921, amounts to 29,362·688 ounces of fine gold.



In the Cape Province, from 1910 to the 31st December, 1921, 279-713 ounces of fine gold were obtained. In Natal, from 1910 to 31st December, 1921, 310-930 ounces of fine gold were obtained.

The total alluvial production of the Union to the end of 1921 was 29,953-351 ounces of fine gold.

10. **Future Production.**—The Union of South Africa is the premier gold producer of the world, and in 1921 contributed 52·3 per cent. of the world's total gold output estimated at 15,540,000 fine ounces.

The total amount of gold to be ultimately produced by the Witwatersrand has been at various times the subject of investigation and speculation, and publicity has been given to the following estimates of future production:—

- (1) £325,000,000 by Mr. Hamilton Smith in 1893, from 11½ miles of the Central Witwatersrand to a depth of from 3,000 to 3,500 feet.
- (2) £349,000,000 by Bergrath Schweisser in 1894, from 11½ miles of the Central Witwatersrand to a depth of 3,900 feet.
- (3) £700,000,000 by Messrs. Hatch and Chalmers in 1895, to a depth of from 3,500 to 4,000 feet.
- (4) £800,000,000 by Mr. John Hays Hammond in 1901, to a depth of 6,000 feet.
- (5) £2,871,000,000 by Mr. W. Bleloch in 1901, to a depth of 7,000 feet in the Central Rand, of 3,000 feet in the section Vogelstruis-Paarl Central, of 6,000 feet in the remainder.
- (6) £1,233,560,000 by Messrs. Leggett and Hatch, in 1902, to a depth of 6,000 feet excepting in the area east of Modderfontein where a depth of 4,000 feet was taken.
- (7) The Transvaal Chamber of Mines in 1913 stated in evidence before the Economic Commission that from 42 of the 51 gold mines producing at that time there would be worked from a depth of 7,500 feet 550,000,000 tons of ore, which would yield in gold more than the cost of working, which would be £500,000,000 approximately.
- (8) In 1914 the Transvaal Chamber of Mines repeated this statement to the Dominions Royal Commission.
- (9) The Government Mining Engineer, in evidence before the Dominions Royal Commission in 1914, estimated the tonnage to be crushed from the mines producing at that time as 587,000,000 and from mines and areas not then producing as at least the same quantity.

The continuity of the Witwatersrand as a gold producer depends upon the practicability of mining at great depth and on the extension of the reef in the eastern area where great possibilities exist favourable to a large gold production. On account of the comparative great strength of the formation and the low rate of increase of temperature with depth, it should be possible to mine at greater depths than have been attained hitherto in any part of the world.

The limits of deep mining are governed by many causes and have been variously estimated at from 6,000 to 10,000 feet. It appears reasonably certain that, owing mainly to the low temperature gradient of 200 to 250 feet per degree Fahrenheit, mining can be carried on to a depth of at least 7,000 feet, where the grade of ore mined is sufficiently high to cover the high cost which must inevitably prevail at such a depth.

While unique in the extent of its resources the Witwatersrand must be looked upon as being on the average a low grade gold field and, with only a few shillings per ton profit to work on, the question as to what companies can profitably continue to mine at great depths is inextricably bound up with the question of working costs, which is again largely dependent upon the supply and cost of labour.

The *Far Eastern Area*, referred to in the preceding paragraphs, has recently assumed a very important position in Witwatersrand mining, and it is from this district that a progressive output of gold may be looked for to take the place of the exhausted outcrop properties of the Central Rand and to counteract the diminishing output of a large group of mines that show a serious falling off in values at depth.

The *Far East Rand* contains the *Main Reef Series* over about 247 square miles, and for 203 square miles of this area the reef lies at a depth of less than 5,000 feet.

A number of producing companies are at work on this eastern area and with an average life of about twenty-one years may be expected to contribute a large amount of gold to the Union output.

In addition to the properties at work in the developing and producing stage the State owns a large number of undeveloped claims which are leased from time to time to companies capable of putting up the large sums of money necessary to bring these deep level mines to the producing stage.

The dip of the reef over almost all this eastern gold-bearing district is slight and there are portions of it of considerable extent in which the average dip is under seven degrees.

Mining and boring operations have shown that over almost the whole area only one reef has been or is likely to be worked and the average estimated stopping width is about 5 feet.

In most mines in this area there exist non-productive zones from which no ore is obtained, either because it has never been deposited or has been cut out through faulting or the intrusion of dykes or is so narrow in width or so low in value as to be unpayable. The percentage of non-productive zones varies from 15 to 80 per cent. in different mines on the basis of the existing relations between recovery and costs, and in estimating the possibilities of the ground still to be worked 60 per cent. of the area is assumed as non-productive.

While there are indications that the poorer ground lies in certain directions present day knowledge of the conditions does not permit any clear line of demarcation between payable and unpayable zones. Recent calculations show that if only one-half of the state-owned claims in the *Far East Rand* not held by producing companies, and containing reef at a depth of less than 5,000 feet prove remunerative, after a deduction of 60 per cent. for non-payable zones a yield of gold to the approximate value of £450,000,000 will be obtained.

11. **Commission on Low Grade Mines.**—The fourth issue of this Year Book contained a summary of the reports of the Low Grade Mines Commission, which was appointed in June, 1919, to investigate the position of the Witwatersrand gold mines then working at a loss or at a small and diminishing profit. The Commission examined the conditions obtaining in the gold mining industry, particularly in respect of its labour supply, and made recommendations in that connection.

The following definite measures of relief were proposed:—

- (a) *Greater co-operation between the management and the employees to be secured by work committees and joint committees.*—The anticipated result would be increased efficiency, improved relations between the managements and employees, the elimination of unnecessary stoppage of work, and the creation of a feeling of better contentment. The general body of employees as being closely in touch with the details and processes of industry, were in an advantageous position for detecting waste and inefficiency. With a spirit of co-operation good results might be expected. The committees were to be advisory, the executive authority remaining with the management.
- (b) *The rearrangement of underground work so as to increase the effective working period of natives.*—A considerable portion of the period spent by natives underground was not available for work. An alteration of the Mining Regulations might be expected to improve matters. The resulting extension in the effective hours of work of the natives would considerably counterbalance the shortage of numbers.
- (c) *The temporary employment of natives from north of latitude 22° south to supplement the deficiency of native labour.*—The Commission was of opinion that to increase the number of native labourers employed was a certain and rapidly effective method of alleviating the position of the low grade mines. Until 1913 natives from north of latitude 22° south were employed, but their mortality, particularly from pneumonia, was so heavy that the Government prevented the further importation of such natives into the Union. The discovery of a pneumococcal vaccine, and the advance in general hygienic measures and conditions had entirely altered this aspect of the case, and the medical evidence before the Commission was accepted as conclusive on the point. It was estimated that 40,000 natives were required to make up the shortage of labour on the gold mines alone, and an experimental introduction of 5,000 was recommended.
- (d) *The remission of the State's share of claim licences.*
- (e) *The extension of the piece-work system.*

The Government, it was recommended, should receive a notice three months before the projected closing down of any mine. The Government should thereupon initiate an independent investigation and publish a report thereon. In addition, one month's notice should be given before any definite closing down to enable the Government to take such steps as it might deem necessary—possibly to the extent of keeping the mine open temporarily.

12. **Capital in Gold Mining Industry.**—The nominal issued capital does not represent the amount upon which the return on capital invested in most industries can be calculated. In a statement upon this point, made by the Actuary of the Chamber of Mines (letter of the 3rd May, 1922, to the Mining Industry Board), the following criticisms were made of calculations of return based upon nominal capital:—

The issued capital figure merely represents the nominal value of the shares issued; it takes no account of whether the shares were issued for cash, or for property, or for services rendered by the promoters; it further ignores entirely the

price at which they were issued, and, most important of all, it does not indicate to what extent the cash assets of the company were expended on the development of the property. The correct figures upon which to estimate the return from the capital invested in the gold mines is the total working capital expended by the mines, plus the value of the consideration given for the ground. The former includes capital obtained from the cash subscribed for shares, from cash obtained, from debentures and loans, from premiums on shares, and from profits; the consideration given for the ground was mostly shares, but sometimes cash.

It is pointed out that a definite figure showing the capital expenditure of the gold mines is available in the total capital admitted as amortizable under the Income Tax Act. This figure is given as £69,000,000 on the 31st December, 1921. This sum leaves out of account any consideration given for the mining ground. The dividends paid during 1921 were given as £7,143,000. Deducting from this the amount of £3,960,000, allowed by the Inland Revenue Department as the amount of amortization during the year, there is a sum of £3,183,000, representing the net yield on the capital expenditure of £69,000,000, equivalent to  $4\frac{1}{2}$  per cent. This calculation takes no account of capital expenditure on various unpayable mines shut down. There is difficulty in arriving at a valuation of the amount paid for ground, that is, the vendors' interests. The contention is advanced that, on a reasonable computation, the sum of £69,000,000, representing the working capital of the mines, should be doubled, reducing correspondingly the rate of interest calculated above at  $4\frac{1}{2}$  per cent.

The following tables, showing the liabilities and assets of Transvaal gold mines since 1911, contain particulars which are relevant to the question of the capital invested in the gold-mining industry:—

(i) **TRANSVAAL GOLD MINES—LIABILITIES, 1911 TO 1921.**

Year.	Capital Issued.	De-bentures.	Premiums.	Temporary Advances.	Sundry Creditors.	Outstanding Credit Balances.	Total.
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1911.....	73,348	8,777	8,908	3,281	2,912	18,550	115,776
1912.....	70,562	8,690	8,171	2,642	2,522	21,474	114,061
1913.....	67,836	8,890	8,456	1,752	2,487	22,404	111,825
1914.....	65,825	8,401	8,193	2,101	2,388	23,732	110,640
1915.....	64,157	7,702	7,850	2,172	3,201	24,794	109,885
1916.....	63,799	7,164	7,275	2,016	3,614	26,657	110,525
1917.....	63,964	6,686	7,117	1,903	3,442	25,686	108,798
1918.....	63,477	5,899	7,312	2,061	3,405	24,959	107,113
1919.....	63,590	6,192	7,681	2,012	4,941	27,235	113,651
1920.....	65,510	5,708	7,910	2,404	5,543	30,051	117,124
1921.....	64,673	5,376	8,035	2,482	5,613	31,306	117,485

(ii) **TRANSVAAL GOLD MINES—ASSETS, 1911 TO 1921.**

Year.	Mining Property.	Shafts and Mine Development.	Equip-ment.	Stores, Furniture, Etc.	Invest-ments.	Cash.	Other Assets.	Deficiency of Assets.	Total.
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
1911...	46,087	18,508	31,785	1,373	2,024	7,202	5,020	2,577	115,776
1912...	44,431	18,429	31,110	1,120	2,410	8,760	5,242	2,559	114,061
1913...	42,293	19,026	31,841	1,054	2,255	8,408	4,778	1,570	111,825
1914...	40,918	20,322	31,715	1,373	1,676	8,440	4,703	1,493	110,640
1915...	38,363	23,718	29,227	2,021	1,627	8,244	5,048	1,637	109,885
1916...	39,842	20,821	31,411	3,267	1,488	7,816	4,553	1,327	110,525
1917...	38,887	19,117	31,758	3,323	2,489	6,480	4,705	1,439	108,798
1918...	38,143	19,468	31,844	3,954	2,048	5,987	4,399	1,360	107,113
1919...	38,691	20,994	32,412	2,927	2,527	6,231	8,246	1,623	113,651
1920...	36,364	22,521	32,929	2,954	2,935	8,821	7,346	3,254	117,124
1921...	35,253	23,575	33,088	2,277	3,167	7,364	8,131	4,630	117,485

13. **Costs and Yield of Gold Mining (Witwatersrand).**—The following table of the number of tons milled, the yield per ton, the working costs, working profits, and dividends paid per ton milled and per fine ounce recovered for the Witwatersrand gold mines has been prepared from the annual reports of the Transvaal Chamber of Mines, and refers to the returns of member companies of the Chamber. Gold held in reserve, expenditure charged to capital account, interest on and redemption of debentures and profits tax have not been taken into account in arriving at the working profits. For various reasons the working profit shown is not in all cases the exact difference between the yield as shown and the working costs as shown, but in the yearly averages shown below the difference is very slight. The value of the gold premium has been included in the figures from 1919.

**COSTS AND YIELD OF GOLD MINING—WITWATERSRAND, 1910 TO 1921.**

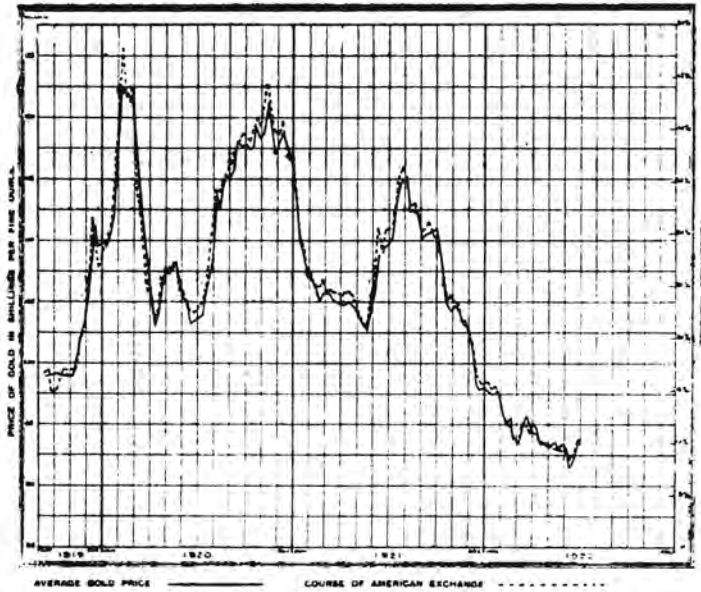
Year.	Tonnage Milled.	Per Ton Milled.					Per Fine Ounce Recovered.		
		Gold Produced.		Working Costs.	Working Profit.	Dividends Paid.	Working Costs.	Working Profit.	Dividends Paid.
		Quantity.	Value.						
	1,000 Tons.	dwt.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1910	21,433	6-70	28 6	17 7	10 6	8 3	52 5	31 3	24 9
1911	23,888	6-57	27 11	18 0	9 7	6 6	54 10	29 1	19 9
1912	25,186	6-82	29 0	18 8	10 0	6 3	54 8	29 2	18 3
1913	25,628	6-54	27 9	17 11	9 6	6 5	54 9	29 0	19 7
1914	25,702	6-23	26 6	17 1	9 0	6 3	54 10	28 10	19 0
1915	28,315	6-18	26 3	17 5	8 5	5 5	56 5	27 3	17 5
1916	28,525	6-27	26 8	18 1	8 2	5 0	57 7	27 0	15 10
1917	27,252	6-38	27 1	19 2	7 6	4 10	60 2	23 6	15 1
1918	24,923	6-56	27 11	21 7	6 0	4 2	65 8	18 4	12 7
1919	24,044	6-72	31 7	22 11	8 6	5 1	68 1	25 6	15 1
1920	24,006	6-53	35 3	25 8	9 7	6 10	78 2	29 1	21 0
1921	23,401	6-73	35 2	25 8	9 6	6 1	76 5	28 2	18 2

14. **Price of Gold.**—On the outbreak of war in August, 1914, it was deemed inadvisable to make weekly shipments of gold, but it was necessary to make arrangements whereby the mining companies could obtain cash for the payment of wages in the Union and supplies, etc., in London. An agreement was made early in August, 1914, under which South African gold was purchased by the Bank of England at the standard rate as soon as it was deposited in the South African banks in the name of the Minister of Finance of the Union to the order of the Bank of England. The producers could then draw on the Bank of England advances up to 97 per cent. All charges for refining, insurance, freight, etc., had to be borne by the producers, which meant during the war increased realization charges of approximately £400,000 per annum. The charge for insurance and freight was fixed at 25s. per cent.

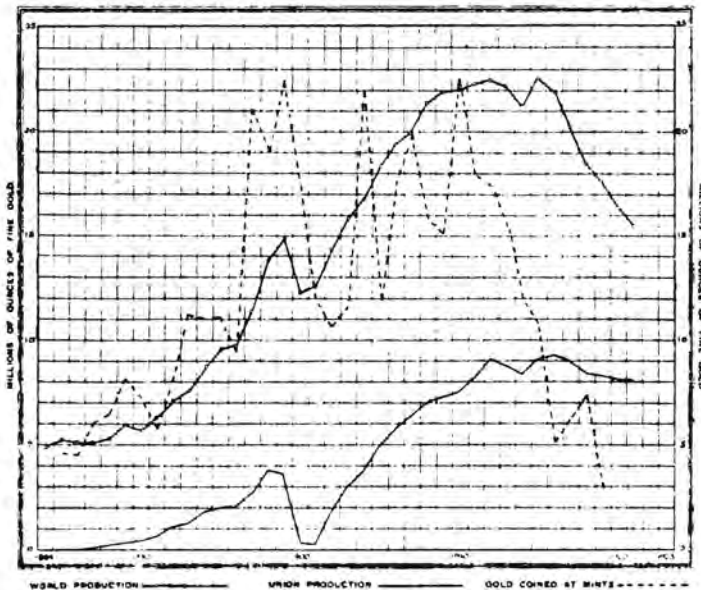
This agreement was terminated on the 25th July, 1919, from which date it was arranged that all gold deposited with South African banks, with the exception of a small quantity required for local currency, would be shipped to England by the producers, consigned to the Bank of England, but sold by the producers' agents on their behalf in the best available market. Before that date 50,000 ounces of gold were released by the Bank of England for the purpose of a test or trial sale and realized, through the agents of the gold producers on the latter's behalf 85s. 6d. per standard ounce or 93s. 5d. per fine ounce, an increase of almost 10 per cent. This was the beginning of what is generally known as the gold premium. Since then the price of gold has fluctuated greatly, reaching a maximum of 127s. 4d. per fine ounce on the 5th February, 1920, as shown in the subjoined table. As the currency of United States of America remained on the gold basis there is a close correspondence between the London-New York exchange and the price of gold. The accompanying graph shows the variation in the price of gold and the appreciation of the dollar in terms of sterling from September, 1919, to June, 1922.

The following table, showing the quarterly and yearly averages of the price of gold in London and the pound sterling in terms of dollars, has been constructed from the average of the daily quotations:—

COMPARISON BETWEEN THE PRICE OF GOLD IN LONDON AND THE APPRECIATION OF THE AMERICAN DOLLAR IN TERMS OF STERLING SINCE THE ESTABLISHMENT OF THE FREE GOLD MARKET IN 1919.



PRODUCTION OF GOLD.



**VARIATIONS IN THE PRICE OF GOLD IN LONDON, THE PRICE OF £1 STERLING IN TERMS OF DOLLARS, AND THE AVERAGE PRICE OBTAINED FOR TRANSVAAL GOLD, SEPTEMBER, 1919, TO JUNE, 1922.**

Date.	Price of Gold in London per Fine Ounce.					Average Price Obtained for Transvaal Gold.*	Value of £1 (London and New York).†
	Highest Point Reached.	Date when Reached.	Lowest Point Reached.	Date when Reached.	Average.		
	s. d.		s. d.		s. d.	s. d.	£
1919, Sept.-Dec.	111 5	17 Dec.	98 5	Oct.	103 3	106 3	4 07
1920, 1st Quarter	127 4	5 Feb.	105 0	29 Mar.	115 3		3 59
2nd "	109 0	27 Apr.	102 7	9 Apr.	105 8		3 91
3rd "	119 0	14 Sept.	103 2	18 June	112 6		3 07
4th "	122 4	8 Nov.	115 8	23 Dec.	118 3		3 48
Year.....	127 4	5 Feb.	102 7	9 Apr.	112 11	111 9	3 08
1921, 1st Quarter	115 11	3 Jan.	104 6	30 Mar.	107 0		3 84
2nd "	111 0	30 June	102 8	19 May	105 9		3 89
3rd "	115 5	3 Aug.	109 8	2 Sept.	112 1		3 67
4th "	111 0	1 Oct.	97 7	21 Dec.	103 1		4 00
Year.....	115 11	3 Jan.	97 7	21 Dec.	106 11	106 10	3 85
1922, 1st Quarter	98 4	5 Jan.	93 3	1 Mar.	95 10		4 32
2nd "	95 0	1 Apr.	91 0	7 June	93 6		4 44

\* Less realization charges.

† Par = 4.8665 dollars to the £1.

### § 3. Copper.\*

1. **General.**—Copper occurs in the Union in the Transvaal, Cape, and Natal Provinces but in Natal the deposits discovered have not been commercially exploitable. In the Cape Province the only deposits that have proved of much economic importance are those of Namaqualand, but at Areachap, to the west of Upington, a copper lode has been opened up in the Kheis quartz schists, whilst quartz veins carrying copper are also present in various parts of Hay, Gordonia, and Prieska, in the same and younger formations.† In the Mount Ayliff district of East Griqualand, copper pyrites and pyrrhotine have also been found, in association with nickel, and a certain amount of platinum, along the junction of the Karroo sediments with the great mass of intrusive norites forming the Insizwa Mountain.‡ In the Transvaal, the only producer so far has been the Messina Company, operating in the Zoutpansberg district, but there are numberless ancient surface workings for copper in the northern districts, and as development of the country proceeds, some at least of these will doubtless prove workable propositions. As this copper area lies in latitude 22° 15' and at an altitude of less than 2,000 feet, it was at one time regarded as uninhabitable by white families, and in the early days the Messina Mine was frequently shut down owing to all hands suffering from malaria. Stringent anti-malaria precautions have since been taken, and it is satisfactory to note that the health conditions for several years past have been excellent, and that fever no longer causes any appreciable inconvenience.

2. **Discovery of Copper and Development of Mining.**—Copper was certainly known in Namaqualand as early as 1685, in which year Governor Simon Van der Stel himself visited the district to verify the reports that had reached him of the occurrence of rich ores there. The modern history of the deposits, however, dates from the year 1852, when Messrs. Philips and King commenced operations at Springbokfontein. The success soon obtained by these gentlemen initiated a boom in copper properties, and shares had by the year 1855 reached such dimensions as to attract the serious attention of the Cape Government, which then sent Mr. A. Wyley to investigate and report upon the new field.

The early efforts of the miners and prospectors do not appear to have been very successful, and it was only with the start of the great companies, with which the subsequent production of copper in the Cape Province has been almost exclusively associated, that the possibilities of the mines began to attract general attention. Of these companies, the

\* This section is a summary of an article by Mr. T. G. Trevor, A.R.S.M., F.G.S., Inspector of Mines, Pretoria, and Mr. G. E. B. Frood, M.A., M.I.M.M., Inspector of Mines, Bloemfontein, which appeared in the fourth and previous issues of this Year Book.

† Rogers and Du Toit: "Geology of Cape Colony."

Cape Copper Mining Company, Ltd. (now the Cape Copper Company, Ltd.) was registered in 1863, whilst the Namaqua United Copper Company, Ltd. (reconstructed since into the Namaqua Copper Company, Ltd.), followed in 1887. The success attending the operations of these two companies places them high amongst the great copper mines of the past. Their financial success, in particular, is evidenced by the former having returned to its shareholders between 1864 and the end of 1915 no less than £4,675,450, whilst the latter has distributed up to the end of 1916 dividends equal to 438½ per cent. of its issued capital. In gauging these results, it has to be kept in view that, owing to the remoteness of the district and other circumstances, the working expenses and costs of realization have always been comparatively high.

At least a dozen mines have contributed appreciably to the copper output of this field, but the most important have been those of O'okiep and Nababeep, belonging to the Cape Copper Company, and Tweekfontein owned by the Namaqua Copper Company. Each company, however, still owns smaller workings, which are called upon as occasion demands. The great decline in the price of copper, which commenced in 1918, led to the ultimate cessation of operations in the Namaqualand mines in April, 1919.

Owing to local conditions, no attention was paid to base metals in the Transvaal until after the South African War in 1901, when a group of very extensive ancient surface workings on the lower Limpopo Valley attracted the attention of some Rhodesian capitalists. After several years of unsuccessful work, these were developed into the present Messina Copper Mine. Progress was rapid for a time as, starting with a production of 165 tons of copper for the year 1906, the output of metal had risen to 5,970 tons for the company's financial year 1914-15. Owing to the fall in the price of copper, however, production was suspended in May, 1920, but in the latter part of 1922 there was a prospect of resumption.

**3. Production of Copper.**—The following table gives particulars of the value of copper sold in and shipped from the Union from 1857 :—

**COPPER ORE SOLD OR SHIPPED, UNION, 1857 TO 1921.**

YEAR.	CAPE.			TRANSVAAL.		
	Tons.	Per cent. of Metal.	Value.	Tons.	Per cent. of Metal.	Value.
1857-1862.....	22,343	—	£ 605,458	—	—	£ —
1863-1882.....	211,500	—	4,308,433	—	—	—
1883-1903.....	943,658	18·99	8,336,509	—	—	—
1904.....	—	—	—	14	—	668
1905-09 (av.).....	*	*	484,833	981	*	30,934
1910-14 (av.).....	13,858†	47·30†	430,901	5,428	44·95	126,442
1915.....	13,973	44·48	517,208	14,996	43·38	525,106
1916.....	10,599	44·52	474,076	12,243	47·40	663,304
1917.....	10,525	47·66	550,642	9,606	51·44	575,398
1918.....	1,669	48·51	68,622	5,206	53·28	273,483
1919.....	276	74·62	17,656	4,610	60·70	216,789
1920.....	7,892	38·33	255,157	2,988	64·61	163,112
1921 ‡.....	113	72·60	5,026	45	51·27	1,420

\* No record.

† Average of 1911-14.

‡ Mining practically at a standstill.

**4. Ore Deposits and Methods of Mining and Treatment.**—Particulars of ore deposits and methods of mining and treatment were given in previous issues of this Year Book, but have not been repeated owing to exigencies of space.

**§ 4. Tin.\***

**1. Discovery and Mining of Tin.**—Cassiterite was discovered both in the Cape Province and in Swaziland in the final decade of the last century, but it was not till after the termination of the South African war in 1902 that serious attention was turned to its exploitation. Later, in 1904, cassiterite was also found in the Bushveld area of the

\* This section is a summary of an article by Mr. T. G. Trevor, A.R.S.M., F.G.S., Inspector of Mines, Pretoria, which appeared in previous issues of this Year Book.

Transvaal, a discovery which has since developed in an extremely satisfactory manner, so that the Transvaal has taken its place as a permanent and important producer of tin on the markets of the world.

Three areas are now producing tin: (i) Cape Province; (ii) Eastern Transvaal; and Swaziland (though this native territory is not politically incorporated in the Union, economically it has no separate existence, and is therefore mentioned in this statement); (iii) Transvaal Bushveld.

(i) *Cape Province.*—Cassiterite has been found at various points in the west of the Cape Province, but has only been worked to any extent in the neighbourhood of Kuils River, sixteen miles from Cape Town, on the Stellenbosch railway line. The tin is there found chiefly in association with quartz, but to a small extent also with greisen, in broken lodes traversing the granite of the Bottelary-Stellenbosch mass, close to its junction with the Malmesbury slates. Wolfram is also prominent in the lode matter, especially near the surface. These lodes have been opened up to some extent, and are said to have proved rich in places, but the very broken character of the deposits has hitherto militated strongly against successful exploitation. As the result of the denudation of the lodes, detrital accumulations of cassiterite have been found in the creeks leading down from the hills, and in the lower lying ground, towards the south. This alluvial has been worked with some success, as much as 300 tons of high grade concentrates having been reported as produced in the years 1906 and 1907.

The total tin shipped from the Cape Province up to 31st December, 1921, was 566 tons, valued at £80,001.

(ii) *Eastern Transvaal and Swaziland.*—The cassiterite in this area is only worked as alluvial, but it is undoubtedly derived from the many large pegmatite veins that traverse the older, or grey, granite, which here makes the escarpment of the South African plateau. These pegmatites have not yet been found workable, though cassiterite crystals are not uncommon in them. This area is subject to a very heavy rainfall and strong denudation, and in the valleys running down into Swaziland ideal conditions exist for natural concentration. The tin fields extend on both sides of the border, but at present the production of tin is entirely confined to Swaziland, where one corporation holds a practical monopoly of the stanniferous area.

The ground is worked by hydraulic and sluicing. The cassiterite is very coarse, and no mechanical dressing is required. About half a million cubic yards of ground is annually treated, giving about 1·8 lb. black tin per yard. The value per yard is given in normal times (with tin at £139) at 2s. 2d., and the total working cost at 11·6d. The concentrates shipped carry 71 per cent. metallic tin, and are remarkably free from any deleterious impurity. Many of the rarer minerals of thorium and tungsten are found in the concentrates, but not in commercial quantities. At the present rate of working it is stated that the known deposits are sufficient for twenty years. The export from these fields is about 300 tons cassiterite per year; but this is not included in the returns for the Union.

(iii) *Transvaal Bushveld.*—In the central or Bushveld area of the Transvaal, cassiterite was first discovered in 1904. This area is geologically notable as consisting of an immense lacolite of red granite, intrusive between the Pretoria and the Waterberg formations. With its subsidiary felsites and contact zones of metamorphic alteration this covers an area some 250 miles from east to west, by 100 miles from north to south. Cassiterite is found both in the granite and in the felsites and sedimentary rocks in direct contact with it. In the felsites the mineral occurs irregularly along joints and bedding planes, and so far the workings in this rock have never been attended with success.

In the sedimentary rocks, the Rooiberg and Leeuwpoot mines have been working most successfully in fissure veins, traversing a mass of quartzites and shales, of undoubted sedimentary origin, which are enveloped in the granite. At Rooiberg these veins are vertical, and do not carry more than 1 per cent. to 1·5 per cent. of tin, but their value consists of lateral enrichments which pass off into the bedding planes of the country rock and give pockets and bonanzas of phenomenal richness. Unfortunately these offshoots have only so far been found near the surface, none of importance having been encountered below 100 ft. At Leeuwpoot the veins are not highly inclined, and are richer in themselves than at Rooiberg, but, on the other hand, only one notable enrichment in the country rock has been found.

Besides pyrites, specularite, and a small amount of mispickel, no other metallic minerals are of obvious occurrence in these deposits.

The character of the deposits at Rooiberg and Zaaiplaats and the methods of mining were more fully described in previous issues of this Year Book (Nos. 1 to 4).

The crushing and dressing plants on the larger mines are thoroughly well equipped and up to date. After the preliminary concentration the concentrates are calcined and redressed, the resultant cassiterite for export containing from 65 per cent. to 70 per cent. metallic tin. All the cassiterite produced is exported to the Malay States, a more favourable market for the class of product being obtained there than in England.



In 1917 the Zaaiploats Tin Mining Company began smelting tin for consumption in the Union. This was a war measure, and was successful during the war, but was discontinued in 1921, when normal conditions returned.

Smelting was also started at Leeuwpoot and was continued during the period of the war, but, owing to the impure nature of the ore, work was discontinued soon after peace was declared.

With regard to the permanence of the production of tin in the Transvaal, the area over which it occurs is so large and the difficulty of locating the outcrops of the pipes so great, that though it seems unlikely that any great expansion will occur, at any one period, yet it is probable that the discovery of new properties will go on for very many years.

**2. Production of Tin.**—The production of cassiterite in the Union since 1911 has been as follows:—

**PRODUCTION OF TIN IN UNION, 1911 TO 1921.**

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons. (2,000 lb.)	£		Tons. (2,000 lb.)	£
1911.....	3,533·729	411,871	1917.....	2,678·560	346,016
1912.....	2,932·208	367,699	1918.....	2,206·042	440,985
1913.....	3,871·907	436,550	1919.....	1,630·168	277,925
1914.....	3,429·234	311,391	1920.....	2,463·219	435,680
1915.....	3,441·353	331,420	1921.....	1,424·534	139,688
1916.....	3,264·068	339,571			

**§ 5. Other Metals.\***

**1. General.**—The exploitation of the mineral resources of South Africa has been of such recent growth, and the expansion of the gold, diamond and coal industries has been so rapid and so profitable, that nearly all the available capital had been devoted to those industries, and in the past it has usually been only as a matter of accident that the presence of other minerals has been recorded. In the last ten years, however, the profitable exploitation of the tin mines and of the Messina Copper Mine has turned more attention to the question of base and rare metals, and though as yet very little capital has been spent on the exploitation of these, there is every reason to hope that they occur in sufficient quantities to become a permanent source of riches to the country.

**2. Antimony.**—This occurs as antimonite in the gold reefs of the northern line of the Murchison Range in the Zoutpansberg District of the Transvaal, in a very pronounced contact zone. The reefs extend for some thirty miles. They are to a certain extent lenticular, but occurring again and again on the same horizon, and being up to 20 ft. in width, make workable masses of ore, which have been developed down to a depth of 200 ft.

The ore contains from 6 per cent. to 60 per cent. antimonite, and from 3 dwt. to 1 oz. of gold to the ton. Formerly the antimony was regarded as worthless, and as preventing the working of the gold. Recently a railway has penetrated the neighbourhood, which is only some 200 miles from the port of Delagoa Bay, and a considerable quantity of hand-picked antimonite was exported during the early part of the war period. An attempt was also made to work one mine by a wet process, which included the solution of the antimonite in caustic soda and the recovery of gold from the residues by cyanide. This process, however, failed, and the mine is now shut down.

During the war period a certain amount of fused antimonite was also produced by one mine. This was reduced to antimony in Johannesburg, and was used by the South African Railways for the production of white metal. Since the declaration of peace this work has been closed down.

Antimonite also occurs and has been opened up, showing a workable mass of ore, in the Steynadorp Division of the Barberton district.

**3. Arsenic.**—This occurs as a deleterious impurity in many of the gold mines which are situated in contact belts, and in some of the tin mines. In other of the tin mines it is an essential constituent of the pipe-like chutes which carry the cassiterite. In only two

\* By T. G. Trevor, A.R.S.M., F.G.S., Inspector of Mines, Pretoria.

cases, however, is there sufficient arsenic in the concentrates to make its recovery payable. The first of these is the Consort Gold Mine, near Barberton, and the second was the Stavoren Tin Mine.

As some £80,000 worth of arsenate of soda for sheep and cattle dips is used annually in the Union, it is very desirable that further arsenious deposits should be developed.

**4. Barium.**—The existence of barytes has been noted in the Transvaal at several points in the bushveld area, and also at Saltpetre Kop and Spiegel River in the Cape Province, but so far there has been no attention paid to this mineral.

**5. Bismuth.**—The occurrence of bismuth has been reported in some of the gold ores of the Sabi district, and in one of the tin mines (Stavoren), but neither occurrence is of commercial importance.

In 1897 a very rich mass of bismuthite, from which several tons were extracted, was found on the farm Gewoerfontein No. 604, in the bushveld granite area of the Transvaal. A certain amount of work has recently been done on this deposit, but with indefinite results, and the work is now suspended, though indications point to the fact that this is one of the pipe-like deposits of this area from which any results may be obtained.

**6. Chromium.**—For several hundreds of miles along the margin of the bushveld granite area in the Transvaal, pseudostratified segregations of chromite have been noted. These are several feet in thickness, and of quite workable size and extent.

They have so far not been opened or exploited, but from time to time samples have been assayed. These usually contain from 35 per cent. to 45 per cent. chromic oxide. Samples from the north of the Lydenburg district, however, yield up to 54 per cent. Unfortunately this portion of the country lies over fifty miles from a railway, and is very inaccessible, but a reconnaissance has been made by the Railway Department, and in time the district will be opened and the deposits brought within reach of a market. It is probable that richer ore may also exist in the other portions of the occurrences, for so far only obvious outcrops have been tested, and obvious outcrops of all minerals tend to be the most siliceous, these resisting denudation, where the richer deposits weather away. The richer outcrops therefore become subsurface, and must be sought for by regular prospecting. These chrome ores also contain an appreciable quantity of platinum, and certainly deserve attention.

**7. Cobalt.**—Cobalt was one of the first minerals to be worked in the Transvaal, an extremely valuable complex ore, which fetched several hundred pounds per ton, being exported from the farm Kruis River, in the north Middelburg District of the Transvaal, in the early eighties of the last century. The deposit occurred in the contact zone of the bushveld granite, but owing to its irregularity, the mine soon closed down, and has not been reopened. Several other cobalt deposits, also connected with the bushveld granites, were opened in 1906 near the railway at Balmoral. These mines were never carried to the producing stage, but, with the attention which is now being paid to this mineral, it is probable that they will soon receive renewed attention.

Some notes by Dr. E. T. Mellor, on the field relations of these Transvaal cobalt lodes, were published in the Transactions of the Transvaal Geological Society for 1915. [ 6 ]

**8. Iron.**—Previously to the year 1910 it was believed that the huge masses of magnetic iron ore, which are obvious throughout the margin of the Transvaal bushveld and in many of the older schistose areas, were valuable iron ores. The great beds of siliceous ore, which occur in the Transvaal system especially around Pretoria, were also regarded in the same light, and, therefore, no further work either in prospecting for iron ore or in recording deposits was ever undertaken. In that year Mr. Harbord was brought out to South Africa by the Union Government to report on the prospects of starting an iron industry on these deposits.

Mr. Harbord's report was distinctly discouraging, as he pointed out that a titaniferous ore is not at present workable under economic conditions, while the siliceous ores were of themselves too siliceous to be payable. This report, while condemning the deposits then known, has had the most beneficial results. Finding that these obvious deposits were unworkable, attention was immediately drawn to other deposits, of which up to that time no notice had been taken, and extremely good ores have, as a result, been found in vast quantities. On these deposits three smelting propositions are now being developed, viz., at Pretoria, Vereeniging, and Newcastle.

- (1) *Pretoria Iron Mines.*—Shortly after Mr. Harbord's visit, and as a direct result of his report, a bed of argillaceous ore was discovered in close proximity to the well known siliceous bed at Pretoria. This siliceous bed is up to 15 feet thick, and contains approximately 48 per cent. metallic iron, plus 19 per cent. silica. The argillaceous bed, which outcrops parallel to and a few hundred feet above the siliceous one, carries about 54 per cent. iron, plus 8 per cent. alumina. These two, taken conjointly, make a workable and highly satisfactory furnace mixture.

These deposits run through the town lands of Pretoria, and on them the Pretoria Iron Mines have been started.

At the present time this Company's work may be said to have passed the experimental stage, for a small blast furnace, producing about 11 tons per day, has been in blast at intervals for a considerable time, and is steadily producing a high-class cast-iron, which obtains a ready sale at a profitable price. It is proposed to erect works on the basis of an output of 200 tons per day, and there is every reason to believe that the project will be successful. Both the coke and the lime supplies have been found satisfactory, and, generally speaking, the prospects are excellent.

The Pretoria Iron Mines have also acquired several farms lying some 100 miles north of Pretoria, on which very large deposits of excellent hematite, running up to 67 per cent. metallic iron, occur.

- (2) *Vereeniging, Transvaal*, and (3) *Newcastle, Natal*.—These smelting works are not yet in as advanced a position as those at Pretoria. They rely for their ore on beds of hematite, which occur in the coal measures of the high veld, and also in the former case, on a large deposit of high-grade specularite which has been discovered some 40 miles north of Pretoria on the margin of the bushveld granite. This latter deposit is certainly extensive, but has not yet been developed.

The world-wide commercial depression has delayed the acquisition of the capital necessary for these works, and all operations have been postponed in the meantime.\*

In many other places in the country valuable deposits of iron ore have also been brought to light, and there is every reason to believe that in the future the wealth which South Africa may obtain from this mineral will not be disproportionate to that which has already been obtained from the noble metals and stones.

A general report by Professor Stanley on the iron and steel industry in South Africa appears in the *South African Journal of Industries* for May, July, and August, 1920.

9. **Lead**.—Before the introduction of breechloading arms and fixed ammunition, lead for bullets was smelted in the Transvaal, but the introduction of fixed ammunition killed that embryo industry. Later, in 1892, an argentiferous galena was mined, and smelting works were erected, near the present railway station of Argent, some fifty miles east of Johannesburg. Owing to the circumstances existing at the time, these works shut down in 1896. Recently they have been reopened and productive operations have been initiated. There is in this locality a small mass of intrusive granite, similar to that of the bushveld, and surrounded in a similar manner with a norite margin. In this norite highly inclined galena-bearing fissures occur. These are up to a few feet in width.

Galena also occurs very widely diffused in irregular deposits in the dolomite. Formerly these deposits were only exploited in a very small way to supply some local ore reduction work on the Rand. Recently, however, it has been discovered that some of the deposits, in the outcrop at least, are rich in vanadium.

10. **Mercury**.—Traces of native mercury have been reported from various parts of the country, but most of these are probably due to accidental salting. In the Barberton district, cinnabar occurs in the contact zone between the sedimentary formation, and the granite that is intrusive in it. The quantity of cinnabar in the ore (an altered quartzite) appears almost payable. The claims containing the deposit have been held for years, and a good deal of money spent in developing them, but so far no attempt actually to extract the mercury has been made.

11. **Manganese**.†—Manganiferous earth of inferior quality is of frequent occurrence in the Transvaal. Pyrolusite of good grade occurs in the form of veins in the older rocks of the Cape Province, and in the neighbourhood of Pretoria, but the veins are in all cases small and much mixed with gangue. At the present time a few tons per month are being mined at Pretoria for use in the cyanide works of the Rand, but otherwise no commercial attention is being paid to the mineral. In the Krugersdorp district, on the farm Elandsveit, and on neighbouring farms, there are large lateroidal deposits of high grade pyrolusite from which cobbled ore containing 59 to 63 per cent. MnO<sub>2</sub> can be obtained. These deposits, which occur in areas from which the dolomite has been almost but not quite denuded, appear to be of very considerable extent, and are easily mined. Supplies of this mineral quite equal to any local demand which may spring up, will, therefore, be obtainable at an economic price, but it is doubtful whether it will be possible to develop a profitable export trade.

All the known details with regard to manganese in the Union appear in the article on manganese in the *Journal of Industries* for January, 1919.

12. **Molybdenum**.—This occurs in Natal as molybdenite, disseminated through a horizontal sedimentary sandstone of Karroo age in the neighbourhood of certain igneous intrusions, but its extent is not yet known. It also occurs in the northern Transvaal and

\* The amalgamation of the Pretoria and Vereeniging Iron Interests was in contemplation towards the end of 1922. For the *Iron and Steel Industry Encouragement Act*, see page 667.

† See *Journal of Industries*, January, 1919.

in Namaqualand, disseminated through pegmatite veins in the granite and gneiss, also in the tin pipes of the bushveld area.

So far this mineral has not been sought for, nor have occurrences been developed, and it is quite possible that payable deposits may be found if attention is directed to it.

**13. Nickel.\***—The occurrence of nickel has been noted in many parts of the Transvaal bushveld complex, in the Barberton area, in the Cape Province, and also in Natal, but the only three deposits which appear at the present time to have prospects of economic importance are those at Insizwa in the Cape Province, at Vlakkfontein No. 902 in the Rustenburg District of the Transvaal, and in the Barberton district. At Insizwa and Vlakkfontein the ore occurs as pyrrhotite mixed with calcopyrite and pentlandite, and is apparently formed by a magmatic concentration in the base of large norite sheets.

At Vlakkfontein a considerable amount of prospecting has been done, and the results justify further work, but this is unfortunately beyond the means of the present owners, who are attempting to get more capital into the venture.

At Insizwa development is proceeding by means of a long adit calculated to tap the deposit at depth, but this adit has not yet reached its objective.

At Barberton a sedimentary bed has recently been discovered carrying a nickel ore of up to 25 per cent. The bed is up to 3 feet in thickness, and though not yet developed, appears to be permanent in character. The ore appears to occur in the form of an entirely new mineral—a magnetic iron-nickel oxide. Sulphur is absent, and the mineral reduces easily and runs down into a metallic button carrying about 54 per cent. nickel. If the deposits open up well, the mine should prove valuable.

A full description of the occurrences of nickel known in the Union at that date, and of these deposits in particular, appeared in the *Journal of Industries* for November, 1919 while a preliminary report on the Barberton occurrence was published in the same *Journal* for June, 1920.

**14. Osmidium.**—This is contained in black sands and is recovered by gold mines, in the Witwatersrand. The output shown is the total recovered and disposed of up to 31st December, 1921.

**15. Platinum, Etc.**—The occurrence of platinum and the allied group of metals in the black sands derived from the conglomerates of the Klerksdorp area has been noted. The quantity appears to make the occurrence worthy of attention, but so far nothing has been done. In the chromite deposits the presence of platinum in more than traces has also been proved. It also occurs in the Insizwa nickel ores. Discoveries of this metal have recently been reported from the Engcobo and Xalanga districts of the Cape Province. The metal occurs both in soil and alluvial deposits derived from the decomposition of igneous rocks in the Stormberg series, and in certain unaltered basic igneous dykes of great magnitude. At present there is not sufficient evidence on which to base any definite opinion, but the deposits may prove of importance.

**16. Silver.**—The only silver won has hitherto been that contained in the gold bullion of which it forms about 10 per cent. by weight. The opening of the lead mines near Argent, which are known as the Transvaal Silver Mines, has added considerably to the silver production, the galena of these mines carrying up to 80 oz. of silver to the ton.

**17. Sulphur.**—There are no sulphur deposits of anything but scientific interest in the country, nor are any large deposits of massive pyrites known, except at Areachap in the Cape, near Upington. This mine, however, is in such an inaccessible position that its product cannot hope to compete on equal terms with the imported article.

There are many gossan outcrops in the older formations of the country which have not yet been opened up, and which may lead to sulphide deposits of magnitude. At present the auriferous concentrates from certain mines constitute the only source of sulphur for the sulphuric acid works attached to the explosives factories. These concentrates carry up to 45 per cent. sulphur, with about 1 oz. of gold to the ton. The supply at present is only some 400 tons per month, while the demand is at least 1500 tons, the balance being made up by importation.

A comprehensive article on this subject appears in the *Journal of Industries* for November, 1920.

**18. Thorium.**—Monazite occurs in many places in more than samples around the margin of the Transvaal Bushveld Complex, as do various other rare minerals; but no attention has so far been paid to these, though the monazite is reported to have very distinct radioactive qualities. The mineral is also found along with cassiterite in the alluvial workings of Swaziland.

**19. Titanium.**—Hand samples of almost pure rutile have been obtained from the Barberton district, but as yet no information is public as to its method of occurrence. The

\* See *Journal of Industries*, November, 1919.

titaniferous iron ores of the Transvaal already mentioned contain up to 14 per cent. titanium, and occur in enormous quantities.

20. **Tungsten.**—Specimens of wolframite have been obtained from various localities in the Transvaal, and from the Kuils River tin mine, but no quantity has been discovered. Scheelite occurs in considerable quantities in the Stavoren Tin Mines, and about 50 tons were recovered during the war period. The scheelite occurs quite irregularly mixed with tin and the associated minerals in pipe-like deposits. It may be the predominant mineral or may be entirely absent. It is not likely that any large quantities of this mineral will be obtained, but it is probable that a small output will always accompany that of tin.

A small quantity has been won in the neighbourhood of Leydsdorp.

21. **Vanadium.**—This mineral has been found associated with the lead ores of the Marico district in quite considerable quantities, and two companies have recently been floated to develop these deposits. So far, it is impossible to say much about the prospects of these concerns, but it appears certain that there are at least several hundred tons of vanadinite in the old dumps and visible in the surface workings which can be extracted at a good profit. Further development may increase this quantity indefinitely.

22. **Zinc.**—Zinc, like lead, occurs in irregular deposits throughout the dolomite area of the Transvaal, but, with the exception of one property, no attention has been paid to its occurrence. At Witkop, in the Marico district, a zinc mine was opened.

23. **Radio-Active Minerals.**—So far, pitch blend has not been found in the Union, and, with the partial exception of monazite, no commercial attention has been paid to the rarer radio-active minerals which are found in the neighbourhood of the Swaziland and Transvaal tin fields, and which were described by Dr. A. W. Rogers in a paper read before the Geological Society of South Africa in April, 1915.

## § 6. Diamonds.

1. **Discovery of Diamonds.**—The history of the early diamond discoveries in South Africa was given in some detail in the fourth and previous issues of this Year Book, in the course of an article by Messrs. G. E. B. Froid, M.A., M.L.M.M., and T. G. Trevor, A.R.S.M., F.G.S., of which this section is a summary.

The diamondiferous occurrences now known are spread over a large area, but have an apparent tendency to cluster, the chief centres being Barkly West and Kimberley in the Cape Province, Boshof, Koffiefontein, Jagersfontein, Kroonstad, and Theunissen in the Orange Free State, and the Premier Mine in the Transvaal.

Altogether, considerably over 250 occurrences\* of Kimberlite (by which general term the rock of the diamond mines is now commonly known) have been located in South Africa, including Rhodesia, South-West Africa, and the Belgian Congo, all of which, however, are confined to the South African plateau. No payable mine has been discovered north of the Premier Mine.

Much the most important development since the original opening up of the mines of the Kimberley group has been the discovery, already alluded to, of the great Premier Mine, which lies about twenty miles east-north-east of Pretoria. The pipe is roughly an oval, 2,900 feet long by 1,500 feet across, giving an area of nearly 8 acres, or 3,570 claims. The enormous surface extension thus represented, as compared with other pipes, will be realized from the consideration that it amounts to only a hundred claims less than that of the three largest mines of the Kimberley group together. Down to the present depth of the working, the walls are practically perpendicular, and have shown no disposition to cave. In normal times before the War, the mine employed some 900 white men and 12,000 natives, and the rate of working amounted to 36,000 loads (each 16 cubic feet) daily, or over ten million loads per annum. Since the war, however, the scale of work has been reduced very considerably, the figures for August, 1912, and August, 1921, being:—

	August, 1912.	August, 1921.
White employees.....	884	275
Coloured employees.....	16,461	1,256
Loads washed.....	984,967	115,640
Carats won.....	202,225	26,092
Average carats per 100 loads....	20.5	22.6

The mine is so large that at the present rate of working the average depth of the mine only increases some 6 feet a year, and, as the average depth is now only some 300 feet, and the walls are massive, it is clear that the present method of working may continue for many years to come.†

2. **Production of Diamonds.**—The table given below gives the annual output and value of diamonds in each Province, from the earliest date for which records are available.

\* Wagner: "The Diamond Fields of Southern Africa," 1914.

† Indebtedness is acknowledged to Mr. Gardner Williams's work, "The Diamond Mines of South Africa" (Macmillan, 1902), for various points in the early history of the diamond industry.

According to official records, the value of the diamond output during this period was £219,900,588. The production of diamonds since the date of discovery, 1870, may, however, safely be taken to have amounted in value to over £245,000,000.

**OUTPUT OF DIAMONDS IN UNION, 1883 TO 1921.**

YEAR	CAPE OF GOOD HOPE.		TRANSVAAL.		ORANGE FREE STATE.		TOTAL.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Carats.	£	Carats.	£	Carats.	£	Carats.	£
1883-1901	3,748,413	69,771,803	*35,509	*69,801	No records available at present.		Records incomplete.	
1902	2,486,327	4,049,808	1,065	2,402				
1903	2,463,692	4,833,010	171,970	230,752				
1904	2,514,222	5,191,661	884,331	1,150,873	284,604	866,111	3,683,157	7,208,645
1905	2,269,450	4,428,383	802,172	922,330	297,167	853,834	3,368,789	6,204,547
1906	2,742,868	6,992,811	1,009,392	1,563,141	323,976	1,040,691	4,136,236	9,590,643
1907	2,579,885	6,310,796	2,062,855	2,268,075	528,972	1,407,055	5,170,812	9,085,926
1908	1,588,511	3,085,352	2,022,688	1,549,815	479,922	771,414	4,091,121	5,406,581
1909	2,527,297	4,690,478	1,877,486	1,176,080	765,088	1,332,201	5,169,871	7,199,359
1910	2,586,295	5,267,659	2,990,068	1,416,464	780,195	1,595,074	5,456,558	8,189,197
1911	2,250,506	5,506,312	1,813,341	1,628,876	798,152	1,611,436	4,891,999	8,746,724
1912	2,325,549	6,199,966	2,131,406	2,388,979	614,927	1,483,544	5,071,882	10,061,489
1913	2,461,893	6,995,438	2,156,897	2,726,663	544,757	1,667,706	5,163,547	11,380,807
1914	1,350,536	3,544,072	1,142,683	1,162,031	307,798	781,091	2,801,617	5,487,104
1915	66,471	266,198	35,674	128,067	1,241	5,545	103,386	399,810
1916	1,510,756	4,057,928	615,209	933,643	220,365	736,820	2,346,330	5,728,391
1917	1,650,397	5,199,928	981,525	1,667,299	269,995	936,583	2,932,417	7,713,810
1918	1,418,440	4,571,980	896,038	1,717,002	322,821	826,986	2,537,360	7,114,807
1919	1,494,855	7,605,053	872,001	2,668,854	219,201	1,469,588	2,588,017	11,734,495
1920	1,364,706	6,103,512	905,297	3,690,310	275,014	1,699,077	2,545,017	14,762,899
1921	238,470	1,305,221	424,486	1,254,151	143,687	544,076	806,643	3,103,448

\* 1891-1901.

**3. Geology (Diamonds).**—Kimberlite occurrences, though their distribution is apparently limited geographically, are not confined to any geological horizon, but pierce the rocks of various series. They are found as (1) pipes or necks, (2) dykes or fissures, and (3) blows or enlargements of dykes. In shape they are as a rule quite irregular, but with a tendency to the round or oval in case of the larger pipes. The section at depth also changes considerably, according mainly to the hardness of the successive strata of the enclosing rock, and in some cases there is found to be considerable deflection from the vertical. Comparatively with the areas found at the present surface, there is a general tendency to shrinkage at depth, but there are notable exceptions provided in some of the smaller occurrences. The enormous variation in surface extension is shown in the following table, giving the area in claims of 30 by 30 Cape feet of some of the principal mines.

**AREA IN CLAIMS OF PRINCIPAL UNION DIAMOND MINES, 1918.**

Mine.	Claims.	Mine.	Claims.
Premier.....	3,570	Bultfontein.....	1,067
Dutoitspan.....	1,441	De Beers.....	620
Koffiefontein.....	1,428	Kimberley.....	460
Wessellton.....	1,162	Roberts-Victor.....	74
Jagersfontein.....	1,128	Blaauwbosch.....	42

A fuller account of the geology of diamond formations was given in previous issues of this Year Book, which also contained particulars of the methods of mining and treatment of diamonds.

**4. Economics of Diamond Production.**—Just previous to the outbreak of war, a conference of representatives of the diamond industry was held in London, the outcome of which, in happier circumstances, would undoubtedly have been that a certain output would have been allotted to each of the chief producers. The conclusion of the war and the transference of German South-West Africa to the Union permitted of negotiations

to this end being renewed, with the result that an agreement has been come to recently as to the quota of output to be contributed by each of the four chief producers of South Africa, viz., De Beers, South-West Africa, the Premier, and Jagersfontein, which is bound to add greatly to the strength and stability of the diamond market. The general result is that, though recent discoveries both within and without the Union are not without significance, South Africa is still in the happy position of having practically a world monopoly, which is at the same time so controlled internally as to ensure the most profitable results possible.

As regards outside producers, the most formidable competition met with hitherto came from South-West Africa, which up to the end of 1913 had produced stones to the value of over £7,000,000, and in that year alone stones valued at nearly £3,000,000. Fortunately for other producers, the diamonds, though of good quality, are generally very small, and only compete with the Union goods in certain classes. After South-West Africa, Brazil came next in order, but exact figures of recent outputs of that country are not available, and the estimates are too divergent to be accepted without reserve. Of other producing countries, it appears unlikely that serious account need be taken of any except the Belgian Congo. The stones from that region, though said to be of very high quality, are of a smaller average size than even those from South-West Africa, and therefore can have only a limited market.

The matter of internal control of production has been a consideration of immensely greater importance than the danger of outside competition has hitherto proved. Cecil Rhodes, if not the first to grasp the importance of this issue, is certainly entitled to credit for bringing it into practical effect, and the principles involved have since received axiomatic acceptance. Apart from industrial uses, the diamond is purely and essentially an article of luxury, and its value is just what people are disposed to give for it. The price being thus to a large extent fictitious, the one great danger is that of oversupply. Accordingly, as the mines of South Africa are much more than capable of meeting the demands of the world's markets, it is essential that some guarantee be given and maintained that, instead of internecine competition, there shall be a fair and equitable arrangement whereby the mines agree to a joint production sufficient to meet these demands, and no more. The immense strength and resources of the combinations now organized and controlling the industry to this purpose provide the strongest assurance against any possible danger in this direction.

**5. Prices of Diamonds.**—The present satisfactory position of the industry as a whole is very largely the result of the enhanced values brought about by the control referred to above. For the three last full years previous to the War, viz., 1911, 1912, and 1913, the average prices obtained for mine stones, as produced in the Union, were respectively 33s. 8d., 37s. 1d., and 41s. 5d. per carat. There has been a considerable rise since, and though the times have not been normal, there is no doubt that the tendency to improvement will continue. The average prices just given are lowered considerably by the inclusion of the Transvaal production, which is of comparatively poor value. Thus, in the respective years dealt with, Cape stones realized 46s. 0d., 50s. 3d., and 53s. 9d.; and Orange Free State stones 40s. 4d., 48s. 2d., and 61s. 2d.; as compared with the Transvaal averages of 15s. 10d., 19s. 6d., and 22s. 4d. per carat.

For the year 1919, Transvaal mine stones realized an average price of 38s. 6d. per carat, as against the Cape average of 87s. 10d., and the Orange Free State of 131s. 8d. The average price of mine stones for the whole Union was 75s. 9d., while the alluvial output reached the record average of 261s. 6d. In 1921 the demand for diamonds fell to such an extent that the production had to be reduced, and for this reason work on all the mines was curtailed by 50 per cent. Owing to this the price of alluvial stones was not seriously affected, and though great distress occurred amongst the employees of the mines thrown out of employment the alluvial diggers managed to carry on.

**6. Costs of Diamond Mining.**—Even at the prices reached in the years immediately preceding the war, the margin between the value of mine ground and the cost of working was not so great as to allow of operations being continued, except in a few cases, otherwise than by working on a large scale at low costs. These, in the case of the large mines then working underground, averaged only about 4s. per load, whilst the Premier worked in the open at a little over 2s. 6d. per load, and Koffiefontein at even less. According to the latest figures published, the average costs of production in the case of mines working underground had risen to about 5s. 8d. per load, while the Premier was still working in the open at under 2s. 11d.

**7. Labour in Diamond Mines.**—To the above results, the excellent management of labour on these mines largely contributes. The white employees are well paid and treated with much consideration, with the result that the mining population has become more settled and contented than is generally the case in large mining areas. The chief feature as regards the employment of natives and coloured persons is the establishment of a

compound system, which entails confinement during limited periods of contract in closed compounds out of working hours. This system has been attended by the most satisfactory results, both from the employer's point of view in saving theft and securing the highest physical efficiency, and from that of the employee, in that having been well fed and cared for in the meantime, he is able to return to his home at the end of his engagement with all his earnings practically untouched. In consequence of the latter, aided a little perhaps by the attraction of the rewards paid for finding and delivering up stones, no mines are so popular with the native population, and most of the labour comes in practically free of cost to the companies.

8. **Alluvial Diamonds.**—Starting from the confluence of the Vaal with the Orange River, and having its first great camps at Pniel and Klip Drift, alluvial digging has now spread up the basin of the former river to the proximity of the town of Klerksdorp, or a distance of over 350 miles, though only as regards a succession of patches, and with large intervals of ground that have either not been tried or have proved unprofitable. Amongst later developments has come the discovery of a great field stretching almost continuously from the diggings on the Vaal at Bloemhof to those on the Hartz River in the vicinity of Schweizer Reneke. Finally, passing by certain isolated occurrences such as that at Kameelfontein, near the Premier Mine, reference has to be made to a recent revival in interest in the gravels of the Orange River, from which some thousands of carats of diamonds were extracted in the year 1917. Of all these, the diggings of Griqualand West, on the lower Vaal, have all along been the great stand-by of the alluvial digger, in spite of the sometimes dazzling, if generally ephemeral, attractions of other fields. The value of the Griqualand West deposits is much enhanced by the fact that there is here, in addition to the usual surface gravel, a great development of the so-called deep gravels, which are really stiff conglomerates representing ancient river beds. These attain a considerable thickness in places, allow of safe mining by underground methods, and afford generally a more permanent basis for work. It is also here that the deposits contained within the present channel of the river appear most prolific, and admit of most profitable exploitation. In the last complete year before the War, viz., 1913, an average of 4,602 whites and 16,194 coloured persons were employed on alluvial diggings throughout the Union, and were responsible for an output of 206,049 carats of diamonds, valued at £1,120,227. This output represented in value nearly 10 per cent. of the whole production of the Union.

The figures for 1919 show that 285 fewer whites and 1631 fewer coloured persons were engaged in alluvial operations, but that, nevertheless, the output had risen to 209,589·77 carats, valued at £2,740,548, or over 22 per cent. of the estimated value of the whole diamond output of the Union.

Alluvial diamonds are, as a rule, much superior to the average of the stones recovered from the mines. In the year 1913 the average value of alluvial stones was 108s. 9d. per carat, as against 41s. 5d. for mine stones. In 1919 the average price of alluvial stones was 261s. 6d. per carat, and in 1920, 220s. 6d.

The problem of the derivation of the river or alluvial diamond is by no means fixed. The stones of every known mine are represented, as no doubt also are those of mines yet undiscovered, but there would in addition appear to be stones derived from other sources, amongst which is the amygdaloidal andesite of the Ventersdorp system.

All diamonds are now subject to export tax, but, apart from this, the only financial obligation required of the digger by Government is payment of his claim licence. In the Transvaal, claims vary from 150 to 45 feet square, and are subject to a proportionate monthly tax of from £2. 10s. to 5s. In the Cape Province the standard claim is 30 feet square, but this has been increased by proclamation to 30 feet by 60 feet as regards Griqualand West. The latter is subject to a licence costing 5s. monthly. In the Orange Free State £1 is charged on the full claim of 90 feet square.

9. **General.**—Koffiefontein having of recent years come under the control of De Beers Consolidated Company, and the small mines of the Boshof district being of comparatively little account, the great producing concerns may be considered as at present consisting only of De Beers Consolidated, the Premier, and Jagersfontein. These corporations have all been eminently successful financially, and in view of their enormous reserves of ground, have long lives in front of them.

The Government of the Union holds a six-tenths interest in the Premier Mine, in terms of the *Transvaal Precious Stones Ordinance*, No. 66 of 1903, but, apart from some small leasehold rents and payment of claim licences, De Beers and Jagersfontein are only subject to taxation in the form of the Profits Taxes applying to all mining concerns, and to the export tax of 10 per cent. required to be paid on all diamonds leaving the country.

Under the *Precious Stones Act*, 1904, of the Orange River Colony, the Government, under certain slight modifications, retains a four-tenths interest in all mines discovered after the promulgation of that Act. In the Cape Province, prospecting and mining are regulated by the *Precious Stones Act*, No. 11 of 1899, and the *Precious Stones Amendment Act*, No. 27 of 1907, of that Province, and in case of a mine being discovered on private



land, one-half becomes the property of the Crown. In the Transvaal, under the ordinance referred to above, the Government takes the same interest in all future diamond mines as has been stated with regard to the Premier Mine. In all three Provinces prospecting is permitted in terms of the above Acts on liberal terms.

10. **Diamond Cutting.**—Some small cutting establishments have been in operation in Johannesburg and Pretoria for some years, but the output has hitherto been negligible. Since 1917 there has been an export duty of 5 per cent. on rough diamonds, but it has had no perceptible effect in encouraging diamond cutting. This tax was in 1919 raised to 10 per cent., and in addition an Act was passed which is intended to enable local cutters to secure from producers of rough diamonds the stones they require for cutting. This was done because the local cutters had experienced some difficulty in obtaining such a supply. It was felt that if cutting was being hindered for this reason the obstacle should be removed by making the sale to South African cutters compulsory, and this is the main provision in the Act. The local cutter will thus secure the advantage of the 10 per cent. export duty plus the cost of selling rough stones in Europe, or altogether about 12½ per cent. of the value of the rough diamonds. The cost of living has increased to such an extent in Holland and Belgium that the former great advantage of these countries of lower wages than would have to be paid in South Africa has practically disappeared.

### § 7. Gem Stones other than Diamonds.

1. **Garnets.**—Garnets of very good quality, and several varieties of spinel occur in the Zoutpansberg district of the Transvaal, but so far these have not been exploited.

2. **Verdite.**—A variety of serpentine which has obtained the local name of verdite, has been worked in the Barberton district of the Transvaal. This is an extremely beautiful stone of a green colour, suitable for all manner of small ornaments, clock-cases, etc., but too soft for architectural purposes.

3. **Crocidolite.**—In South Africa, this term has been commonly applied to the "chatoyant" hard variety of the mineral used in jewellery, and for ornamental purposes, and also known as "tiger's eye" and "cat's eye." The distribution of the valuable species is comparatively limited, little being found away from the farm of Naauwpoort in the Hay District of the Cape Province. Enough is available there, however, to supply the world's requirements for an indefinite time.

### § 8. Coal.

1. **Historical.**—The history of the discoveries of coal in the various Provinces of the Union was dealt with briefly in the previous issues of this Year Book (Nos. 1 to 4), in the course of an article by Messrs. T. G. Trevor, A.R.S.M., F.G.S., and J. E. Vaughan, A.R.S.M., M.I.M.M., A.I.M.M., of which this section is a summary.

2. **Production of Coal in Union.**—The following statement shows, in respect of the Union and each Province, the annual output of coal from the earliest date for which complete records are available and the value of the annual output:—

#### ANNUAL OUTPUT OF COAL, VALUE, AND VALUE PER TON, FROM 1885.

Year.	Quantity.					Value.		Average Value per Ton.
	Cape.	Natal.	Transvaal.	Orange Free State.	Union.	Union.	Union.	
	Tons.	Tons.	Tons.	Tons.	Tons.	£	s. d.	
1845-89 (av.)	23,314	28,682*	—	No records available at present.	Records incomplete.	Records incomplete.	Records incomplete.	
1890-94 "	46,219	130,461	669,946†	129,911‡	3,673,023†	1,591,139‡	8 0‡	
1895-99 "	143,986	299,417	1,562,813	1,511,252	5,204,539	1,667,480	6 5	
1900-04 "	193,993	666,444	1,511,252	1,511,252	8,020,694	2,060,221	5 2	
1905-09 "	135,435	1,647,412	3,003,795	417,897	557,420	2,142,479	5 2	
1910-14 "	76,576	2,696,256	4,000,442	357,420	8,281,324	2,739,665	5 6	
1915.....	46,850	2,304,116	5,202,805	727,553	762,578	3,275,698	6 4	
1916.....	41,752	3,066,261	6,136,913	843,095	10,067,502	3,224,597	6 6	
1917.....	8,300	2,890,296	6,641,229	826,577	10,266,135	3,416,244	6 8	
1918.....	4,654	2,607,133	6,438,961	906,034	11,473,464	4,519,665	7 11	
1919.....	4,759	2,801,004	6,622,313	917,778	11,396,905	5,072,401	8 11	
1920.....	5,700	3,321,690	7,180,124	—	—	—	—	
1921.....	5,778	3,525,989	6,947,362	—	—	—	—	

\* For year 1889 only.

† Average for years 1893 and 1894.

‡ For year 1904 only.

**3. Geology and Occurrences.**—The coal fields of South Africa have not yet been geologically surveyed. It was formerly considered that all the coal measures belonged to the Stormberg Series, but recent investigation tends to the conclusion that there are two horizons, the one of Stormberg age, the other in the older Ecca Series.

A general comprehensive report on the coal resources of the Union is now being prepared by the Geological Survey. In the meantime Memoir No. 3 of the Geological Survey—"The Geology of the Transvaal Coal Measures," by E. T. Mellor—gives a detailed account of the Witbank fields.

(i) *Coal Resources of the Union.*—The following extract from "The Coal Resources of the World" (p. 415) adequately describes the existing knowledge of the Union coal fields:—

The state of our knowledge regarding the various coal fields of South Africa is so meagre that anything like an accurate estimate of total quantity of coal available is quite impossible. The various coal-bearing areas have not been accurately mapped, and it is not known whether or not the coal in these presumably coal-bearing areas is of economic importance.

The reason for this lack of knowledge is not far to seek. The exploitation of coal is of comparatively recent growth, not extending further back than one generation, and even at present the annual output of coal is only about 10,000,000 tons, an amount which is insignificant compared to the total resources of the country. Coal is, therefore, comparatively speaking, a drug in the market, and the competition is so keen amongst various producers, that the pit's mouth price, in the Transvaal, of about 5s. per ton, is as low as it is anywhere in the world.

(ii) *Cape of Good Hope.*—The workable occurrences are confined to the Molteno beds of the Stormberg Series and are found at three well-defined horizons, known as the Indwe, Guba, and Molteno seams. Practically the whole output, however, has been obtained hitherto from the first and third of these. Generally, the coal occurs in comparatively small layers, much interlaminated with shale, with the consequence that a great deal of sorting has been necessary, and working expenses have been high. It has at the same time a high ash and low volatile content, resulting in a low calorific value, placing it out of competition, except for purely local purposes, with the higher grade coals that are now available. Such as they are, these coals have played a useful part in the development of the country and have been used in the past to great advantage, especially by the De Beers Company and the railways. Gradually, however, they have been forced out of the market and there are now only two or three small companies continuing operations.

(iii) *Natal.*—The collieries are situated in the districts of Klip River, Newcastle, Utrecht, and Vryheid, practically 50 per cent. of the output coming from the last-named district. Altogether there are 25 producing collieries in Natal, and the number is steadily being added to.

The area of the coal field from which coal is now being raised is roughly 2,000 square miles, although probably only 50 per cent. of this area is coal-bearing. Until much additional boring has been done it is impossible to estimate with any attempt at accuracy the area and coal contents of this field. Taking Hatting Spruit as the centre of this coal field, the distance by rail to Durban, to which the bulk of the output goes, is 240 miles.

A colliery was started and worked at Somkele, in Zululand, some 20 miles from the coast, but the coal was too anthracitic and dirty to enable the colliery to continue working with success. Much coal exists in Zululand, but owing to the distance from railways, and the uncivilized state of the country in the known coal fields of Zululand, very little prospecting has taken place. The Zululand coal field is therefore an unknown quantity, which may however, become of the utmost importance as that country develops and additional railways are constructed therein.

The Natal coal is of excellent quality. The following are analyses of typical Natal coals:—

#### ANALYSES OF NATAL COALS.\*

Name of Colliery.	Moisture.	Volatile Matter.	Fixed Carbon.	Ash.	Calorific Value as per Mahler Bomb Process.	Sulphur.
Dundas Coal Co. (Burnside).....	0.56	23.74	68.40	7.30	15.05	1.48
Natal Navigation.....	0.90	21.78	69.91	7.41	14 to 15.15	1.30
Durban Navigation.....	1.40	30.40	58.50	9.70	13.80	0.94
Northern Navigation.....	2.00	25.30	64.50	8.20	14 to 14.50	0.83
Hobane.....	1.50	19.30	68.30	10.30	13.84	0.96
Enyati.....	1.70	22.20	67.80	8.30	14.40	0.84
Tembisa.....	1.20	21.70	69.10	8.00	14.23	0.75
Wallaseid.....	1.25	20.75	66.00	11.40	13.84	—

\* Report of Coal Commission, 1921.

One colliery (Dewar's Anthracite) supplies nothing but anthracite, which is found very suitable for suction gas-engines, etc. The output of this colliery was 14,674 tons in 1919.

(iv) *Transvaal*.—Coal in the Transvaal is known in four geographical districts:—

(a) *The High Veld*.—This is in the section made by the Natal-Johannesburg railway in the west, by the Delagoa Bay-Johannesburg railway in the north, and a line drawn south from the Belfast to the Natal boundary at Paulpietersburg on the east. This is the only area on which coal is at present mined, with the exception of the small area at Vereeniging on the south side of the Orange Free State boundary where the measures detached from the Main High Veld area nevertheless belong to it. This area is probably not less than 9,000 square miles in extent.

(b) *The Bushveld Area*.—This is an area beginning some thirty miles north of Pretoria. Coal measures, which have in various places been proved to overlie coal, occur over an oval-shaped area some seventy by twenty miles in diameter. Coal seams of considerable thickness have been struck in boreholes and in one shaft. The coal where struck appears of an inferior quality, but would be a useful fuel if a calorific value of ten were accepted. This area is about 750 square miles in extent.

(c) *The Lebombo Area*.—This contains a strip of coal measures which outcrops over a width of some six miles along the whole eastern boundary of the Transvaal and Swaziland, some twenty miles west of, and parallel to, the Portuguese border. This coal has not yet been worked, but where opened it appears of good average South African quality, but anthracitic in character, and much disturbed by the neighbouring igneous mass of the Lebombo Hills.

(d) *The Limpopo Area*.—Coal measures occur over a very considerable area in the northern Transvaal, stretching from the Lebombo westwards along the Limpopo Valley. The coal in these measures is only opened in one place, Liliput, where the Messina Copper Company worked a small pit for fuel for their smelter. The seam worked is 3 feet wide and is rather inferior, the selected coal having probably a calorific value of not more than 10.5. Neither the Lebombo nor the Limpopo areas are sufficiently well known to attempt an estimate of their size, but 2,000 square miles would probably be a conservative estimate.

(e) *The North Waterberg Area*.—This is an extension of the Limpopo area. In the country lying between the Matlabas River on the west and the Palala on the east, coal has recently been struck in boreholes which were being sunk in connection with a search for water. A core drill was sunk in 1921 to prove these measures on the farm Grootgeluk No. 1360. From the surface down to 140 feet eight coal seams were encountered. Of these the following were of workable dimensions:—

Seam.	Depth.	Thickness.
B.	45 feet.	5 feet 6 inches.
C.	57 feet.	7 feet 0 inches.
D.	75 feet.	10 feet 1 inch.
F.	134 feet.	6 feet 8 inches.

From 134 feet to 302 feet no definite coal seam was encountered, but at that depth seam "G" of 22 feet was proved and at 136 feet seam "H" of 13 feet. The borehole was continued to 500 feet, but no further coal was found.

The analyses of these coals, which are in the possession of the Mines Department, show that the lower seams are of the ordinary South African quality and quite up to the usual standard. The upper seams, however, are extremely bituminous and of a very much better coking quality than any yet encountered in the country.

The area underlain by coal in the Transvaal appears to be about 60 miles from east to west, and 30 miles from north to south, but stretches an unknown distance into Bechuanaland in the neighbourhood of Palla Road Station on the Rhodesian railway. The following analyses may be taken as representative of Transvaal coals:—

#### ANALYSES OF TRANSVAAL COALS.\*

Name of Colliery.	Moisture.	Volatile Matter.	Fixed Carbon.	Ash.	Calorific Value as per Mahler Bomb Process.	Sulphur.
Apex.....	5.28	17.27	50.00	27.30	9.93	1.14
Bellevue.....	3.75	31.47	52.40	12.32	12.34	1.50
Breyten.....	2.75	30.42	50.87	15.96	12.03	1.00
Largo.....	4.50	24.50	52.00	17.50	10.50	1.50
Middelburg Steam.....	0.94	24.46	60.63	12.62	13.09	1.35
Oogies.....	3.20	26.96	59.34	13.50	12.67	1.54
Transvaal and Delagoa Bay..	1.38	22.38	59.40	15.58	12.50	1.20
Witbank.....	0.94	27.04	50.90	13.82	13.01	1.24

\* Report of Coal Commission, 1921.

(v) *Orange Free State.*—The chief producers are the Cornelia Colliery on the Vaal River opposite Vereeniging, and the Clydesdale, about fifteen miles to the south, but there are also two small pits working at Vierfontein, about eighty miles to the south-west, on the Klerksdorp-Kroonstad railway line. The Orange Free State field is of great extent, but no serious attempt appears to have yet been made to delimit the probable area. So far, also, not more than one workable seam has been discovered at any point. The average width of the coal worked is much the same in the different collieries and may be taken at about 7 feet 6 inches. The coal is only of second grade quality, the average evaporative efficiency of the present output (1 lb. of water per lb. of coal as ascertained by Mahler bomb) being about 10·65. At the same time, it is otherwise a useful steam coal, whilst for household purposes it is generally preferred to any other.

4. *Methods of Mining.*—The methods of mining followed in the Natal, Transvaal, and Orange Free State coal mines were briefly described in previous issues of this Year Book (Nos. 1 to 4).

5 *Coke, By-Products, Tar, Etc.*—(i) *Coke.*—Coke is made in the Provinces of Transvaal and Natal. Prior to the War some coke was imported, but since the War all the coke used in South Africa has been manufactured locally. In 1921 the output of coke in the Transvaal was 439 tons, valued at £457, and in Natal it was 24,515 tons, valued at £50,723. The Natal coke is of excellent quality, especially for foundry work, being very dense and hard. Analysis of a Natal coke (The Vryheid Coke Company) taken over a period of two years gave the following results:—

Fixed carbon, from 88·60 per cent. to 89·40 per cent. ; ash, from 10·4 per cent. to 9·80 per cent. ; sulphur, from 0·60 per cent. to 0·50 per cent. ; calorific power, 13·12 per cent.

(ii) *By-Products.*—The Natal Ammonium Company\* was the first colliery to produce by-products. Practically the whole output of this concern was used for the production of ammonium sulphate. In 1921, 918 tons of ammonium sulphate were produced, which realized £19,470. The Dundee Coal Company in 1920 proceeded to erect a by-products plant at Waschbank. Thirty coppée ovens were to be erected, and arrangements had been made to extend the number to fifty. At the start, tar and ammonium sulphate will be manufactured. Later on a benzol plant will probably be added. The South African Carbide and By-Products Co., Ltd., was in 1920 proceeding to erect a carbide and sulphate of ammonium manufacturing plant at the Ballengeich Colliery, Natal.

(iii) *Tar.*—During 1921, 84,084 gallons of tar were produced by the Witbank Colliery (Transvaal), of which 46,085 gallons were sold, at a value of £5,104.

6. *Employment and Accidents in Coal Mining.*—The number of persons employed in coal mining in each of the Provinces during the year 1921 is shown below. The table also shows the number of persons killed and injured, with proportion killed per thousand employed:—

**EMPLOYEES AND ACCIDENTS—COAL MINES, 1921.**

Province.	Persons Employed in Coal Mining.		Accidents.		Death-Rate from Accidents per 1,000 Employed.
	White.	Coloured.	Persons Killed.	Persons Injured.	
Cape of Good Hope...	7	104	—	—	—
Natal.....	831	17,308	32	126	1·76
Transvaal.....	1,127	17,958	25	125	1·31
Orange Free State....	168	2,408	9	27	3·49
<b>UNION.....</b>	<b>2,133</b>	<b>37,778</b>	<b>66</b>	<b>278</b>	<b>1·65</b>

7. *Labour in Union Collieries.*—In the collieries, the white miner is in the position of a supervisor, having usually from 50 to 100 natives employed under him. He does little manual work, beyond conducting blasting operations and examining the places before the natives enter and start work.

\* Operations suspended April, 1921.

Natives (the aboriginal inhabitants of South Africa) do all the harder work, such as hewing the coal, filling, and tramming. In Natal, Indians are largely employed, and are efficient in supervising stationary engines, running coal-cutters, erecting timber underground, pipe and track laying, etc.

9. **Wages (Coal Mines)**—White miners' wages vary from 24s. to 30s. a day. The hours of labour were reduced progressively to 54 and then to 51 per week as from 1st July, 1920. In the Witbank district the hours were reduced to 48 per week. Natives draw from 40s. to 60s. a month, with free quarters, rations, and medical attendance. Indians' wages are the same as natives, but the Indian, as a rule, remains longer at the collieries, and gets more proficient. He, therefore, in some cases receives a higher remuneration.

The following statement shows the wages earned on the collieries in 1921 :—

#### WAGES PAID IN COLLIERIES OF UNION, 1921.

Province.	European.	Asiatic.		Native and Other.	
		Males.	Females.	Males.	Females.
	£	£	£	£	£
Cape of Good Hope.....	1,353	—	—	3,046	97
Natal.....	379,013	90,352	179	424,397	22
Transvaal.....	544,550	271	—	516,423	145
Orange Free State.....	69,019	—	—	68,904	—
UNION.....£	993,935	90,623	179	1,010,770	264

9. **Capital (Coal Mines)**.—The subjoined statement shows the capital invested in collieries in the Union and the dividends arising therefrom in 1921 :—

#### COAL MINES—CAPITAL, 1921.

PROVINCE.	CAPITAL.			DEBENTURES.		DIVIDENDS DECLARED.
	Nominal.	Reserve Uncalled and Unpaid.	Net Issued.	Total Issued.	Net Amount Outstanding.	
	£	£	£	£	£	£
Cape of Good Hope..	27,403	4,687	22,736	—	—	—
Natal*.....	4,373,198	592,295	3,780,903	234,910	112,470	275,153
Transvaal.....	5,727,823	844,319	4,883,509	489,882	317,377	383,318
Orange Free State †..	1,390,000	40,678	1,343,322	350,000	100,000	41,946
UNION.....£	11,518,429	1,487,959	10,030,470	1,074,792	529,847	700,417

\* Includes a company whose capital is largely employed in business other than coal mining.

† Includes a company whose capital is largely invested in estate property.

10. **International Comparison of Production**.—Compared with the enormous coal production of such countries as the United States of America, the United Kingdom, and Germany, the coal output of the Union is small. The following table gives the production

in tons of some of the chief coal-producing countries of the world, during a series of years:—

**OUTPUT OF COAL IN VARIOUS COUNTRIES, 1915 TO 1920.**

YEAR.	United Kingdom.	India.	Canada.	Australia.	U.S.A.	Germany.	France.	Belgium.	Japan.	UNION.
	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.	Tons 1,000.
1915..	283,591	10,156	13,267	12,785	531,619	247,044	22,306	15,638	22,501	8,281
1916..	287,140	10,325	14,183	10,989	590,008	268,407	23,682	18,588	25,249	10,008
1917..	278,320	20,398	14,047	11,465	651,402	274,377	31,898	16,458	29,003	10,383
1918..	255,151	29,269	14,990	10,237	651,697	273,649	27,492	15,241	30,880	9,877
1919..	261,041	21,759	13,693	11,790	544,597	223,137	24,727	20,387	33,970	10,266
1920..	229,295	‡	14,450	‡	556,516	251,282	21,893	22,413	‡	11,475

‡ Figures not available.

**11. Importance of Coal to the Union.**—Being such a long distance from any of the important coal fields of the world, the South African coal deposits are of the utmost value, not only to the Union but to Africa generally, and to the large numbers of ships which now call and coal at Union ports. South Africa is anything but a well-wooded country, and if no coal had been available in the Union itself, it is improbable that the gold and diamond mines, which have so largely contributed to the development of the country, could have been successfully carried on. New industries are being started in the Union, all of which will benefit largely by cheap fuel, and as water power is not available, the country would be unlikely to secure industrial prosperity were it not that it has an ample supply of the cheapest coal in the world.

The chief present consumers of coal are the mines, the Government railways, and the ships which coal at Union ports.

There is every reason to anticipate a bright future for the coal industry. The Union is only in an early stage of development. With the increase of railway communication, and the opening up of the numerous industries for which South Africa has the means and facilities, a large demand for coal must follow. As the Union develops, the amount of shipping coming to the country will increase, and such shipping will coal at Union ports. The export of coal from the Union has increased during the War, and such countries as the Argentine Republic, Mauritius, and Madagascar are likely to require steadily increasing quantities of Union coal.

It is as yet too early to estimate the ultimate dimensions of the coal by-product industry. It is unlikely that such countries as the South American Republics, Madagascar, and Mauritius will go to Europe and the United States of America for coal by-products if they can obtain them at less cost in South Africa.

For many years to come South Africa should be able to supply coal at a cheap rate; while wages are likely to increase in older countries the native of South Africa will probably remain content to work for far less than a European. This fact, taken together with the favourable geographical situation of the Union, enables the country to compete on advantageous terms with the other coal-producing countries of the world.

**12. Price of Coal.**—The price of coal varies very much in the different Provinces. The reason for this difference in prices is largely due to the situation of the collieries. Thus, the Cape Province coal, which is the most inferior in the Union, fetches the highest price, because coal from the other Provinces has to be transported by rail to the Cape Province, thus enabling the local coal to maintain its high price.

Natal coal is the best in the Union, and the up-to-date Port of Durban being now a large coaling station, the considerable bunker and export trade done at this port, and the high quality of the coal supplied, enables the Natal collieries to command comparatively high prices for their output.

There has been no great fluctuation in prices in recent years, except in Natal. The Transvaal and Orange Free State coal is mostly consumed in those Provinces, and as the demand is no greater than the supply, there has been little opportunity for prices to increase. In Natal it is different. Much coal is consumed by passing ships, willing to pay good prices for it, and this, coupled with the rise in the price of coal in the United Kingdom, has tended to raise the price of coal in Natal. From the following table it will be seen that while the price at the pit's mouth has remained almost stationary in the Transvaal, Cape, and Orange Free State Provinces, there has been a steady rise in the price of Natal coal.

## AVERAGE PRICES OF COAL (PIT'S MOUTH), UNION, 1911 TO 1921.

Period.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.
	Per ton.*	Per ton.*	Per ton.*	Per ton.*
1911.....	11s. 6·98d.	5s. 4·98d.	4s. 8·39d.	5s. 8·42d.
1912.....	11s. 0·55d.	5s. 6·99d.	4s. 4·78d.	5s. 4·57d.
1913.....	11s. 5·82d.	6s. 1·83d.	4s. 4·48d.	5s. 5·87d.
1914.....	11s. 7·50d.	6s. 10·80d.	4s. 5·55d.	5s. 5·58d.
1915.....	11s. 4·22d.	6s. 9·50d.	4s. 4·82d.	5s. 2·14d.
1916.....	11s. 6·49d.	7s. 4·77d.	4s. 6·07d.	5s. 2·54d.
1917.....	14s. 4·05d.	10s. 1·76d.	4s. 9·32d.	5s. 1·86d.
1918.....	15s. 3·89d.	10s. 5·10d.	5s. 0·84d.	5s. 6·70d.
1919.....	15s. 9·12d.	10s. 7·41d.	5s. 1·40d.	5s. 6·25d.
1920.....	15s. 5·22d.	12s. 3·40d.	6s. 1·12d.	5s. 11·43d.
1921.....	15s. 7·91d.	14s. 1·71d.	6s. 7·32d.	6s. 0·82d.

\* 2,000 lb.

13. **International Comparison of Prices.**—Apart from the price of Cape coal, which is relatively high on account of the scarcity of coal in that Province, the price of coal in the Union compares very favourably with the prices in other parts of the world.

The average pit's mouth price in the United Kingdom in 1921 ranged from 30s. 7d in January to 19s. 6½d. in December.

14. **Coal Commission and Coal Act.**—The Coal Commission was appointed in 1920 to report upon the measures required for:—

- (a) The effective grading and pooling of South African coal intended for export and for bunkering.
- (b) The equitable distribution of the cost amongst the participating collieries; and
- (c) The discouragement of the export of low grade coal.

The Commission was also required to report upon the necessity of safeguarding the supply of coal for local consumption, and for the use of Railways and Harbours and other public services.

The Report was issued in May, 1921, and was summarized in Official Year Book No. 4.

The *Coal Act*, No. 27 of 1922, which came into effect on the 1st September, 1922, followed the lines of the Coal Commission's report. Its main provisions may be thus summarized:—

- (i) No coal produced within the Union is to be used for export or bunkering unless it has been graded and a certificate in the prescribed form has been granted in respect thereof.
- (ii) A committee to control the grading of coal may be appointed, consisting of a chairman, nominated by the Minister, and four members, either all nominated by the collieries or two nominated by the collieries and two by the Minister. Members and officers of the grading committee may enter any colliery or place where there is coal at any time. Reasonable assistance in the work of grading and inspecting must be given by the officers and servants of the colliery or place concerned with the bunkering and export of coal.
- (iii) A monetary levy is to be made on the collieries by the grading committee at the commencement of its operations, this levy to be based upon the tonnage shipped by the several collieries during the preceding six months. Every quarter afterwards the amount levied is fixed in proportion to the amount of coal supplied during the preceding quarter by each of them for export and bunkering.
- (iv) Export and bunkering of coal may be restricted or prohibited by the Minister if there is any real or apprehended scarcity.

Provision is also made for the requisition of coal by the South African Railways and Harbours Administration in times of scarcity of available coal, and for the issuing of regulations. Penalties for the contravention of the Act are laid down.

### § 9. Non-Metallic Minerals, other than Coal.\*

1. *General.*—The remarks in Section 5 as to the lack of interest taken until recent years in the occurrence of any other minerals but diamonds and gold, applies with even more force to the non-metallic minerals. Up to ten years ago, asbestos, common salt, and lime were practically the only non-metallic minerals the existence of which was noted. The present position, however, is improving, and is as follows:—

(i) *Asbestos.*†—Asbestiform crocidolite, commonly known as *blue asbestos*, has been worked in the Cape Province for over twenty years, having been first brought upon the market by the Cape Asbestos Company, which was formed for the purpose in 1893. For many years this company continued to be the only channel for production, and operations were largely confined to its mines in the Prieska and Hay Districts. More recently, a large number of independent producers have entered the field, and the fibre now reaches the market from various sources.

Blue asbestos is found in the lower Griquatown beds, which, so far as regards the exposures of the parent rock, may be taken as identical with the range of hills known as the Asbestos Mountains, and the continuation north of these in the Kuruman-Honinylei range. The mineral has been found from the border of the Bechuanaland Protectorate to thirty miles south of Prieska; and it is believed that its extension over this distance of more than 300 miles is practically continuous. The lateral range of the asbestos-bearing rocks varies from four to upwards of twenty miles. Only small portions of this enormous area are being exploited in the meantime; but with the further opening up of the country, and improvement in facilities, an indefinitely large expansion in the production must inevitably result.

The Cape Asbestos Company has two large mines developed on normal lines, and a few other companies are also starting to mine by underground methods. Generally, however, the recovery is effected by surface quarrying. The distribution of the asbestos, both as regards the number of seams found from point to point and the length of the fibre, has been found to be very irregular, but in the general case no serious cause has been found for apprehension that the recovery will cease to be payable when underground methods have to be resorted to.

Beyond rough cleaning and classification, no preparation of the fibre is yet attempted previous to shipment to the European markets. Over some portion of the asbestos area, a proportion of the material mined is found to be rusty or discoloured. The former is rejected altogether, but the latter, after the usual classification, is accepted on the market at a reduced price.

Owing to differences in classification and other circumstances it is scarcely possible to form a reliable estimate of the length of the fibre being produced, but it is believed that nearly 25 per cent. of the whole production is of the length of 1 in. or over. It is equally difficult to arrive at an estimate of the asbestos yielded per ton of rock mined, but the proportion certainly exceeds that of most of the other producing fields of the world.

The crocidolite variety of asbestos differs greatly from the white or chrysotile in respect of its relatively high iron and low magnesia and water content, and naturally essential differences in its commercial qualities are disclosed. The greater resistance offered by the white variety to very high temperature is unquestioned, as also is its greater softness, making its milling and reduction much easier than in the other case. On the other hand, the crocidolite, amongst other virtues peculiarly its own, is credited with higher efficiency as an insulating material, both as regards heat and electricity, and with being unaffected by ordinary acids, chemical solutions, and, in particular, by sea water. The fibre is also lighter, and is claimed to be at the same time stronger, finer, and more elastic. It is mainly upon how far these qualities that are claimed for blue asbestos approve themselves in the world's markets that the future of the industry in South Africa is dependent.

In the North Lydenburg District of the Transvaal, and stretching into the southern portion of the Pietersburg District, asbestos occurs over a large area in the form of interbedded veins in a highly ferruginous metamorphous shale in the lower Pretoria Series, which is considered to be geologically identical with the Griquatown formation of the Cape Province. The extension of the mineral is very considerable, as it has been found to occur over an outcrop length of about sixty miles. Difficulty was at first experienced in getting the market to accept this variety of asbestos, but it has now been taken up both in America and Europe, and the only difficulty which confronts the owners is that of transport, for the mines are not less than sixty miles by road from the railway, and transport difficulties are very great. These, however, will be largely overcome when the railway extension from Lydenburg to Fort Burger is completed.

The main mine at Penge has now been opened for some 2,500 yards along the outcrop and 400 ft. in depth. The average section of asbestos in this area is certainly 9 in., and

\* By T. G. Trevor, A.R.S.M., F.G.S., Inspector of Mines, Pretoria.

† See Memoir No. 12, G.S., "Asbestos in the Union of South Africa," and also *Journal of Industries*, November, 1918.



the quality appears to improve with depth. Nearly 40 miles away on the same line, a similar section has been exposed, and there seems every reason to believe that these fields will rank with the best in the quantity of available mineral. The quality of this asbestos is, however, different from any in the market. A very large proportion is over 4 in. in length, and this has so far proved an objection, as factory machines are arranged to take short fibre. In the course of time suitable machinery will doubtless be erected, but at present the fibre at Penge is actually being cut into short lengths to suit the market. The composition of this asbestos is different from the ordinary crocidolite variety, being higher in iron; and it is proposed to describe it as *amosite asbestos*. In texture the mineral, though fine, and easily fiberized, is harsher to the touch than the Cape variety, but the fibres are quite as strong and to a certain extent elastic. As this fibre can be put on the market at a very much lower price than any similar material, and occurs in extremely great quantities, it is certain that it will in the future create its own market. In the meantime the market is restricted, though a local use for the waste qualities is being found in the manufacture of asbestos tiles at a factory at Cape Town.

The chrysotile deposits of the Carolina District have been known in the market for many years. The mineral is there found in veins in a bed of noble serpentine, over a length of outcrop of some twenty miles. The fibre is of excellent quality, and commands a very high price, but working conditions have not hitherto proved favourable, and production has been small and spasmodic.

Chrysolite asbestos of very good quality, equal to the best Rhodesian, has recently been discovered, and is now being developed at Kaapshe Hoop in the Barberton district. The developments during 1921 were promising and some thirty tons per month of high-grade quality were being exported. The deposit appears to stretch for three or four miles and to be permanent in depth.

Asbestos of the several varieties also occurs in Natal and Zululand. These deposits are now attracting attention, but no reliable details as to their possibilities are available.

The following statement gives particulars regarding the sales and shipments of asbestos from the Union during the years 1916 to 1921:—

#### SALES AND SHIPMENTS OF ASBESTOS FROM UNION, 1916 TO 1921.

Province.	1916.	1917.	1918.	1919.	1920.	1921.
	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*
Cape of Good Hope.....	4,228	2,993	2,739	3,204	3,526	3,467
Natal.....	21	28	5	98	45	62
Transvaal.....	467	3,193	930	631	3,541	1,593

\* 2,000 lb.

For a full account of the asbestos deposits in the Union, *vide* Memoir No. 12, Geological Survey—"Asbestos in the Union of South Africa" and also the *Journal of Industries* for November, 1918.

(ii) *Corundum*.—The existence of corundum in the gneiss and schists of the Zoutpansberg and Barberton areas has been known for some years, but was not regarded as of commercial importance till the demand for abrasives created by the European war brought it into prominence. During the war an output of up to 500 tons per month was maintained, but since then the production has decreased, and the present output is spasmodic, though attempts are being made to establish it in the European market.

During 1921 a five-stamp battery and dressing plant were erected by the Zoutpansberg Corundum Company at Bandolier Kop to crush and grade corundum for the European and American markets. This plant produces  $1\frac{1}{2}$  to 3 tons per day. The company has forwarded its first consignment and a steady demand may be anticipated.

The corundum occurs in the form of broken crystals in the surface detritus derived from certain belts in the gneiss. Up to date it is usually won by screening and washing this gravel in rotary pans. The gravel is commonly up to two feet in thickness, and may contain 5 per cent. to 10 per cent. of corundum. The area covered by these deposits is at present quite unknown, but it is now worked at many points in a circle around Bandolier Kop not less than thirty miles in diameter. On some properties the mineral has been traced to its source in the rock. The source is an intrusive rock consisting almost entirely of a felspar. The parent rock in each case appears to be interbedded in foliations of the gneiss. Apart from the crystal corundum "boulder corundum" is also found; these boulders occur in the surface drifts and *in situ*; they are masses containing up to 60 per cent. corundum, which, owing to their compactness, have resisted denudation. Otherwise, there seems to be no essential difference in the actual mineral.

Where small enough these boulders are exported, but when too large to handle they have so far proved unworkable. Owing to the nature of the deposit and the cheap labour available, which is mostly that of native women and children, the cost of winning the mineral at the present time is not more than a few shillings per ton, but exact figures are not available. These deposits are scientifically described in Memoir No. 15 of the Geological Survey of South Africa (see also *Journal of Industries*, May, 1918). There is also a similar occurrence of corundum in the sillimanite gneiss at Steinkopf, in Namaqualand, from which a small output is obtained.

(iii) *Flint*.—Flint in the nodular form does not occur in South Africa, but as chert it makes very well-defined bands up to two feet and more in thickness in the dolomites. It has been worked for liners for tube-mills, but the introduction of steel and composite liners has checked the growth of this industry.

(iv) *Graphite*.†—Impure graphite is of fairly common occurrence, both in the older sedimentary rocks and in the gneissic rocks, but so far it is only worked in one place—in the Zoutpansberg District. This little mine turns out about six tons per month. It is worked up by the owners into material for furnace linings and forge facings. The mineral occurs in a lens in gneiss; so far as opened, the deposit is over 200 feet long by 30 feet wide, and is mostly a fairly pure carbon. Certain veins in it give a very pure flake graphite, but not in large quantities.

(v) *Gypsum*.—The cement factories of the Union have a constant need of gypsum, and a good deal of work has been done searching for the mineral. Up to the present the only deposits found have been irregular segregations in the soil of some valleys and pans in the more arid districts of Natal and the Orange Free State.

The chief deposit hitherto discovered in the Orange Free State is on, and in the neighbourhood of, the farm Vrede (part of Fouries Rust), about 16 miles south-east of the town of Boshof, and is now held by the Gypsum Supply and Products Company, Ltd., recently constituted. It has only been opened up at one or two points, but is said to have been proved over an area exceeding 400 acres. A thickness of from 18 to 20 feet has been found at one point, but this represents the maximum and the average is not likely to exceed 5 or 6 feet at most. The material, which is obviously the result of deposition from surface waters, is much immixed with earth, but the portion retained on a 1-ft. square sieve, after being broken down and roughly cleaned, is over 90 per cent. pure. This mineral is also found along the Bloemfontein-Kimberley line, in the neighbourhood of Boschvark siding, and at a number of other places in the Orange Free State, but the deposits have in no case been opened up to any extent and very little is yet known of them. A few hundred tons have been turned out as a by-product in the process of salt-making and this represents a probable source of future supply.

(vi) *Kieselguhr*.—Kieselguhr occurs in the Amsterdam District of the eastern Transvaal, also near Krugersdorp, and in Griqualand West and Gordonia. It occurs as a deposit in the beds of certain small fresh-water marshes, and its occurrence may be very much wider, for it is not a material which attracts attention either by its appearance or its mode of occurrence. It has so far only been worked to a small extent, mainly for use in boiler-lining materials.

(vii) *Kaolin and Clays*.—Kaolin occurs as a decomposition product of the granite over very large areas, but has not yet been worked, except on a very small scale on the Cape Flats, where, however, its occurrence is not directly associated with granite, and in Natal.

(viii) *Fireclays*.—Fireclays are associated with all the coal measures of the country, and many are of excellent quality. These do not usually occur directly underlying coal, but are often separated from it by a hundred feet or more. Firebricks and crucibles of excellent quality are being manufactured from such clays near Boksburg.

A good firebrick is also made from the matrix of the glacial tillite underlying the coal seams at Verceniging.

(ix) *Pottery Clay*.—Most of the coal measure clays are suitable for pottery work. A deposit of these was worked at Olifantsfontein, between Pretoria and Johannesburg, and very excellent articles of domestic potteryware were produced. A difficulty was experienced in producing a white china, but it is believed that that could have been overcome by scientific methods. Owing, however, to the cheap price, and great variety, of imported pottery, these works have been closed down for some years.

(x) *Common Clay*.—Good common clay for brickmaking is almost universal throughout the Union, and near the large centres beds of shale have been found giving a uniform and satisfactory clay for pipes, tiles, etc., which are now being produced in the Union on a large scale, and which are competing as roofing materials with the formerly universal galvanized iron.

† See *Journal of Industries*, February, 1918.

(xi) *Lignite*.—A form of lignite occurs in the Knysna District of the Cape Province, in an extensive deposit, and impure peat is fairly common in the marshes on the edge of the Transvaal and Basutoland escarpment.

Inferior coal is common in all the Karroo formations. In the Karroo horizon in the Beaufort West and Laingsburg Districts of the Cape Province, veins up to five feet in width, both vertical and inclined, occur, filled with a coal-like substance, which appears to be an inspissated and carbonized bitumen, much in the same way as veins filled with manjac occur in the petroleum districts of other countries. This substance is not at present used, but it is of great scientific interest.

(xii) *Lime*.\*—Three forms of limestone are at present known and worked:—

(a) *Magnesian Limestone*.—This is the common dolomite which covers vast areas in the Transvaal and Cape Provinces. It contains up to 40 per cent. carbonate of magnesia. It is largely burnt in ordinary kilns, and yields the common blue building lime of those Provinces.

(b) *White Lime*.—This is a pure white lime used for chemical purposes, and for the cyanide works of the Rand. It is usually obtained from stalagmitic deposits and cave fillings in the dolomite. At Potgietersrus a small area in the dolomite has been found where the beds are free from magnesia, but the deposits are unsatisfactory in size and continuity.

At Taung, in Bechuanaland, an extensive deposit of pure white limestone, said to contain not less than 7,000,000 tons, is now being opened up and connected with the railway. This will prove a most satisfactory development, for, up to date, there has been no adequate and suitable supply of pure limestone, for metallurgical purposes, available in the Union.

(c) *Desert Limestone*.—Vast areas in all the Provinces are covered by a desert limestone of considerable thickness. This, however, generally contains up to 20 per cent. silica and other impurities. It is largely worked near Pretoria, Mafeking, and in the Orange Free State, for cement making. For other purposes it does not generally yield a good lime.

The output of lime in the Union for 1920-21 was:—

	Tons.	£
Cape of Good Hope.....	45,314	98,947
Natal.....	3,893	10,452
Transvaal.....	61,118	138,776
Orange Free State.....	3,000	7,011
UNION.....	<u>113,325</u>	<u>£255,186</u>

(xiii) *Magnesite*.†—Magnesite in workable quantities occurs in several places in the Transvaal, notably at Kaapmuiden, where a railway traverses the deposits. It occurs as a "stock-work" of veins in serpentine. An attempt to work it on a large scale in 1906 failed, but in 1918 the output reached an average of nearly 70 tons per month. This is used for carbonic acid making in Johannesburg, the residue being turned into cupels. The deposits are extensive, but not continuous, and very favourably situated. At the time of the outbreak of war hopes were entertained of an export trade to America, which, however, were not realized owing to the increased freightage.

(xiv) *Marble*.—Up to a few years ago the existence of pure marble in the Union was unknown. An inferior marble, or marbelized dolomite, occurs at Port Shepstone in Natal, but attempts to work it systematically have never been attended with success.

Of recent years attention has been called for a very considerable extent of marble at and in the neighbourhood of the farm "Marble Hall," in the North Middelburg district. This marble is of great variety, and much of it is of excellent quality. It is fully reported on in the *Journal of Industries* for July, 1919. Unfortunately this deposit is at present some seventy miles from the railway, and it has not, therefore, been developed, although two or three small quarries have been opened on it. With the further development of the railway system of the country, this marble will probably become of great importance—more especially as it, or much of it, gives a pure metallurgical lime, good deposits of which are very scarce in the country.

In the Cape Province marble also occurs in the coast districts of Namaqualand and Van Rhynsdorp, and a black marble at Cango. None of these deposits has, however, been opened. The railway is now approaching the Van Rhynsdorp deposits, and these will probably be exploited.

\* See Memoir No. 11, "Limestone Resources of the Union."

† See *Journal of Industries*, March, 1918.

(xv) *Mica*.<sup>\*</sup>—Excellent mica occurs in the Transvaal along the Oliphants River, below the Berg in the Leydsdorp division of the Pietersburg district. The mica here occurs in large books up to 100 lb. and more in weight, in pegmatite lenses in the gneiss. The lenses occur in a line of country over a couple of miles in width and fifty miles long.

The mica can be cut in any size up to twelve inches, the majority of it cutting over three inches. It is usually slightly smoky in colour, but has excellent electrical resisting properties. Several attempts have been made to work it. The proposition appears to be a thoroughly attractive one, but so far, partly owing to the remoteness of the fields from civilization, but more especially to the difficulty of marketing the product, these efforts have been unsuccessful. A railway now traverses the field, and it is to be hoped that when normal conditions return, the other difficulty, which appears largely due to faulty methods of grading and packing, may be overcome.

Mica has also been worked on a small scale at Steinkopf, in Namaqualand.

(xvi) *Mineral Oil*.<sup>†</sup>—Mineral oil occurs in vesicles associated with the intrusive rocks of the Karroo formation. This is probably a distillation product from the carbonaceous beds below. The indications of flowing mineral oil existing in commercial quantities in the Union are not considered favourable.

(xvii) *Oil Shales*.—Beds of oil shale up to 4 feet in thickness, associated with the coal measures, occur in the Transvaal, Natal, and Cape Provinces. Experiments with these shales show that they yield a distillate up to 36 gallons to the ton from representative samples. At the present time a company has been formed to exploit those lying in the Wakkerstroom District of the Transvaal, and a bulk sample has been sent to England for a practical test. The outcrop of these shales extends at intervals for about 200 miles, running along the slopes of the great escarpment. If the present experiment leads to a successful result it is probable that very considerable developments will follow.

A report on the property of the company above mentioned appears in the *Journal of Industries* for August, 1920.

(xviii) *Nitrates*.—Nitrates have been reported from all the more arid districts of the Union, but on investigation the deposits have never proved more important than cave fillings, where the mineral has been formed from the excreta of animals. An attempt has recently been made to exploit nitrate deposits of this description in the Prieska district, but it did not meet with success.

Geological Survey Memoir No. 14 gives a scientific description of the above deposits.

(xix) *Phosphates*.<sup>‡</sup>—No phosphates were worked in the Union until the last few years, when attention has been called to a very important group of deposits in the neighbourhood of Saldanha Bay. These are of very considerable extent, and their quantities may be estimated by hundreds of thousands of tons. An attempt made to work them during the war period met with failure, as the percentage of phosphoric acid did not come up to expectations, though the process used was successful. Since the war the price of imported phosphates has fallen to such an extent that it has not been deemed expedient to reopen the works, though in the future this will probably be done. A full report on the occurrence, by Dr. A. L. du Toit, Field Geologist to the Union Government, is published by the Geological Survey, in Memoir No. 10, 1917.

In the Transvaal, at Lulukop, in the Zoutpansberg District, is a limestone containing some 10 per cent. of apatite, which may also become of economic value.

(xx) *Pigments (Mineral Paints)*.—Red hæmatites and ochres of all descriptions, as well as specularite, occur in the older rocks of the Union.

(xxi) *Salt*.—No deposits of rock salt are known to occur, but in the Cape, the Orange Free State, and the Transvaal Provinces a very large quantity of rough salt is made from the liquor of salt pans. These pans are shallow depressions, often of several square miles in extent, in the surface of the more arid districts. They are without outlet and retain the inflow of water received in the rainy season, with the result that in many cases an excellent supply of brine remains available close to the surface. Such occurrences are worked now in practically every case where the brine is found to be of suitable quality and reasonable transport facilities are available. The great bulk of the salt is obtained entirely by solar evaporation in shallow dams, though, in case of one or two producers, artificial heat has been adopted for final precipitation of the concentrated liquor. The coarse salt obtained by solar evaporation is subject to contamination from dust, and has to be graded in course of recovery according to its apparent quality. A portion of the purest grade is subsequently ground fine for household and dairy purposes and put on the market in suitable form. The quality of this approximates to that of the European article. The Union is now almost self-supporting in this important commodity, but new calls are likely to arise, and there will doubtless be considerable further expansion in the salt industry.

\* See *Journal of Industries*, April, 1918; also Geological Survey Memoir No. 13.

† See Report on Petroleum Prospects of the Union, by E. H. Cunningham Craig, October, 1914.

‡ See *Journal of Industries*, January, 1918.

The total production in the Union in 1920-21 was as follows:—

	Tons.	£
Cape of Good Hope.....	38,461	85,804
Transvaal.....	14,226	41,480
Orange Free State.....	15,692	35,634
<b>UNION.....</b>	<b>68,379</b>	<b>£162,918</b>

(xxii) *Soda*.—There is only one notable occurrence of soda in the Union, that at the Pretoria saltpan. This pan is a crater-like depression some 200 feet below the surrounding country, and about 28 acres in extent. The bed of the pan, from which in the dry season all the liquid evaporates, consists of a black mud containing masses of trona, or solid crude carbonate of soda. The mud, which has been proved by boreholes to be at least 200 feet deep, has the following analysis:—

Moisture at 120° C.....	50	per cent.
Na <sub>2</sub> CO <sub>3</sub> .....	16	"
NaCl.....	15	"
CaCO <sub>3</sub> .....	3	"
Insoluble.....	12	"
Organic matter.....	4	"
	<u>100</u>	"

Recent geological work has proved the pan to be an explosion crater, similar to those which have formed the diamond pipes, and of post Karroo age. The pan contains three valuable ingredients:—

- (a) Saline mud, described above.
- (b) Layers of trona or crystallized carbonate of soda.
- (c) Saline liquor containing approximately 10 per cent. soda and 15 per cent. common salt.

In 1912 the South African Alkali Company started to work these deposits. For the first six years the trona only was worked, as that obviously gave the greatest immediate profit, and some 21,000 tons were won. The trona at the surface then gave out, and the Company turned its attention to the mud. So far, it has been found impossible to treat this, as the liquor obtained by artificially leaching the mud will not filter, neither will the impurities settle in a reasonable time.

In 1919 the original Company failed, but fresh capital was introduced, and a plant has now been erected to extract the soda and salt from the liquor. No attempt is being made to treat the mud. An experimental plant working on the liquor has given quite satisfactory results, and there appears to be no reason why the pan should not be successfully worked on these lines.\*

(xxiii) *Steatite† (Talc)*.—Steatite of excellent quality occurs in the Barberton district in very large quantities. Two companies are now producing steatite powder for all purposes, and an export trade is being started.

## § 10. State Aid to Mining.

1. **General.**—Little information is available as to the terms and conditions under which the various Provinces granted aid to mining prior to the constitution of the Union in 1910. The most important mining Province is the Transvaal, and a definite step was taken in that Province by making provision in a *Precious and Base Metals Act*, which was promulgated on the 1st January, 1909, to assist prospecting for and exploitation of precious and base metals. The relevant section in this law reads:—

129. (1) The Minister may, out of moneys appropriated by Parliament for the purpose, assist the prospecting for and exploitation of precious or base metals—

- (a) by erecting batteries, smelting works, ore dressing works, assaying and analytical laboratories, power stations, and pumping stations;
- (b) by the construction of roads, pipe lines, power lines, and water-courses;
- (c) by the sinking of boreholes;
- (d) generally in any other manner prescribed by regulation he may deem expedient;

and may charge fees for the use of anything so erected, constructed, or sunk, and do all acts and things and enter into all contracts necessary for the purposes of this section.

(2) The Minister may, so far as he deems expedient, permit any officer of the Mines Department to advise any prospector or holder of mining title on any matter which relates to prospecting or mining for precious or base metals.

\* Provision for the grant of a revised lease to the South African Alkali Company was made by Act No. 25 of 1922.

† See *Journal of Industries*, June, 1918, and June, 1920.

To assist in giving effect to this enactment, officers of the Mines Department were instructed to investigate and report on any feasible scheme or venture that came to notice, and, in the case of applications for assistance, to ascertain whether such had for their object the principal aim the Government had in view, namely, the ultimate establishment of a permanent industry.

One of the original intentions was to assist prospectors and diggers by the erection of central batteries, but no occasion presented itself where the circumstances and situation of any number of small workings justified expenditure. Several applications were made for cash advances or grants by individuals or companies, and in a few instances where the venture gave promise of stability and permanency, money was advanced, but in each case failure was the result. In most cases where such applications are made, it is found on investigation that the applicant has become involved in financial difficulties and attempts to transfer the claims of exigent creditors to the Government.

A useful form of assistance to prospectors is an arrangement made with an outside analyst to perform assays and analyses at specially low fees. Samples are forwarded to the Government Mining Engineer free of cost through any mining commissioner, post-master, or station master, and receive the same attention as other assays for which private persons have to pay higher fees. The Government Geological Survey Department renders further assistance by identifying minerals free of charge.

The experience of the Mines Department in its policy of granting financial aid to mineral propositions, which *prima facie* appeared to have some prospect of becoming a stable industry, has hitherto been disappointing; and the money voted for district development work has in consequence been applied mainly to the construction and repair of roads in mineral localities. This application of the funds has the advantage that if the particular mining venture on behalf of which road making and repair is principally undertaken proves a failure, farming and rural interests benefit and the roads made remain in some respects of permanent use to the district.

The Government has also rendered assistance in the direction of the establishment of permanent industries by engaging the services of experts from overseas, who have investigated and reported on the possibilities of iron and petroleum in the Union. The Department has further helped to direct public attention to specific mineral possibilities by the publication of separate memoirs or contributions in official or other publications. In addition, technical advice is given gratis when justifiable and when the interests of private professional consultants are not prejudiced.

The following is a summary of amounts spent out of moneys voted for assistance to district development work:—

(i) EXPENDITURE ON ROADS, DRIFTS (FORDS), AND BRIDGES,  
1911-12 TO 1920-21.

Year.*	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1911-12.....	141	2,055	385	1,500	4,081
1912-13.....	784	329	8,910	1,491	11,494
1913-14.....	1,987	—	5,691	663	8,341
1914-15.....	769	—	1,114	1,274	3,157
1915-16.....	543	—	3,118	155	3,816
1916-17.....	104	—	1,048	—	1,152
1917-18.....	411	—	1,325	—	1,736
1918-19.....	1,007	—	2,886	—	3,893
1919-20.....	49	70	3,088	300	3,505
1920-21.....	2,064	200	6,610	800	9,674
TOTAL.....£	7,839	2,654	34,173	6,183	50,849

\* The year denoted is the financial year ended 31st March.

## (ii) ADVANCES, GRANTS-IN-AID, ETC., 1910-11 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1910-11.....	25	230	408	—	663
1911-12.....	500	—	910	—	1,410
1912-13.....	285	419	3,500	—	4,204
1913-14.....	250	172	—	—	422
1914-15.....	—	—	1,000	—	1,000
1915-18.....	—	—	—	—	—
1918-19.....	—	—	2,505	—	2,505
1919-20.....	—	—	—	—	—
1920-21.....	—	—	794	—	794
<b>TOTAL.....£</b>	<b>1,060</b>	<b>821</b>	<b>9,117</b>	<b>—</b>	<b>10,998</b>

2. **Transvaal.**—(i) *Direct Aid.*—This Province is predominant in the Union in respect of its mining activities and mineral possibilities, and in consequence is responsible for the receipt of the largest share of the moneys granted for aid. A record of the manner in which the total amount of £5,818 granted up to 1915 by way of assistance was allocated affords some indication of the efforts made outside the Witwatersrand to establish or revive promising mining industries.

(a) *Murchison Range.*—The exploitation of the refractory ores in this range had hitherto suffered, according to the general view, from inaccessibility and lack of water. By the extension of the railway from Komatipoort and its subsequent linking up with the line from Pretoria to the Limpopo River the first difficulty was surmounted. In regard to water supply, ten boreholes with pumps were supplied at various points along the range, and a sum of £1,404 was spent in preliminary investigation, while before embarking on a general scheme, which would have entailed an expenditure estimated at various sums up to £100,000, the Mines Department made an extensive sampling of the range. The results obtained were disappointing on the whole, and are not considered to justify the Government in proceeding with a big water scheme. One of the pioneer companies of the district made application for financial assistance in connection with a new process for the treatment of its antimony ores. As the success or non-success of the process would greatly affect the further development of the gold field a loan of £1,000 with interest at 6 per cent. p.a., repayable out of profits was granted to assist the company over the inevitable initial difficulties. The company was not successful with the process, but a French mining company familiar with the treatment of antimony ores has now taken over the concern.

(b) *Barberton.*—In order to prove or disprove the successful working of alluvial washes in this district, a sum of £520 was advanced to assist an individual scheme at Fig Tree Creek. The venture was a failure. A small portion of the outlay was recovered from the sale of the plant.

(c) *Pilgrims Rest.*—To assist in constructing a power line from Vaalhoek to Ledophine, a mining syndicate was advanced an amount of £2,500 at 4 per cent. interest redeemable by annual payments of not less than 5 per cent. of the loan. The syndicate, however, fell into financial difficulties and became unable to meet its obligations in this connection. Eventually a compromise was arrived at, resulting in a loss to the Government of the sum of £1,483, including expenses and unpaid interest.

(d) *Waterberg District.*—A discovery of coal was made on the farm Vangheining, about twenty miles west by south of Warmbaths, and a grant-in-aid was made for the purpose of sinking a shaft to the seam. The cost was £250, and a fair seam of coal was exposed at a depth of 170 feet. Coal having also been discovered on certain Crown lands in the north-western portion of the Waterberg district, the Mines Department has taken steps to have the area thoroughly tested, and boring operations are being carried out under the direction of the Irrigation Department. The cost for the year was £794.

(ii) *Indirect Aid.*—In addition to these efforts to aid mining by direct cash assistance, other methods of a more or less indirect nature have been employed from time to time.

(a) *Iron*.—In 1909 attention was drawn to the possibility of establishing an iron industry by the publication of a memorandum by the Government Mining Engineer. Shortly afterwards the services of Mr. F. W. Harbord, London, were obtained at a total cost of £3,172, and in his report to the Government Mr. Harbord recommended the systematic prospecting of the most accessible iron ore deposits, and the institution of experiments with local coal to settle whether a metallurgical coke could be produced. He also recommended the establishment of works for the smelting of scrap iron. This has led to the creation of two steel works, one at Vereeniging on the Vaal River and the other at Dunswart in the East Rand area, which, between them during 1916, had an average monthly output of 960 tons of assorted steel products, all manufactured from scrap iron.

(b) *Coke*.—In 1911 samples (of ten tons each) from six selected Transvaal collieries were sent to England for coking tests under the supervision of Mr. Harbord. The results showed that none of the coals produced first-class blast furnace coke. Fairly strong cokes, however, were produced, and these could be improved if the coal were first ground and compressed.

(c) *Oil*.—In 1913, the Government secured the services of Mr. E. H. Cunningham Craig, London, an oil expert, to report on the prospects of oil discoveries in South Africa, including oil shales. This was done in order to enable the Government to decide whether or not financial assistance should be given to various applicants in boring for oil. As the result of his investigations Mr. Craig arrived at the opinion that an oil shale industry had good prospects of proving successful, but that prospecting for crude petroleum and natural gas had only a remote chance of success. He, however, recommended that, before abandoning hope of striking petroleum in the Union, the folded belt of the Karroo System, particularly the area near Jansenville, Saxony, and Klipplaat Station should be examined. Dr. Rogers, Director of the Geological Survey, has since carried out such further investigation, the details of which are contained in his *Report on the Prospect of Finding Oil in the Southern Karroo* (Memoir No. 8, 1917).

(d) *Tin*.—During the year 1907, discoveries of tin in the Waterberg district attracted considerable attention, and for various reasons, but partly to endeavour to establish the success of low-grade tin ore propositions and thus to provide a field of employment for individual diggers, the Government embarked on a scheme of allowing persons to work claims without further title than that of actual occupation and digging. The scheme did not result in the foundation of a permanent industry, mainly owing to the erratic and poorly mineralized nature of the lodes. The ground was subsequently leased to an adjoining mining company. At that time it seemed probable that the community of small tin producers could be materially assisted by erecting and running a central concentration plant, and when an application was received from another quarter for financial support in connection with a concentrating plant which had been erected on the Magalakyn River, the Government agreed to sell, on very favourable terms to the applicant, the low grade ore from the dumps on Zaaiplaats to give the new plant a start. The proposal, however, fell through, and the concentrates were taken over by a neighbouring mine which had started the Elmore process.

In 1912 assistance was given to a tin mining company by the sinking of boreholes for a water supply, at a cost to the Government of about £300. The company's operations were not successful and have not been resumed.

3. *Natal*.—Before the establishment of the Union the Government of Natal, in addition to providing for cheap assays and analyses of samples, and the sale of explosives from Government magazines in prospecting districts, adopted three forms of aid to mining, viz.: (a) a bounty of three shillings per ounce of fine gold on gold legally won; (b) the free use of a portable Tremaine battery and cyanide plant for trial crushings of ore up to 500 tons; and (c) the use of drilling plant for boring on terms equivalent to net cost. The first two methods ensured that actual prospecting and development work had to be done before Government assistance was available, and the third method placed the Government in possession of definite knowledge resulting from the boreholes sunk. The bounty system was discontinued after the constitution of the Union, the last bonus being one of £230 paid to the Wonder Mine in 1910.

In regard to the battery, the main object of this form of assistance was to induce work instead of holding discoveries unworked in the hope of selling. It was considered that the evils attending possible premature crushing were to be preferred to those of complete inactivity. A secondary object was to supply a means of testing the value of gold reefs, and, by publication of the results, to check misrepresentation and unfounded or dishonest speculation. None of the properties on which the battery worked subsequently developed into payable mines; nevertheless, definite information has been gained as to reefs which would otherwise doubtless have remained altogether unproved up to the present or else might have caused considerable monetary loss to members of syndicates or company shareholders. Since 1911 the use of the battery was not free: the plant was hired out on the £1 for £1 principle, but the cost of its running and maintenance ultimately became a dead



loss to the Government. It sometimes happened that a prospector opened up some ground, applied for and was granted a trial crushing, picked and stripped his workings of all payable ore, and then ceased work when no more gold was to be won. Other prospectors applied for the hire of the battery when insufficient work had been done to justify the removal of the plant to their claims. Since the battery had ceased for all practical purposes to assist prospecting in the manner originally intended and since it became necessary to exercise rigid economy of public funds owing to the war, the whole plant was sold after public tender in 1917. The experience gained by its use may be fairly summarized by stating that it was only requisitioned by parties whose properties were not sufficiently promising to attract private capital, and that its principal value consisted in demonstrating that those properties were not payable.

The drilling plant was originally obtained by the Natal Government to gain information as to the extent and nature of the coal deposits of the colony. Boring was done by, and solely on behalf of, the Government, and complete reports of the work done were published annually for general information. At a later date boreholes were put down on hire for mining companies and others, and reports on these were also published regularly. In this way much valuable information was obtained. This method of encouraging development appears, however, to have exhausted its usefulness, and the drills are now almost entirely hired out for private boring to companies.

Since the constitution of the Union, the Natal Province has shared in the Government vote for assistance to district mining development, mainly by the construction and repair of roads in mining localities. The total sum spent on this service was £2,384 in the years 1912 and 1913; since then further sums of £270 have been expended. In one instance only has direct financial assistance been granted. In 1912 it was decided to advance, on the £1 for £1 principle, an amount not exceeding £1,500 to assist a syndicate in developing its property on the Mpapala Gold Fields, Zululand. After the expenditure of a portion of this amount the syndicate went into voluntary liquidation after eight months' work.

**4. Orange Free State.**—In this Province the assistance granted to district development work has been in the form only of expenditure on mining roads. The amount spent in this manner since 1912 totalled £6,183.

**5. Cape of Good Hope.**—The total amount spent on mining roads since 1912 is £7,839. There have only been two instances in which the Government granted aid by direct cash contributions. During the years 1911 to 1913 advances were made to a syndicate to assist in proving the alluvial deposits in the valleys of the Millwood district at Knysna, but after a total expenditure from the public funds of £810, nothing of value was proved and the syndicate's lease was eventually cancelled in February, 1914.

In 1913 a prospector, with Government concurrence, carried out an expedition intended to investigate the occurrence of diamonds in the Kalahari desert. The main object of the expedition was attained and information of a scientific nature was gained and furnished to the Government. A grant of £250 was made to the prospector to assist in covering the expenses of his journey.

## § 11. Mineral Laws of the Union.

**1. Union Legislation.**—The mining laws of the Union have not yet been consolidated, and the laws passed by the various Colonial Governments, prior to the constitution of the Union, are still in force in the various Provinces, with the exception of the Union *Mines and Works Act* of 1911, which deals with the actual working and inspection of mines, works, and machinery throughout the Union. Under this Act, the supervision of all mines, works, and machinery is placed under the Government Mining Engineer and the Inspectors of Mines, Inspectors of Machinery, and Inspectors of Explosives, responsible to the Government Mining Engineer. The Act lays down the hours for underground labour, and provides for the trial of breaches of regulations or rules and for inquiries by Inspectors of Mines into accidents. The regulations deal in detail with all the various questions appertaining to the safety of persons employed on mines and works.

**2. Transvaal Mineral Laws.\***—Of the Provinces of the Union, the Transvaal has so far proved the most productive in minerals. The law dealing with prospecting and mining for precious metals and base metals is the Transvaal Act No. 35 of 1908 (commonly known as the *Gold Law*) which came into operation in 1909, amending and consolidating previous laws passed by the Republican Government. The Act adheres to the principle adopted by previous laws in the Transvaal Colony, that the right of mining for and disposing of all precious metals is vested in the Crown, and that the ownership of and the right of mining

\* See also "The Mining Laws of the British Empire and of Foreign Countries," Vol. III, Part I, prepared for the Governors of the Imperial Mineral Resources Bureau and published by H.M. Stationery Office, Imperial House, Kingsway, London, W.C.2. (Price, 30s. net.)

for and disposing of base metals on Crown or private land is vested in the owner of such land. This law is administered by the Union Government Mines Department, which has the supervision and control of the mining industry. The Province is divided into mining districts under the administration of Mining Commissioners, who, subject to the direction of the Minister of Mines, supervise all proclaimed mining fields within their respective districts.

(i) *Prospecting*.—The Minister has the power to declare Crown lands, and, under certain circumstances, private lands open to prospecting by notice in the *Gazette*, and on lands so declared open to prospecting any white person of the age of sixteen years or upwards may prospect under a prospecting permit. Prospecting permits can be obtained from any Mining Commissioner at a cost of 5s. per annum, and authorize the prospector to peg a prospecting area in extent 2,000 feet in length and 2,000 feet in breadth on any land open to prospecting within the Province of the Transvaal.

(ii) *Discovery*.—Every prospector who discovers minerals must give notice to the Mining Commissioner and make a declaration as to the time when and the place where such discovery was made, and must forward samples of the ore discovered and a sketch plan showing the place where the discovery was made. The discovery is then investigated by the Mining Commissioner, and if the Minister is satisfied that it should be regarded as a genuine discovery, and that there are reasonable grounds for believing that minerals exist in payable quantities, the discoverer is then entitled to certain discoverers' claims not exceeding fifty in the case of precious metals on Crown or private land and a hundred in the case of base metals on Crown land.

(iii) *Proclamation of Public Diggings and Rights of Owners of Private Land*.—Whenever precious metals have been found on Crown or private land and the Governor-General is satisfied that there are reasonable grounds for believing that they exist in payable quantities, he may proclaim such land a public digging. The owner of the mineral rights of private land, however, first has the right to select either one or two areas called a *mynpacht*, which may not in the aggregate exceed one-fifth of the extent of the land to be proclaimed, while the owner of the freehold has also the right to a certain reservation for homestead and agricultural purposes, with sufficient water for domestic purposes, for watering his stock, and for irrigating any agricultural lands so reserved. Private land may not be proclaimed without the consent of the holder of the mineral rights, unless—

- (a) Such land has been declared open to prospecting;
  - (b) The holder of the mineral rights has by himself or his servants prospected on his land, or has permitted such prospecting; or
  - (c) The Minister has by investigation ascertained that there are reasonable grounds for believing that precious metals exist in payable quantities on the land;
- and in any case due notice must be given to the freehold owners and to the holders of the mineral rights in order to enable them to prospect their *mynpachts* and their owners' reservations respectively.

The Governor-General may deal with proclaimed land in any or all of the following ways:—

- (a) He may declare the whole or any portion thereof open to the public for the pegging of claims;
- (b) He may lease to any person the exclusive right to mine the precious metals on any portion of the digging which has not already been pegged as claims or *mynpachts*; and
- (c) He may, with the previous sanction of Parliament, establish a State Mine upon any portion of the digging.

Any public digging or any portion thereof may be deproclaimed by the Governor-General if the extent of the ground held under diggers' licence is less than one digger's claim to 120 morgen of the portion to be deproclaimed, and the Government Mining Engineer is satisfied that precious or base metals are not being found or likely to be found in payable quantities on such portion.

(iv) *Pegging of Claims and Licence Moneys in respect thereof*.—Every white person of the age of sixteen years or upwards may obtain from the Mining Commissioner a licence called a "Prospecting Licence" entitling the holder during the period of one month to peg upon such portion of a public digging as is open to pegging a number of claims authorized by such licence, not exceeding fifty in the case of precious metals and a hundred in the case of base metals. It is not lawful to peg a claim, unless the licence holder or his representative is present with his licence on the ground, and no claim may be pegged between sunset and sunrise, nor on a Sunday or a day declared by law a public holiday. The size of a claim is 150 feet in breadth and 400 feet in length, and the licence moneys payable thereon are as follows:—

**Precious Metals—**

- 2s. 6d. per month per claim on Crown land.
- 5s. per month per claim on private land.

**Base Metals—Crown Land.**

- 1d. per month per claim for the first year, and 6d. per month per claim for any year after the first year.

In the case of precious metals, however, as soon as use has been made of machinery for the crushing or treatment of ore or a claim has been sufficiently developed to permit of the extraction of ore therefrom, the licence holder shall, before he is entitled to win precious metals from any such claim, convert his prospecting licence into a digger's licence, in respect of which the sum of £1 per month is payable, whether on Crown or private land. On private land one-half of the licence moneys received by the Mining Commissioner is paid to the owner of such land.

In the event of the payment of the licence moneys being three months in arrear all rights in such claim, of the person who is in arrear with the licence moneys, lapses to the Crown, and the Governor-General may then deal with the ground over which such rights have been held in any of the ways in which he is empowered by the law to deal with proclaimed land, and which have already been mentioned.

(v) *Lease of Rights to Mine on Public Diggings*.—Section 46 of the Act which formerly dealt with mineral leases has now been repealed by Act No. 30 of 1918. When the Governor-General determines to exercise his power to lease any portion of open proclaimed land, such land must be divided into such number of claims as will, in the opinion of the Government Mining Engineer, be sufficient in extent to constitute a workable mining proposition. After a diagram has been made of such portion the Minister, by notice in the *Gazette* and in the Press calls for applications for the grant of a lease of the exclusive right to mine on such land. Certain conditions, which must form part of every such lease, are laid down in the law, which, *inter alia*, provides—

- (a) the lessee shall make provision to the satisfaction of the Minister in regard to the capital required for the equipment of the mine, and all further working capital which may be necessary;
- (b) the lessee shall carry on mining to the satisfaction of the Minister;
- (c) the amount to be paid for the exercise of the right leased shall be a sum to be agreed upon being a percentage of the annual profit obtained from the working of the mine;
- (d) a rent shall also be paid by the lessee of so much as would have been payable if the ground had been held as claims.

Section 52 of the Act vests in the Crown the right to mine for precious metals underneath any place reserved under the provisions of prior laws and the present law, such as townships, roads, railways, etc. and also underneath any ground reserved to the owner as homestead or agricultural lands, and the Governor-General may dispose of the right to undermine such areas on terms which he may deem most advantageous, the provisions of Act No. 30 of 1918 being followed as far as applicable.

It was in connection with areas reserved under prior laws that the complicated question known as the "Bewaarplaats Controversy" arose, and this has now been settled by the *Bewaarplaats Moneys Application Act of 1917*, which provides that the registered owner of the land shall receive nineteen fortieths of the proceeds received by the Crown from the leasing of the right to mine underneath any Bewaarplaats, i.e. towns, villages, stand townships, public squares, streets, roads, railways, cemeteries, erven, stands, permanent fortifications, locations, town lands, gardens, storage sites, machinery sites, water rights, and tailings sites, which were reserved from pegging and prospecting and were situate on proclaimed land at the coming into force of the Act of 1908, and any other place on proclaimed land which had been reserved by the Mining Commissioner in accordance with certain sections of the prior law.

(vi) *Water Rights*.—No person upon any public digging has any proprietary right, by reason of any mine title, in the water running in a river, stream, water course, or water furrow; but powers are given to the Mining Commissioner, subject to the confirmation of the Minister, to grant water rights for mining purposes.

(vii) *Surface Rights of Proclaimed Land*.—The surface rights of the freehold owner of proclaimed land are suspended during proclamation, and the rights conferred by a claim licence or any other mining title do not include the right of disposal over the surface of the ground, which right is reserved to the Crown for the purposes of the Act. The Mining Commissioner may grant permission to use the surface of ground held under mining title for purposes incidental to mining, and the Governor-General may use or permit the use of open proclaimed land or ground held under mining title for public purposes, and certain other purposes specified in the Act. The Mining Commissioner may also, subject to the confirmation of the Minister, permit the use of proclaimed land for gardens, agriculture, and the planting of trees, orchards and vineyards under certain circumstances.

(viii) *Stands*.—The Mining Commissioner has the power to grant stands for dwellings or places of business on open proclaimed land, and also industrial stands on open proclaimed land and land held under mining title, for works necessary or incidental to the mining industry, for the generation of light, heat, and power for chemical work and the treatment of ores and by-products, or for the purposes of a factory as defined in any law relating to factories. Trading on mining ground is dealt with by a separate Act, No. 13 of 1910, which makes further provision regulating trading on ground held under mining title; and no person may carry on any trade or business on such ground unless he has acquired a trading stand or trading site under that Act, and then he may only carry on the business of a general dealer or keeper of a Kafir eating-house. Trading sites under this Act are set apart by the Mining Commissioner and are sold by public auction.

(ix) *Dealing in Unwrought Precious Metals*.—Provision is also made in the Gold Law that no person shall buy, sell, deal in, receive, or dispose by way of barter, pledge, or otherwise, either as principal or agent, any unwrought precious metal, unless—

- (a) he is the holder of a licence;
- (b) he is a banker within the Province;
- (c) such unwrought precious metal has been won by him or his servant, acting on his behalf, from ground held by him under mining title or on which he is lawfully entitled to prospect;
- (d) such unwrought precious metal does not exceed 20 pennyweights in quantity, and not being a person described in paragraphs (a), (b), or (c), he has obtained a certificate from the Mining Commissioner authorizing him to be in possession or to dispose of such quantity of unwrought precious metal.

(x) *Miscellaneous*.—Provision is made for the exemption from payment of licence moneys on claims—

- (a) when a licence holder holds, on his own behalf, not more than fifteen claims and has been personally working the same for a period of six months; and
- (b) when claims are situated in an unhealthy locality and the licence holder has been working them in a manner which the Mining Commissioner deems satisfactory.

The Minister may also grant assistance for district mining development out of moneys appropriated by Parliament for the purpose of—

- (a) the erection of batteries, smelting works, etc.;
- (b) the construction of roads, pipe-lines, power-lines, etc.;
- (c) the sinking of bore-holes;
- (d) generally, in any other manner prescribed by regulation.

(xi) *Precious Stones*.—The *Precious Stones Ordinance*, No. 66 of 1903 of the Transvaal, as amended by Act No. 15 of 1919 regulates the question of prospecting and mining of precious stones. Any white male inhabitant of the Province over the age of eighteen years may take out at the office of the Mining Commissioner a licence to prospect on Crown land which is not reserved from prospecting. Such licence costs 2s. 6d. per month. On private land the owner may prospect without a licence and he may also give permission to others to prospect.

On the discovery of precious stones he must make a declaration to the Mining Commissioner, and, in the event of the discovery of a mine on Crown land, he is entitled to an undivided one-tenth share of the mine, where such mine exceeds in extent an area of 270,000 square feet. Where the extent of the mine does not exceed such area, he is entitled to such undivided proportion thereof as an area of 27,000 square feet bears to the whole extent of the mine.

The discoverer of alluvial diamonds, whether on Crown or private land, is entitled to select fifty claims in one block at the place where such precious stones have been found, and no licence moneys are payable on such claims whilst they are being worked to the satisfaction of the Mining Commissioner.

The Governor-General may at any time after the discovery of precious stones, if he is satisfied that there are reasonable prospects that precious stones exist in payable quantities, proclaim a mine or alluvial digging as the case may be. In the event of a mine being proclaimed, the owner is entitled to an undivided four-tenths share in such mine, and in the event of an alluvial digging being proclaimed the owner is entitled to select, after the discoverer, two hundred claims, which shall be free of licence moneys. If such owner is also the discoverer he shall, in addition, be entitled to the discoverer's claims.

The Ordinance contains special provisions regarding the working of a mine and for the protection of the share of the Government in such mine, and in the case of the proclamation of an alluvial digging provision is made for the pegging of claims by the public on payment of licence moneys. The size of a claim is 45 feet by 45 feet and the licence fee to 5s. per claim per month. No person may peg a

claim in an alluvial diamond digging under claim licence and no white person may work on a claim unless he is the holder of a digger's certificate. Digger's certificates are granted by the Diggers committees to persons who satisfy the committee that they are of good character and fit and proper persons to hold claim licences and where no diggers' committee exists by the Mining Commissioner of the district.

**3. Cape of Good Hope Mineral Laws.**—The laws in force in the Cape Province are the *Precious Minerals Act*, No. 31 of 1898, which is amended by the *Precious Minerals Amendment Act*, No. 45 of 1905, and the *Mineral Law Amendment Act*, No. 16 of 1907, and the *Precious Stones Act*, No. 11 of 1899, which is amended by the *Precious Stones Act Amendment Act*, No. 27 of 1907, and the *Precious Stones (Alluvial) Amendment Act*, No. 15 of 1919.

(i) *Prospecting.*—No person other than an owner may prospect without taking out a licence. Licences are issued by Civil Commissioners, and cost 2s. 6d. per month for precious stones or precious metals and 1s. per month for base minerals. A licence entitles the holder to prospect on all unoccupied Crown land open to prospecting throughout the Province and to peg out a prospecting area of 1,000 yards in diameter in respect of precious stones, 7,800 feet long by 800 feet broad in respect of precious minerals and 1,000 acres in respect of base minerals, over which he has the exclusive right to prospect so long as his licence is in force. He may move his pegs from time to time. The holder of a prospecting licence may also prospect on private land with the consent of the owner and subject to such terms and conditions as he may impose.

A prospector is entitled to graze on Crown lands a certain amount of stock, and to take sufficient wood and water for his domestic purposes. Private land in the Cape Province is land which is privately owned and in respect of which there is a reservation of precious stones and minerals in favour of the Crown. The mineral laws do not apply to land which is privately owned and which does not contain such a reservation.

The holder of a licence must prospect his area to the satisfaction of the Minister, failing which his licence is liable to be cancelled. In the event of a discovery he is bound to notify the Civil Commissioner of the district immediately.

(ii) *Precious Stones—(n) Mines.*—A prospector who proves to the satisfaction of the Civil Commissioner that he has discovered precious stones in payable quantities in a new mine on Crown land is entitled to an undivided half share in such mine on its being proclaimed. If the discovery is on private land the discoverer is entitled to an undivided one-fourth share and the owner to a similar share in the mine, but if the discoverer is also the owner of the land, then he is entitled to an undivided half share. The discoverer and the owner of the land become joint and not several proprietors of the shares of the mine to which they are entitled. When the place where precious stones has been discovered is proclaimed a mine, the discoverer has to give notice within nine months whether he intends to work the mine or not. If he does not wish to work the mine then the owner, if it is on private land, is entitled to work it, but if they wish it the discoverer and owner may work it jointly. Should neither the discoverer nor owner wish to work the mine, the Governor-General may call for tenders for the working of it, subject to such conditions as may be agreed upon between the Governor-General and the parties holding shares in the mine, and the profits derived therefrom shall be divided in proportion between the persons holding shares in the mine. If the Governor-General does not proclaim the mine within three months of the issue of the discoverer's certificate, then it may be worked by the discoverer or owner as though it had been proclaimed.

(b) *Alluvial Diggings.*—A prospector who proves to the satisfaction of the Civil Commissioner that he has found precious stones in payable quantities, receives a certificate entitling him to peg off twenty claims free of licence money on the proclamation of the ground where the discovery was made as an alluvial digging prior to the allotment of any other claims in the digging. The size of the claim in alluvial digging is fixed by the Governor-General, and in most diggings it is 30 feet by 60 feet. In the case of an alluvial digging being proclaimed on private land the owner is entitled, after the prospector has selected his claims, to peg off fifty claims and hold them free of licence moneys. If such owner is also the discoverer he is entitled to the discoverer's claims as well. After the discoverer and owner have selected their claims any certificated miner may peg off one claim on the area proclaimed if available, and after a lapse of seven days may peg off a further five claims. The licence fee for a claim is 5s. per month. In order to become a certificated miner a person has to satisfy the authorities that he is a fit and proper person to be registered as a claimholder and is of good character. The owner of land which is proclaimed an alluvial diamond digging is entitled to receive from the public revenue as compensation for any surface damage he may sustain, half of the licence moneys, rents, and royalties collected in respect of such digging.

(c) *Dredging for Precious Stones.*—The law provides for the granting of leases for the purpose of dredging and sluicing in any public river the bed of which is not vested in any private individual, and in respect of which ordinary alluvial mining cannot be carried on. Such leases are granted for periods of three years, renewable from time to time, and the area leased must not exceed four miles in length. The rent charged is £5 per mile per annum for the first year, and a royalty of £1 per cent. on the amount realized by the sale of the precious stones won during the second and succeeding years.

(iii) *Precious Minerals—(a) Reef Diggings.*—A prospector who proves to the satisfaction of the Civil Commissioner that he has discovered precious minerals in payable quantities receives a certificate entitling him to peg off fifty claims on the proclamation of the ground as a reef digging prior to the allotment of any other claims in the digging. The size of a claim in a reef digging is 150 feet in the direction of the reef and 800 feet across the reef. In the event of the Governor-General not proclaiming the ground as a reef digging within three months of the issue of the discoverer's certificate, the holder thereof may peg out and hold, subject to the terms and conditions between himself and the owner, when such place is on private property, the claims to which the certificate entitles him. At any time after three months subsequent to the discovery of precious minerals on private land has been made, the owner of the land is entitled to obtain a mineral lease of an area not exceeding one-tenth of the property on payment of an annual rent of 2s. per morgen of the ground leased. Such lease is for a period of not less than two years, and not more than five years. The owner, if he wishes, may, in lieu of such a lease, peg off fifty claims in the proclaimed area after the discoverer has pegged the claims to which he is entitled.

After a reef digging has been proclaimed and the discoverer, owner, and any prospector who held a prospecting area on the ground proclaimed have selected their ground, any male person of full age may peg off any number of claims not exceeding five. For each claim pegged off by such person he shall take out at the office of the Registrar of Claims, a certificate of registration within six days of the date of pegging. No fees are payable in respect of such registration and no licence moneys are charged for claims.

(b) *Alluvial Diggings.*—A prospector who makes a discovery of precious minerals in payable quantities receives a certificate entitling him to peg off twenty claims free of licence moneys in the alluvial

digging when proclaimed by the Governor-General prior to the allotment of any other claims in the digging, and if the digging is not proclaimed within a period of three months from the date of the certificate he may peg out and hold his claims as is provided in regard to reef diggings. If the discovery is made on private land, the owner is entitled to select next, after the discoverer, thirty claims on payment of the necessary licence moneys in advance. If the owner is also the discoverer, he is entitled to the discoverer's claims as well. After a digging has been proclaimed and the discoverer and owner have selected the claims to which they are entitled, any male person of full age may peg off one claim in the digging, and must take out a certificate of registration within a period of six days of pegging, failing which his claim is declared abandoned. The monthly registration fee or claim licence in respect of claims in an alluvial digging on Crown land is 2s. 6d. and on private ground 5s. The owner of private property on which a digging is proclaimed is entitled to receive half the licence moneys collected in respect of all claims pegged on such diggings.

(c) *Dredging for Precious Minerals*.—A person desiring to take out a dredging lease may take out a dredging prospecting licence costing £15. This licence entitles the holder to peg off a provisional dredging claim on any public river, lake, lagoon, or alluvial ground not suited to ordinary mining or already mined on unoccupied Crown land; if upon a public river not exceeding four miles in length, and if upon a lake, lagoon, or alluvial ground not exceeding 200 acres, such dredging claim must be registered at the office of the Civil Commissioner. At the expiration of a year or as soon as dredging operations can be commenced, the holder has the right to acquire a dredging lease. Such lease is issued for a period of three years, renewable from time to time, and the rent payable is 6d. per acre per month, together with a royalty of £1 per cent. on the gross amount realized by the sale of precious minerals won. The area leased may not exceed two miles along the course of a public river or a hundred miles on any other ground. The owner of private property may also obtain a dredging lease over his property in respect of ground not suited for mining or already mined.

(iv) *Base Minerals*.—The prospector who proves to the satisfaction of the Civil Commissioner that he has found base minerals in workable quantities on Crown land available for prospecting is entitled to obtain a base mineral lease on furnishing diagrams of the area to be leased. The area granted under such a lease must not exceed 1,000 acres except in such cases as the Governor-General may consider the granting of a larger area desirable, and the rent payable is 1s. per acre per annum. The lease is granted for a period of one year with the right of renewal for further periods. There is no law in the Cape Province dealing with base minerals on private property the title to which contains a reservation of minerals in favour of the Crown.

**4. Natal Mineral Laws.**—The law in force in the Natal Province is the *Natal Mines Act*, No. 43 of 1899.

(i) *Crown Lands*—(a) *Prospecting*.—Any person may prospect or search for minerals on Crown lands without taking out a licence, but may make no excavations unless in possession of a licence. He may also peg up to four claims, but in the event of his doing so, must take out a licence within fourteen days for each claim pegged. Prospecting claim licences are issued to any person over the age of sixteen years, and the fee payable is 1s. per claim for three months. Applications for licences must be made in person. No person is allowed to hold more than four claims except by transfer. Applications for registration of prospecting claims must be made within fourteen days of the date of pegging and the fee for registration is 5s. per claim. Every prospecting claim must be properly beaconed off at each corner, and when possible, must be rectangular in shape. Every prospecting claim, or amalgamated block of claims, must be worked in accordance with the regulations unless an exemption licence exempting the same from the working conditions is taken out. An exemption licence costs £1 per claim for each period of three months.

There are three kinds of claims—Alluvial claims, 100 feet x 100 feet (0.220 acres) for alluvial minerals or precious stones; metal claims, 300 yards x 300 yards (18.595 acres) for gold and other minerals, including coal, but excepting precious stones and alluvial minerals; and mineral claims, 700 yards x 700 yards (101.230 acres) for coal, limestone, stratified ironstone, slate, and soapstone.

(b) *Mining*.—No mining operations may be started until a mining claim is acquired unless the holder of the prospecting claim has obtained a special permission from the Commissioner of Mines. No mining claims may be pegged until a mining claim licence has been obtained. One or more mineral mining claim licences and not more than four alluvial or metal mining claim licences may be issued to one person. The claim licences payable in respect of mining claims are £1 per month for a metal mining claim, and £2 per month for an alluvial or mineral mining claim. Application for the registration of every mining claim must be made to the Mines Office within fourteen days of the date of pegging and a surveyor's diagram of the claim must be furnished by the applicant. The fee for the registration of a mining claim is 10s.

(ii) *Private Lands*.—An owner of land may prospect within the boundaries of his land without taking out a licence, but may not peg a claim without having first taken out the necessary licence. There is no limitation as to the number of licences an owner may take out. No person other than an owner may prospect on private lands without the consent of the owner, except as is provided in the next paragraph. Prospecting claim licences, not exceeding four, may be issued to any person entitling him to prospect on private land not held under licence by the owner or any one else, and such licences shall specify the land to be prospected, but before any such licence is issued, notice is given to the owner by the Deputy-Commissioner of Mines, who has the right to lay objections to the grant of such licences. Any objections are considered by the Deputy-Commissioner of Mines, and his decision is subject to appeal to the Minister, whose decision is final. An applicant for a prospecting licence on private land must deposit with the Deputy-Commissioner of Mines £2. 10s. in respect of each claim applied for as security against surface damage. Not more than four licences may be issued without the consent of the owner until a period of three months after the owner has received notice of the first issue of such licences. During such period of three months the owner shall be entitled to peg as many claims as he desires; but after the expiration of the three months licences may be issued to other persons to peg any ground available. Any person entering private land to prospect under a claim licence must first give written notice to the owner. Prospecting claims on private land are registered, but an owner is given an opportunity of objecting to the registration of such claims, and he is advised when application is made. The decision of the Deputy-Commissioner of Mines is subject to appeal to the Minister. The provisions of the law dealing with Crown land regarding size of claims, licence fees, registration, etc., apply also to private land. One-half of all moneys received by the Government from any person other than the owner as licence fees, royalties, and certain penalties are paid by the Government to the owner of such lands.

(iii) *Native Trust Lands*.—These may be prospected on by virtue of a licence issued under a permit granted by the Chief Native Commissioner for Natal, or under a letter of permission granted by the District Native Commissioner for Zululand. A deposit of £2. 10s. is required in respect of each claim applied for on *Native Trust Lands* in Natal as security against surface damage.

(iv) *General*.—Provisions are contained in the law for the grant of machine stands and water rights. The fee for a machine stand or for a water right is 10s. per month and also for residential sites on Crown

land. Applications must be made to the Deputy-Commissioner of Mines. Certain lands are exempted from the provisions of the *Mines Act*, including all land within a distance of 150 yards from any building in use, plantations, cultivated lands, public squares, streets, roads, railways, townships, etc.; but in certain circumstances the Act comes into force.

**5. Orange Free State Mineral Laws.**—The laws in force in the Orange Free State are the *Mining of Precious Metals Ordinance*, No. 3 of 1904, as amended by Act No. 9 of 1908; the *Mining of Precious Stones Ordinance*, No. 4 of 1904, as amended by Ordinances Nos. 16 of 1906, 30 of 1907, and Act No. 9 of 1908; and Act No. 15 of 1919 and the *Mining of Base Metals Ordinance*, No. 8 of 1904.

(i) *Prospecting.*—No person other than an owner may prospect without taking out a prospecting licence, and no person may prospect on privately owned land without the consent of the owner. Prospecting licences are issued by Resident Magistrates, except in the case of precious stones and base metals on Crown lands, when they are issued by the Governor-General.

Prospecting licences, except in respect of base metals on Crown land, cost 5s. per month, and a registration fee of 5s. is also payable in respect of precious metals, and in the case of precious stones and base metals 2s. 6d. Licences to prospect on Crown lands are issued subject to such terms and conditions as the Governor-General may impose.

(ii) *Precious Stones*—(a) *Discoverer's Rights.*—In the case of the discovery of precious stones on Crown lands, the discoverer is entitled on the discovery of a mine to not more than an undivided one-half share in the mine, when proclaimed. In respect of the discovery of a mine on private land, the discoverer is entitled to an undivided one-fifth share in the extent of the amount to which the owner is entitled, when proclaimed. The discoverer of payable alluvial is entitled to select fifty claims free of licence moneys, when the ground is proclaimed. Licence moneys become payable if satisfactory work is not proceeded with on the claims.

(b) *Owner's Rights.*—The owner of land may prospect his land without taking out a licence. In the event of the discovery of a mine on private land the owner is entitled, when the mine is proclaimed, to an undivided six-tenths interest therein. In the case where a small mine is proclaimed, not exceeding 135,000 square feet in area, it is lawful for the Governor-General to lease the Crown's share to the owner or mine holder on such terms as may be agreed upon. When the place where precious stones have been discovered is proclaimed an alluvial digging, the owner of the property is entitled to select, next after the discoverer, one hundred claims free of licence moneys. If the owner is also the discoverer, he is entitled to the discoverer's claims as well.

(c) *Public Diggings.*—After an alluvial digging has been proclaimed, and after the owner and discoverer have selected their claims, the remainder of the digging is available for pegging by the public under licence, unless the Governor-General considers it too small to be suitable for public diggings, in which case he may dispose of the claims in the remaining area, on such terms as he may think fit. Any white person over the age of eighteen years is entitled to obtain a licence from the Inspector or Magistrate as the case may be, entitling him to peg off one claim on the area proclaimed. The size of a claim in an alluvial digging is ninety feet square, and the licence fee is £1 per month. The owner is entitled to half the revenue from claim licence moneys, after all expenses have been paid in connection with the disposal of the claims.

(iii) *Precious Metals*—(a) *Discoverer's Rights.*—The discoverer of a reef of precious metals on Crown land is entitled to select, before proclamation, the mynpacht or claims, or both, to which he is entitled under the prospecting agreement with the Government. In respect of a discovery of precious metals in alluvial on Crown land, the discoverer is entitled to peg the claims to which he is entitled under his agreement with the Government and to hold them free of licence moneys for five years. The discoverer of precious metals in alluvial on private land has the first right before proclamation to peg off twenty claims, free of licence moneys for five years.

The discoverer of a reef on private land is entitled, before proclamation, to peg off an area not exceeding seventy-five claims according to the area of the ground to be proclaimed, and to hold them free of licence moneys for five years. All discoverers' claims are subject to licence moneys if satisfactory work is not conducted on them.

(b) *Owner's Rights.*—The owner of land on which minerals are reserved to the Crown is entitled, before it is proclaimed a reef digging, and on taking out a mynpacht licence, after the discoverer has selected his claims, to peg off a mynpacht, not exceeding one-tenth of the area to be proclaimed. He is also entitled to owner's claims free of licence moneys. The owner of private land, before proclamation as an alluvial digging, is entitled after the discoverer to peg off not more than one hundred claims free of licence moneys.

(c) *Public Diggings.*—When private land has been proclaimed a public digging, and after the prospector's and owner's rights have been satisfied, the remainder of the proclaimed area is open to the public for the pegging of claims under claim licences. Any white person over the age of eighteen is entitled to obtain a claim licence from the Magistrate, on payment of a licence fee of 5s. per claim per month and a registration fee of 5s. for every claim or block of claims issued to one holder. No licence holder is entitled to peg off more than fifty claims in a reef digging or three in an alluvial digging. In the case of Crown land, after the ground has been proclaimed and after the discoverer's and owner's rights have been satisfied, the remainder of the proclaimed area must be surveyed as claims and disposed of by public auction in blocks of not more than one hundred reef claims or six alluvial claims, as the case may be.

The licence fee for a reef claim is 5s. per month and in respect of an alluvial claim 20s. per month. When, however, a reef claim has been developed the licence fee is £1 instead of 5s. A reef claim is 60,000 square feet in extent and must whenever possible be rectangular in shape. An alluvial claim is 150 feet square. A licence fee of 10s. per morgen (two and one-ninth acres) per annum must be paid in respect of each mynpacht by the holder thereof to the Magistrate of the district. All claim licence moneys collected by the Government in respect of private land are divided equally between the owner of the ground and the Government.

(iv) *Base Metals.*—Prospecting licences in respect of private land are issued by the Magistrate, when the necessary permission has been obtained from the owner. As regards Crown land, the mining of base metals is subject to the terms and conditions imposed by the Governor-General, attached to the prospecting licence issued. Ground privately held with a reservation of base metals in favour of the Crown is Crown land under the Ordinance, but no prospecting may take place on such land or on any leased Crown land without the consent of the owner or lessee as the case may be or unless sufficient security has been lodged with a magistrate for compensation for any damage done.

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#### Cape.

(Scale 3·8 miles to the inch — 1:238,000.)

- No. 27.—Maclear-Umtata (Explanation by A. L. DU TOIT).  
 No. 28.—Pondoland (Explanation by A. L. DU TOIT).

#### SPECIAL PUBLICATIONS.

- Report on a Reconnaissance of the North-West Zoutpansberg District. By T. G. TREVOR and E. T. MELLOR. 40 pages and 16 plates (including 1 map). (Price, 2s. 6d.)  
 Report on the Oil Shales in Impendle County, Natal. By A. L. DU TOIT. Pretoria, 1916.  
 Geological Map of the Witwatersrand Gold Fields with Explanation. By E. T. MELLOR. In three sheets. Scale 1:60,000. Price, unmounted, £1. 10s.; mounted on linen, with rollers, £3. 3s.  
 Geological Map of the Country round Heidelberg. Scale 1:60,000. With an Explanation by A. W. ROGERS.

The following publications were issued by the Geological Commission, Cape of Good Hope, prior to the amalgamation with the Geological Survey:—

#### ANNUAL REPORTS.

- First to Fifth Annual Reports, 1896-1900. (Out of print.)  
 Sixth to Sixteenth Annual Reports, 1901-11. (Price, 2s. 6d. each.)  
 Index to Annual Reports for the Years 1896-1903, 52 pp.

#### GEOLOGICAL MAPS.

Sheets printed in colour on the scale of 3·8 miles to 1 inch (1:238,000). (Price, 2s. 6d. each.)

- |                               |                    |                                    |
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| 1. Cape Town-Robertson.       | 26. Barkly East.   | 45. Postmaaburg (Griqualand West). |
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| 4. Malmesbury-Ceres.          | 33. Britstown.     | 49. Kuruman.                       |
| 11. Clanwilliam.              | 40. Marydale.      | 50. Vryburg.                       |
| 13. Beaufort West-Fraserburg. | 41. Griquatown.    | 52. Mafeking.                      |
| 19. Nieuwerust.               | 42. Kimberley.     |                                    |

The above publications can be purchased either direct from the Government Printer, Pretoria; the Government Stationery Offices, Cape Town and Maritzburg; or the principal booksellers throughout the Union.

## PALÆONTOLOGICAL MEMOIRS.

Published in conjunction with the South African Museum in Volumes IV, VII, and XII of the *Annals of the South African Museum, Capetown* :—

- Vol. IV., Part I.—Fossil Floras of Cape Colony. By A. C. SEWARD, F.R.S. : with 14 plates and 8 text figures. (Price, 10s.)
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- “ Part VI.—Karoo Reptiles. By R. BROOM, M.D., D.Sc. (Price, 1s.)
- Vol. XII., Part I.—Vertebrates from the Karroo and Recent Deposits. By R. BROOM, M.D., D.Sc., and S. H. HAUGHTON, B.A. (Price, 14s.)
- “ Parts II and III.—Investigations in South African Fossil Reptiles and Amphibia. By S. H. HAUGHTON, B.A. (Price, 3s.)
- “ Part IV.—Foraminifera and Ostracoda from the Upper Cretaceous of Need's Camp, Buffalo River, Cape Province. By F. CHAPMAN, A.L.S., F.R.M.S. : with 2 plates and 1 text figure. (Price, 2s. 6d.)
- “ Parts V and VI.—South African Fossil Reptiles. By S. H. HAUGHTON.
- “ Part VII.—Zululand Cretaceous Cephalopods. By L. F. SPATH.

(x) *Publications of the Imperial Mineral Resources Bureau.*—The following publications of the Bureau, obtainable at H.M. Stationery Office, London, W.C.2, contain references to South Africa :—

Antimony.	Gold.	Phosphates.
Arsenic.	Iron Ore, Part II, British	Platinum.
Asbestos.	Africa.	Quicksilver.
Barium.	Lead.	Sulphur and Iron Pyrites.
Chrome Ore and Chromium,	Manganese.	Talc.
Coal, Coke, and By-Products,	Magnesite.	Tin.
Part II.	Mica.	Tungsten.
Cobalt.	Mining Laws of the British	Vanadium.
Copper.	Empire, Vol. III, Part I.	Zinc.
Fluorspar.	Nitrates.	

## CHAPTER XVIII.

### MANUFACTURING INDUSTRIES.\*

#### § 1. Industrial Censuses.

1. **Industrial Censuses, 1891-1911.**—Although certain manufacturing industries have long been established in South Africa (see § 2 hereunder), the first statistical data in this connection for the Colonies now comprised within the Union were obtained for the Cape Colony at the Population Census of 1891, and for all four Colonies at the Population Census of 1904. These returns were rendered by manufacturing establishments, the annual production of each of which amounted in value to £100 or more. Returns were similarly called for and tabulated at the first Union Census of 1911. The summarized results of these inquiries are given in paragraph 4 below.

2. **Annual Industrial Censuses under the Statistics Act.**—A census of manufacturing industries was undertaken under the *Statistics Act* in 1917, and formed the first special inquiry of the kind in the Union. This is being repeated annually in terms of the Act. The period covered by the first census was the calendar year of 1915, or the business year ended not later than the 30th June, 1916. The large majority of returns were rendered for at least a part, many of them for a full half, of the year 1916, and the census may be taken therefore to have covered substantially the Union business year 1915-16. The scope of the inquiry was directed to the inclusion of all manufacturing establishments within the Union employing four or more hands, or utilizing any form of mechanical motive power. For the census covering the year 1916-17 and subsequent inquiries, the scope has been extended to cover establishments employing three or more hands, or utilizing any form of mechanical power or boilers for steam-heating purposes.

3. **Classification of Manufacturing Industries.**—Industries relating to the following matters have been specified, and returns obtained accordingly, the classification having been based as nearly as possible upon that adopted by, and in force in, the various States in Australia. In the classification adopted in the first census (for 1915-16), Tanning was included in Class I, Boots and Shoes in Class VI, and Harness and Saddlery in Class VII. These have subsequently been grouped together under a new Class XV—Leather and Leatherware.

#### CLASSIFICATION OF MANUFACTURING INDUSTRIES.

##### CLASS I—RAW MATERIAL.

Boiling down, Tallow Refining, and Bone Milling. Fellmongering and Wool-scouring.	Chaff-cutting and Corn-crushing. Other Industries.
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##### CLASS II—STONE, CLAY, ETC.

Bricks, Tiles, Earthenware, and Pottery. Glass. Lime Works. Marble, Stone, Slate Dressing.	Cement Factories, Modelling in Cement, and Plaster. Salt Pans, Salt Works. Other Industries.
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##### CLASS III—WOOD.

Brushes and Brooms, Basket and Wicker Work. Carpentry and Joinery. Cooperage, Packing Case and Box Works.	Saw Mills. Other Industries.
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##### CLASS IV—METALS, ENGINEERING, ETC.

Brass and Copper, Cutlery. Engineering, Foundries, Blacksmithing (including Mine, Railway, and Tramway Workshops).	Galvanized Iron Works and Plumbing. Wire Working (including Gate and Fence Making) Other Industries.
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##### CLASS V—FOOD, DRINK, ETC.

Bacon and Ham Curing. Butter and Cheese Making. Fish Preserving. Meat Preserving. Ice and Refrigerating. Bread and Biscuit Making. Confectionery and Sweet Making. Flour and Grain Mills. Fruit Preserving and Jam Making.	Coffee Roasting and Grinding, Tea, Pickle, Sauce and Spice Making. Sugar Mills and Refineries. Aerated Water Factories. Breweries and Malt Works. Distilleries. Tobacco, Cigar and Cigarette Factories. Other Industries.
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##### CLASS VI—CLOTHING, TEXTILES, ETC.

Dressmaking and Millinery. Hats and Caps, Hosiery, Shirts, and Ties. Tailoring. Other Clothing.	Bags and Sacks, Mats and Matting, Rope Cordage and Twine. Tarpaulins, Tents, and Sails. Other Textile Industries.
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\* An article analysing the results of the first six Industrial Censuses has been contributed and will be found in the appendix to this issue.

## CLASS VII—BOOKS, PRINTING, ETC.

Printing and Binding.		Paper Bags and Cardboard Boxes.
Photo Engraving and Lithographing.		Other Industries.

## CLASS VIII—VEHICLES, ETC.

Coach and Wagon Building.		Spokes, Wheels, Yokes, Tyres, and other Industries.
Cycle and Motor Repairing.		

CLASS IX—SHIP BUILDING, ETC.  
Ship and Boat Building and Repairing.

## CLASS X—FURNITURE, ETC.

Chair Factories.		Picture Frames.
Furniture, Cabinetmaking, and Upholstery.		Other Industries.
Mattress Factories.		

## CLASS XI—CHEMICALS, ETC.

Chemicals, Drugs, Perfumery, Disinfectants,		Oil and Grease.
Insecticides, Sheep and Cattle Dips.		Paints, Varnishes.
Explosives and Matches.		Soap and Candles.
Fertilizers.		Other Industries.

## CLASS XII—SURGICAL INSTRUMENTS, ETC.

Opticians.		Surgical, Dental, etc., Instruments and Appliances.

## CLASS XIII—JEWELLERY, ETC.

Gold and Silver Smiths.		Other Industries (including Electro-Plating).

## CLASS XIV—HEAT, LIGHT, AND POWER.

Electric Light and Power Stations.		Other Industries (including Electrical Engineering).
Gas Works.		

## CLASS XV—LEATHER AND LEATHERWARE.

Tanneries.		Harness and Saddlery.
Boots and Shoes.		Portmanteaux and Bags.

## CLASS XVI—BUILDING AND CONTRACTING.

Building and Contracting.

## CLASS XVII—OTHER INDUSTRIES.

Miscellaneous.

**4. Manufactures in 1904, 1911, and 1915-16 to 1920-21.**—The main results of the inquiries taken in 1917, and each subsequent year covering the years 1915-16 to 1920-21 are given in the table hereunder in conjunction with those obtained in 1904 and 1911. Comparisons with these two years (1904 and 1911), however, cannot be pressed too closely. It seems probable that in the census of 1904 the returns included in some cases at least figures relating to merchandising, as well as manufacturing; and in the report of the census of 1911 no attempt was made to reconcile the results on that occasion with those for 1904. Clearly, too, the enumeration of distinct works, and the methods of valuing land, buildings, and improvements differed considerably in 1904 and 1911, and again in the regular annual censuses begun in 1917.

Beyond the statement hereunder of the total figures under various main headings as to the returns for the Union and each of the Provinces in 1904 and 1911 no further comparisons between these figures have been attempted, for the reason that those for preceding censuses must be taken with considerable reserve. The annual census under the *Statistics Act* taken for the first time in 1917 has the advantage of a specialized inquiry taken on a basis which will admit of close comparisons being made annually from that date.

**GROSS VALUE OF MANUFACTURES, 1904, 1911, AND 1915-16 TO 1920-21.**

Year.	Cape.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
Census of 1904.....	9,040,579	3,744,088	6,471,082	274,738	19,530,487
1911.....	7,431,727	4,434,562	4,633,436	749,109	17,248,834
1915-16.....	14,616,427	9,665,505	14,260,843	1,886,307	40,434,882
1916-17.....	18,042,980	11,284,394	17,638,888	2,491,152	49,457,414
1917-18.....	22,047,248	13,754,356	21,781,462	3,623,904	60,806,910
1918-19.....	25,544,312	15,796,411	26,373,345	3,220,630	70,934,098
1919-20.....	33,157,025	21,978,325	33,225,833	4,552,060	92,913,844
1920-21.....	35,231,715	23,790,641	34,646,876	4,638,778	98,307,910

## § 2. Factory Production.

1. **Number of Factories.**—Particulars are given hereunder as to the number of factories in each Province, and in the industrial centres of the Witwatersrand, Cape Peninsula, Durban, and Port Elizabeth. The classes of industry with which factories are connected in the Union are set out in § 1 (3) above. Factories have been separately enumerated, even when under the same management as other establishments, if concerned with a clearly distinct class of work. In many cases, however, factories have been engaged upon various, often dissimilar, operations, for which it has been found impossible to render separate returns. In such cases the establishment has been enumerated in the subjoined return as a single factory, classified according to the character of the principal industry with which it was concerned.

## (i) NUMBER OF FACTORIES IN UNION, 1915-16 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1915-16.....	1,970	597	1,157	274	3,998
1916-17.....	2,544	768	1,818	375	5,305
1917-18.....	2,774	864	1,879	401	5,918
1918-19.....	2,723	828	1,998	419	5,968
1919-20.....	3,008	976	2,355	551	6,890
1920-21.....	3,048	1,058	2,355	544	7,005

## (ii) NUMBER OF FACTORIES OF EACH CLASS IN CERTAIN INDUSTRIAL CENTRES, 1920-21.

CLASS OF INDUSTRY.	PROVINCES.				UNION OF SOUTH AFRICA.	PRINCIPAL INDUSTRIAL CENTRES (Included in Provinces).			
	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.		Cape Peninsula.	Port Elizabeth.	Durban Magisterial District.	Witwatersrand.
I. Raw Material.....	51	36	20	—	107	37	6	16	17
II. Stone, Clay, etc....	107	37	155	24	323	48	6	18	127
III. Wood.....	137	80	84	13	314	56	10	28	71
IV. Metals, Engineering, etc.....	298	120	394	85	897	126	21	60	303
V. Food, Drink, etc....	912	256	527	184	1,879	253	42	65	310
VI. Clothing, Textiles, etc.....	364	67	212	35	668	100	27	48	191
VII. Books, Printing, etc.....	139	47	95	15	296	61	10	31	81
VIII. Vehicles.....	383	142	278	85	888	94	15	52	179
IX. Ship Building, etc....	8	6	—	1	15	7	—	6	—
X. Furniture, etc.....	100	30	87	3	220	50	16	35	84
XI. Chemicals, etc.....	38	34	40	2	114	25	5	27	38
XII. Surgical Instruments, etc.....	5	3	10	—	18	4	1	3	10
XIII. Jewellery, etc....	12	9	28	2	51	8	2	4	27
XIV. Heat, Light, and Power.....	63	41	108	20	232	29	6	15	66
XV. Leatherware and Leatherware.....	158	33	63	9	263	59	25	19	54
XVI. Building and Contracting.....	263	106	239	66	674	99	19	48	175
XVII. Other Industries..	20	11	15	—	46	14	—	8	15
TOTAL.....	3,048	1,058	2,355	544	7,005	1,160	211	468	1,748



2. **Dates of Establishment of Factories.**—The subjoined table indicates the distribution of factories in various sections of industry, classified in each case according to the date of establishment. In a number of cases, principally those of the smaller concerns, the date of establishment is not known, owing generally to the fact that there has been transfer from the original owner. The table illustrates the development of industries of various classes during recent years; and although the mere increase in the number of factories is by itself no sure criterion of industrial progress, the table affords a record of the initiation of new concerns during the various periods specified.

(i) **NUMBER OF FACTORIES IN THE UNION, 1920-21, CLASSIFIED ACCORDING TO DATE OF ESTABLISHMENT.**

Class of Industry.*	Before 1890.	1890-99.	1900-09.	1910-15.	1916.	1917.	1918.	1919.	1920.	1921.	Not stated.	Total.
I.....	8	8	36	29	3	5	8	8	4	—	—	107
II.....	13	22	76	76	18	9	30	37	42	—	—	323
III.....	19	23	65	65	16	23	30	48	25	—	—	314
IV.....	69	81	217	175	27	38	53	65	56	—	116	897
V.....	133	167	422	443	84	131	136	228	135	—	—	1,879
VI.....	41	64	190	155	46	35	27	62	46	—	—	668
VII.....	45	39	84	55	15	12	10	24	12	—	—	296
VIII.....	40	53	133	207	57	69	55	139	135	—	—	888
IX.....	2	—	4	5	—	—	2	1	1	—	—	15
X.....	12	16	46	55	8	15	24	20	24	—	—	220
XI.....	6	9	17	34	5	17	9	8	9	—	—	114
XII.....	1	—	4	9	1	1	1	1	—	—	—	15
XIII.....	6	6	11	13	1	2	7	4	1	—	—	51
XIV.....	10	31	68	69	13	8	11	8	14	—	—	232
XV.....	33	21	58	64	8	13	26	23	17	—	—	263
XVI.....	66	72	208	140	28	19	33	64	44	—	—	674
XVII.....	3	3	6	14	6	1	3	7	3	—	—	46
TOTAL.....	505	615	1,645	1,608	335	401	465	747	568	—	116	7,005

\* For description of industry see § 1 (3) or other similar tables in this chapter.

3. **Capital of Factories.**—The returns asked for in respect of factories in the first two Industrial Censuses included particulars as to capital, made up of (a) the value of land and buildings, (b) the value of machinery and plant, and (c) other capital (outstandings, stocks, cash in hand and in bank, and all movable assets).

The particulars required in respect of land, buildings, machinery, and plant were accepted as reasonably accurate; but in many cases it was found that establishments encountered difficulty in arriving at the true figure as regards total capital; particularly where a manufacturing and a trading business were combined under one amount of capital, or where the capital covered some other class of industry carried on in the same or even in a separate locality. For this reason it was decided to discontinue returns as to capital, and instead to confine the returns to the value of land and buildings, machinery, and plant.

4. **Land and Buildings (Factories).**—The value of land and buildings owned by the occupiers and used as factories is arrived at by giving the Government valuation where such exists, or the municipal or other recognized valuation, or failing such, the price at which the owner is prepared to sell. In the majority of cases a recognized valuation exists and is given, the amount falling under the last alternative being inconsiderable. The following tables give (i) the value as returned in each of the Provinces; (ii) in respect of each class of industry in the Union in each of certain important industrial centres.

(i) **VALUE OF LAND AND BUILDINGS OWNED BY OCCUPIERS AND USED AS FACTORIES, 1915-16 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	2,862,393	2,085,165	3,266,639	546,015	8,760,212
1916-17.....	3,278,998	2,693,037	4,168,058	579,795	10,719,888
1917-18.....	3,593,553	3,212,219	4,704,909	546,455	12,057,136
1918-19.....	3,939,850	3,598,499	4,557,187	638,566	12,734,102
1919-20.....	4,805,938	3,756,843	5,060,449	773,397	14,396,627
1920-21.....	5,075,244	3,194,364	5,187,368	755,500	14,212,536

(ii) **VALUE OF LAND AND BUILDINGS OWNED BY OCCUPIERS AND USED AS FACTORIES OF EACH CLASS IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.**

Class of Industry.	Witwaters-rand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Material.....	29,529	53,020	57,546	31,650	303,053
II. Stone, Clay, etc.....	234,860	68,460	26,814	10,200	616,046
III. Wood.....	152,517	153,828	46,404	10,609	533,022
IV. Metals, Engineering, etc.....	815,667	521,101	419,258	18,652	2,341,349
V. Food, Drink, etc.....	947,564	910,547	493,259	200,692	4,420,226
VI. Clothing, Textiles, etc.....	54,098	82,777	22,825	2,663	218,012
VII. Books, Printing, etc.....	137,288	201,014	44,631	23,190	493,390
VIII. Vehicles, etc.....	127,316	76,976	26,650	2,650	490,132
IX. Ship Building, etc.....	—	5,600	2,950	—	9,050
X. Furniture, etc.....	33,689	111,628	41,920	22,096	233,778
XI. Chemicals, etc.....	778,126	466,025	423,842	12,753	1,726,184
* XII. Surgical Instruments, etc.....	2,305	—	—	1,900	400
* XIII. Jewellery, etc.....	—	—	—	—	6,405
XIV. Heat, Light, and Power.....	1,282,215	223,239	39,402	61,432	1,823,128
XV. Leather and Leatherware.....	32,783	101,267	2,015	92,911	320,792
XVI. Building and Contracting.....	108,491	101,277	60,472	36,603	547,925
XVII. Other Industries.....	26,192	7,660	23,854	—	70,644
<b>TOTAL.....</b>	<b>£ 4,761,670</b>	<b>3,084,719</b>	<b>1,731,882</b>	<b>528,301</b>	<b>14,212,536</b>

\* Classes combined in respect of industrial centres, owing to the small number of establishments concerned.

5. **Machinery and Plant in Factories.**—The following tables give particulars as to the value of machinery and plant used in factories in each Province, and according to the main classification of industries in four of the Principal Industrial Centres :—

(i) **VALUE OF MACHINERY AND PLANT USED IN FACTORIES, 1915-16 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	4,046,564	3,524,990	7,582,277	623,406	15,777,237
1916-17.....	4,246,333	3,888,531	9,002,250	741,519	17,878,633
1917-18.....	4,564,706	4,490,323	10,104,250	742,984	19,902,263
1918-19.....	4,522,402	4,986,987	10,548,890	921,499	20,979,778
1919-20.....	5,340,561	5,398,874	11,707,405	1,043,384	23,490,224
1920-21.....	6,309,937	5,889,458	12,362,502	1,058,271	25,620,168

(ii) **VALUE OF MACHINERY AND PLANT USED IN FACTORIES OF EACH CLASS IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.**

Class of Industry.	Witwaters-rand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Material.....	6,000	49,819	46,012	66,058	254,165
II. Stone, Clay, etc.....	436,354	68,325	33,302	5,230	1,135,603
III. Wood.....	99,438	81,947	40,713	13,280	388,706
IV. Metals, Engineering, etc.....	1,386,266	386,673	274,454	18,200	2,701,915
V. Food, Drink, etc.....	991,841	880,311	703,945	208,508	5,695,851
VI. Clothing, Textiles, etc.....	43,306	95,207	5,304	2,818	163,628
VII. Books, Printing, etc.....	261,775	242,364	73,662	42,021	793,144
VIII. Vehicles, etc.....	63,812	47,621	21,009	4,310	298,130
IX. Shipbuilding etc.....	—	1,210	1,333	—	2,683
X. Furniture, etc.....	25,774	40,827	26,075	9,710	118,119
XI. Chemicals, etc.....	708,876	338,934	885,259	7,566	2,041,705
* XII. Surgical Instruments, etc.....	17,191	3,003	2,713	2,635	7,932
* XIII. Jewellery, etc.....	—	—	—	—	19,518
XIV. Heat, Light, and Power.....	7,179,653	908,755	658,857	352,973	10,621,560
XV. Leather and Leatherware.....	43,641	101,117	20,800	122,501	383,810
XVI. Building and Contracting.....	123,925	64,327	128,725	28,954	603,353
XVII. Other Industries.....	14,589	97,677	156,013	—	390,346
<b>TOTAL.....</b>	<b>£ 11,402,201</b>	<b>3,498,137</b>	<b>3,078,836</b>	<b>884,854</b>	<b>25,620,168</b>

\* Classes combined in respect of industrial centres, owing to the small number of establishments concerned.

6. **Motive Power in Factories.**—Particulars are given hereunder as to the number of works and establishments employing mechanical motive power, electric, steam, oil, gas, or water, in each Province:—

(i) **MOTIVE POWER IN FACTORIES IN UNION, 1915-16 TO 1920-21.**

YEAR.	ELECTRICITY.		STEAM.		OIL.		GAS.		WATER.
	Works.	H.P.	Works.	H.P.	Works.	H.P.	Works.	H.P.	
	No.		No.		No.		No.		No.
1915-16.....	1,213	121,464	710	284,494	434	5,703	200	6,281	177
1916-17.....	1,477	115,171	788	318,063	461	6,474	225	7,720	144
1917-18.....	1,647	137,229	866	435,237	520	7,175	260	9,060	205
1918-19.....	1,698	117,929	884	419,815	512	6,129	257	11,449	181
1919-20.....	1,806	124,161	993	432,800	583	6,584	309	14,298	201
1920-21.....	1,994	142,852	987	472,877	635	6,976	289	13,273	194

(ii) **MOTIVE POWER IN FACTORIES IN EACH PROVINCE AND IN CERTAIN INDUSTRIAL CENTRES, 1920-21.**

PROVINCE OR CENTRE.	ELECTRICITY.		STEAM.		OIL.		GAS.		WATER.
	Works.	H.P.	Works.	H.P.	Works.	H.P.	Works.	H.P.	
	No.		No.		No.		No.		No.
Cape of Good Hope...	755	25,757	299	50,047	383	4,809	104	5,862	126
Cape Peninsula *...	419	15,174	101	21,383	90	1,112	33	1,497	5
Port Elizabeth *....	124	3,253	18	6,006	6	23	4	59	—
Natal.....	373	20,464	247	52,682	82	770	31	1,027	14
Durban †.....	247	12,113	56	22,551	22	218	9	891	1
Transvaal.....	777	94,368	343	357,488	122	915	63	4,256	40
Witwatersrand ‡....	713	88,206	177	340,894	51	427	21	756	10
Orange Free State....	89	2,263	98	12,660	48	392	31	1,528	14
<b>UNION.....</b>	<b>1,994</b>	<b>142,852</b>	<b>987</b>	<b>472,877</b>	<b>635</b>	<b>6,976</b>	<b>289</b>	<b>13,273</b>	<b>194</b>

\* Included in Cape of Good Hope.

† Included in Natal.

‡ Included in Transvaal.

7. **Cost of Fuel, Light, and Power in Factories.**—The following tables give the cost of fuel, light, and power in various classes of factories in each Province, and in four of the principal industrial centres:—

(i) **COST OF FUEL, LIGHT, AND POWER USED IN FACTORIES, 1915-16 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	276,213	199,731	727,439	42,996	1,246,379
1916-17.....	344,083	233,237	858,562	50,975	1,486,857
1917-18.....	533,356	267,972	1,009,203	71,667	1,882,198
1918-19.....	520,980	327,295	1,152,073	64,331	2,064,679
1919-20.....	583,032	404,212	1,407,895	101,115	2,496,254
1920-21.....	666,193	445,576	1,558,097	116,272	2,786,138

## (ii) COST OF FUEL, LIGHT, AND POWER USED IN FACTORIES OF EACH CLASS IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.

Class of Industry.	Witwatersrand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Materials.....	766	2,805	4,266	2,948	23,501
II. Stone, Clay, etc.....	98,339	17,549	4,610	1,489	242,578
III. Wood.....	9,858	9,863	5,316	1,241	38,212
IV. Metals, Engineering, etc.....	252,046	23,518	23,314	2,082	357,419
V. Food, Drink, etc.....	104,860	104,853	84,431	24,015	538,680
VI. Clothing, Textiles, etc.....	9,514	8,173	1,173	966	23,510
VII. Books, Printing, etc.....	12,787	12,395	3,019	1,454	89,129
VIII. Vehicles, etc.....	11,834	9,450	3,296	603	46,881
IX. Shipbuilding.....	—	68	203	—	274
X. Furniture, etc.....	3,149	4,456	2,069	1,007	11,901
XI. Chemicals, etc.....	37,110	41,754	46,957	1,333	135,665
*XII. Surgical Instruments, etc.....	1,677	297	166	111	516
*XIII. Jewellery, etc.....					
XIV. Heat, Light, and Power.....	830,202	108,482	43,567	16,391	1,213,836
XV. Leather and Leatherware.....	2,638	5,366	667	4,955	21,249
XVI. Building and Contracting.....	9,666	6,838	6,109	1,557	43,913
XVII. Other Industries.....	847	17,586	17,058	—	47,006
TOTAL.....£	1,385,293	870,453	246,221	60,152	2,786,138

\* Classes combined in respect of industrial centres, owing to small number of establishments concerned.

8. **Factory Employees.**—The following tables give particulars as to the race and sex of persons employed in factories in each Province, and in factories classified according to the nature of the industry; and also the number of Europeans under eighteen years of age employed in various classes of industry:—

## (i) RACE AND SEX OF EMPLOYEES IN UNION, 1915-16 TO 1920-21.

YEAR.	Europeans.		Others.		All Races.		GRAND TOTAL.
	Male.	Female.	Male.	Female.	Male.	Female.	
1915-16.....	No. 34,938	No. 4,586	No. 56,877	No. 4,777	No. 91,815	No. 9,303	No. 101,178
1916-17.....	40,937	5,163	71,029	6,113	112,566	11,276	123,842
1917-18.....	43,683	6,235	77,484	6,829	121,147	13,064	134,211
1918-19.....	47,136	6,462	82,454	7,030	129,590	13,408	143,088
1919-20.....	55,724	6,750	103,324	7,713	161,048	14,472	175,520
1920-21.....	56,748	6,214	109,482	7,375	166,230	13,589	179,819

## (ii) RACE AND SEX OF EMPLOYEES IN FACTORIES IN EACH PROVINCE, AND IN CERTAIN INDUSTRIAL CENTRES, 1920-21.

Province.	Europeans.		Others.		All Races.		Grand Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
Cape of Good Hope	No. 21,166	No. 3,040	No. 33,990	No. 5,039	No. 55,156	No. 8,879	No. 63,835
Cape Peninsula*	10,111	1,491	16,656	4,519	26,767	6,010	32,777
Port Elizabeth†	2,016	588	3,287	283	5,303	871	6,174
Natal.....	9,478	777	30,904	1,536	40,382	2,313	42,695
Durban.....	5,907	576	14,128	711	20,095	1,287	21,382
Transvaal.....	22,817	2,164	39,738	184	62,555	2,348	64,903
Witwatersrand‡	20,270	2,659	33,615	132	53,885	2,191	56,076
Orange Free State..	3,287	233	4,850	16	8,137	249	8,386
UNION.....	56,748	6,214	109,482	7,375	166,230	13,589	179,819

\* Included in Cape of Good Hope.

† Included in Natal.

‡ Included in Transvaal.

## (iii) AVERAGE NUMBER OF EMPLOYEES IN FACTORIES OF EACH CLASS IN THE UNION, 1920-21.

Class of Industry.	Europeans.		Others.		All Races.		Grand Total.
	Male.	Female.	Male.	Female.	Male.	Female.	
I. Raw Materials.....	No. 282	No. 8	No. 2,911	No. 618	No. 3,193	No. 626	No. 3,819
II. Stone, Clay, etc.....	1,426	32	12,253	27	13,679	59	13,738
III. Wood.....	1,953	37	4,534	193	6,487	230	6,717
IV. Metals, Engineering, etc.....	18,826	105	19,906	160	38,732	265	38,997
V. Food, Drink, etc.....	6,560	1,394	21,985	4,025	28,545	5,419	33,964
VI. Clothing, Textiles, etc.....	1,845	2,228	1,721	1,116	3,566	3,342	6,908
VII. Books, Printing, etc.....	3,646	1,134	1,795	605	5,441	1,739	7,180
VIII. Vehicles, etc.....	4,124	58	2,770	4	6,894	62	6,956
IX. Shipbuilding.....	114	2	100	—	223	2	225
X. Furniture, etc.....	1,364	70	2,260	22	3,624	92	3,716
XI. Chemicals, etc.....	1,780	433	6,502	322	8,282	755	9,037
XII. Surgical Instruments, etc.....	62	5	25	—	87	5	92
XIII. Jewellery, etc.....	216	3	97	—	313	3	316
XIV. Heat, Light, and Power.....	4,316	57	5,178	9	9,494	66	9,560
XV. Leather and Leatherware.....	1,728	516	3,118	120	4,846	645	5,491
XVI. Building and Contracting.....	8,051	71	23,537	138	31,588	209	31,797
XVII. Other Industries.....	455	63	781	7	1,236	70	1,306
TOTAL.....	56,748	6,214	109,482	7,375	166,230	13,589	179,819

## (iv) AVERAGE NUMBER AND PERCENTAGE OF EMPLOYEES OF EACH RACE IN FACTORIES IN EACH PROVINCE AND CERTAIN INDUSTRIAL CENTRES, 1920-21.

Province or Centre.	Europeans.		Others.		All Races.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
Cape of Good Hope.....	24,206	38	39,629	62	63,835	100
Cape Peninsula*.....	11,602	35	21,175	65	32,777	100
Port Elizabeth*.....	2,604	42	3,570	58	6,174	100
Natal.....	10,255	24	32,440	76	42,695	100
Durban†.....	6,543	31	14,839	69	21,382	100
Transvaal.....	24,981	38	39,922	62	64,903	100
Witwatersrand‡.....	22,329	40	33,747	60	56,076	100
Orange Free State.....	3,520	42	4,866	58	8,386	100
UNION.....	62,062	35	116,857	65	179,819	100

\* Included in Cape of Good Hope. † Included in Natal. ‡ Included in Transvaal.

## (v) AVERAGE NUMBER AND PERCENTAGE OF EMPLOYEES OF EACH RACE IN VARIOUS CLASSES OF INDUSTRY, UNION, 1920-21.

Class of Industry.	Europeans.		Others.		All Races.	
	Number.	Per Cent.	Number.	Per Cent.	Number.	Per Cent.
I. Raw Material.....	290	8	3,529	92	3,819	100
II. Stone, Clay, etc.....	1,458	11	12,280	89	13,738	100
III. Wood.....	1,990	30	4,727	70	6,717	100
IV. Metals, Engineering, etc.....	18,931	49	20,066	51	38,997	100
V. Food, Drink, etc.....	7,954	23	26,010	77	33,964	100
VI. Clothing, Textiles, etc.....	4,071	59	2,837	41	6,908	100
VII. Books, Printing, etc.....	4,780	67	2,400	33	7,180	100
VIII. Vehicles, etc.....	4,182	60	2,774	40	6,956	100
IX. Shipbuilding, etc.....	116	52	109	48	225	100
X. Furniture, etc.....	1,434	39	2,282	61	3,716	100
XI. Chemicals, etc.....	2,213	24	6,824	76	9,037	100
XII. Surgical Instruments, etc.....	67	73	25	27	92	100
XIII. Jewellery, etc.....	219	69	97	31	316	100
XIV. Heat, Light, and Power.....	4,373	46	5,187	54	9,560	100
XV. Leather and Leatherware.....	2,244	41	3,247	59	5,491	100
XVI. Building and Contracting.....	8,122	26	23,075	74	31,797	100
XVII. Other Industries.....	518	40	788	60	1,306	100
TOTAL.....	62,062	35	116,857	65	179,819	100

## (vi) NUMBER OF EUROPEANS UNDER EIGHTEEN YEARS, OF EACH SEX, EMPLOYED IN FACTORIES, 1915-16 TO 1920-21.

Year.	Cape of Good Hope.		Natal.		Transvaal.		Orange Free State.		Union.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
1915-16*	No. 301	No. 142	No. 47	No. 8	No. 165	No. 29	No. 4	No. 47	No. 517	No. 226
1916-17	697	401	163	65	666	144	58	7	1,584	617
1917-18	833	440	216	66	946	242	90	83	2,085	831
1918-19	833	411	198	72	1,037	265	101	155	2,169	908
1919-20	826	361	286	71	968	260	71	33	2,151	725
1920-21	509	307	252	74	1,011	262	98	25	1,930	668

\* Under 16 years.

## (vii) NUMBER OF EUROPEANS UNDER EIGHTEEN YEARS, OF EACH SEX, EMPLOYED IN FACTORIES IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.

Class of Industry.	Witwatersrand.		Cape Peninsula.		Durban.		Port Elizabeth.		Union.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
I. Raw Materials.....	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
II. Stone, Clay, etc.....	12	2	3	—	3	—	—	—	25	2
III. Wood.....	31	—	10	2	18	—	—	—	87	2
IV. Metals, Engineering, etc.....	405	1	44	2	52	—	8	2	684	6
V. Food, Drink, etc.....	22	12	7	64	7	5	3	2	93	133
VI. Clothing, Textiles, etc.	7	151	4	48	3	29	1	7	22	277
VII. Books, Printing, etc..	81	87	34	13	9	13	5	6	183	144
VIII. Vehicles, etc.....	90	—	30	2	21	1	4	—	230	3
IX. Shipbuilding, etc.....	—	—	2	—	2	—	—	—	4	—
X. Furniture, etc.....	44	1	26	8	6	1	7	2	94	12
XI. Chemicals, etc.....	29	3	2	2	12	14	—	6	43	31
XII. Surgical Instruments, etc.....	7	—	1	—	1	—	—	—	9	—
XIII. Jewellery, etc.....	5	—	—	—	—	—	1	—	7	—
XIV. Heat, Light, and Power.....	61	2	16	—	6	—	3	—	113	5
XV. Leather and Leatherware.....	9	—	9	5	4	2	40	37	74	50
XVI. Building and Contracting.....	112	—	22	—	20	2	2	—	249	2
XVII. Other Industries.....	—	—	—	—	4	—	—	—	7	1
TOTAL.....	915	259	219	146	168	67	74	62	1,030	668

9. Wages Paid in Factories.—Particulars are given hereunder as to wages paid and average wages paid in factories in the Union to Europeans and non-Europeans respectively; as to wages paid and average wages paid to Europeans and others in factories of each class, and as to salaries paid to managers and salaried staff and wages paid to wage-earners in each class of industry.

## (i) WAGES PAID IN FACTORIES IN UNION, TO EUROPEANS AND OTHERS, 1915-16 TO 1920-21.

Year.	Europeans.	Others.	All Employees.
	£	£	£
1915-16.....	6,739,966	2,172,891	8,912,857
1916-17.....	7,760,674	2,476,020	10,436,694
1917-18.....	9,021,513	3,206,187	12,227,700
1918-19.....	10,712,498	3,763,150	14,475,648
1919-20.....	13,922,258	5,196,332	19,118,590
1920-21.....	16,082,517	5,823,572	21,906,089

## (ii) AVERAGE WAGES PAID IN FACTORIES IN UNION TO EUROPEANS AND OTHERS, 1915-16 TO 1920-21.

Year.	Europeans.	Others.	All Employees.
	£	£	£
1915-16.....	186	35	91
1916-17.....	185	34	87
1917-18.....	193	38	94
1918-19.....	200	42	101
1919-20.....	244	46	112
1920-21.....	280	50	126

## (iii) WAGES AND AVERAGE WAGE PAID IN FACTORIES IN EACH PROVINCE AND IN CERTAIN INDUSTRIAL CENTRES, 1920-21.

Province or Centre.	Europeans.		Others.		All Employees.	
	Wages.	Average Wage.	Wages.	Average Wage.	Wages.	Average Wage.
	£	£	£	£	£	£
Cape of Good Hope....	4,786,038	220	2,584,707	65	7,371,946	120
Cape Peninsula*.....	2,596,743	242	1,645,270	78	4,242,013	133
Port Elizabeth*.....	493,199	201	241,208	68	734,407	122
Natal.....	2,905,687	304	1,293,822	40	4,199,509	100
Durban.....	1,944,295	312	649,003	44	2,593,298	123
Transvaal.....	7,593,755	328	1,762,204	44	9,355,959	148
Witwatersrand.....	7,030,095	385	1,548,686	46	8,578,781	157
Orange Free State.....	796,437	259	182,839	38	979,276	123
UNION.....£	16,082,517	280	5,823,572	50	21,906,089	126

\* Included in Cape of Good Hope. † Included in Natal. ‡ Included in Transvaal.

## (iv) TOTAL WAGES PAID TO EACH CLASS OF EMPLOYEE IN FACTORIES IN CERTAIN INDUSTRIAL CENTRES, 1920-21.

Class of Industry.*	Witwatersrand.		Cape Peninsula.		Durban.		Port Elizabeth.	
	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.
	£	£	£	£	£	£	£	£
I.....	5,195	7,264	3,719	17,939	5,262	19,274	5,714	11,949
II.....	51,323	345,969	7,768	72,004	8,358	35,394	1,011	7,472
III.....	34,504	179,036	26,189	165,819	7,257	79,131	6,342	24,542
IV.....	372,499	3,229,517	96,015	776,710	94,710	733,446	10,017	52,073
V.....	154,409	385,296	206,849	512,036	93,845	191,951	32,733	82,745
VI.....	28,958	267,322	46,883	208,138	10,880	61,174	6,162	20,331
VII.....	96,920	454,333	75,320	359,755	28,204	110,022	10,303	42,497
VIII.....	27,933	235,791	15,743	112,058	7,882	81,398	1,869	18,735
IX.....	—	—	860	11,422	1,098	28,733	—	—
X.....	11,355	122,595	19,873	174,840	9,184	72,284	5,357	44,529
XI.....	91,908	163,918	101,451	274,648	71,920	246,915	5,683	7,226
XII.....	—	—	—	—	—	—	—	—
XIII.....	† 2,470	32,408	1,230	11,410	150	3,708	387	6,809
XIV.....	245,946	854,691	32,356	161,494	13,204	77,011	9,463	30,154
XV.....	7,786	55,477	13,404	103,001	2,193	24,013	39,199	125,700
XVI.....	41,437	1,065,645	33,300	548,904	24,993	393,690	8,993	121,472
XVII.....	3,723	22,068	2,674	43,021	3,107	52,917	—	—
TOTAL.....£	1,176,866	7,401,915	688,814	3,553,100	382,247	2,211,051	143,133	591,274

\* For description of industry, see § 1 (3), or other similar tables in this Chapter.

† Classes combined in respect of industrial centres, owing to small number of establishments concerned.

(v) WAGES PAID TO EACH CLASS OF EMPLOYEE, 1915-16 TO 1920-21.

YEAR.	CAPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.	
	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.	Managers and Salaried Staff.	Wage Earners.
1915-16.	£ 516,424	£ 2,484,898	£ 316,104	£ 1,373,090	£ 406,913	£ 3,373,776	£ 65,753	£ 285,899	£ 1,395,194	£ 7,517,663
1916-17.	617,528	2,927,135	382,406	1,605,770	602,486	3,838,090	70,066	324,214	1,741,485	8,695,209
1917-18.	655,727	3,389,961	389,905	1,865,361	764,542	4,096,117	76,388	389,639	1,886,622	10,341,078
1918-19.	819,848	3,927,748	491,614	2,226,547	970,239	5,440,698	96,586	499,368	2,381,287	12,094,361
1919-20.	1,006,912	5,351,988	586,548	3,019,154	1,197,710	7,126,701	110,397	722,680	2,901,567	16,217,523
1920-21.	1,158,087	6,212,058	656,066	3,543,113	1,268,777	8,087,182	146,679	832,597	3,230,209	18,675,880

10. Value of Materials Used in Factories.—Particulars are given hereunder, in tables (i) and (ii) and (iii), as to the value of materials used in factories of each class of industry, and in tables (iii) and (iv) the value of materials the product of South Africa, included in the value stated in table (i). Difficulty has been experienced in supplying information represented by tables (iii) and (iv), which can only be regarded as roughly approximate.

(i) VALUE OF MATERIALS USED IN FACTORIES, 1915-16 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
1915-16.....	£ 8,872,956	£ 5,716,475	£ 6,524,274	£ 1,201,882	£ 22,315,587
1916-17.....	10,816,597	6,890,807	8,715,231	1,601,323	28,023,948
1917-18.....	13,388,378	7,678,187	11,501,421	1,682,375	34,248,341
1918-19.....	15,208,334	9,650,201	14,059,934	2,035,209	41,019,680
1919-20.....	19,777,559	13,445,183	17,698,468	2,930,046	53,851,256
1920-21.....	22,113,497	15,171,314	17,885,386	2,795,074	57,965,271

(ii) VALUE OF MATERIALS USED IN FACTORIES, 1920-1921, IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION.

Class of Industry.	Witwatersrand.*	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
I. Raw Material.....	£ 297,809	£ 280,611	£ 218,472	£ 27,254	£ 1,010,749
II. Stone, Clay, etc.....	275,980	42,286	57,130	710	648,124
III. Wood.....	468,403	409,865	241,485	62,188	1,561,048
IV. Metals, Engineering, etc.....	3,716,156	2,325,316	2,410,672	71,132	11,131,867
V. Food, Drink, etc.....	5,619,532	5,985,180	3,818,709	1,104,944	20,969,502
VI. Clothing, Textiles, etc.....	654,584	543,269	240,963	48,718	1,784,998
VII. Books, Printing, etc.....	633,915	520,395	118,111	66,210	1,566,815
VIII. Vehicles, etc.....	231,095	143,014	60,458	16,351	856,020
IX. Shipbuilding, etc.....	—	9,109	33,258	—	42,626
X. Furniture, etc.....	240,239	336,887	128,863	91,162	855,020
XI. Chemicals, etc.....	1,382,883	1,066,444	1,798,245	76,661	4,535,098
XII. Surgical Instruments, etc.....	—	7,708	9,420	5,135	13,186
XIII. Jewellery, etc.....	*30,726	—	—	—	42,258
XIV. Heat, Light, and Power.....	610,676	152,547	47,187	29,553	972,444
XV. Leather and Leatherware.....	124,477	392,928	57,709	417,265	1,530,410
XVI. Building and Contracting.....	1,550,628	667,188	592,057	150,442	4,375,548
XVII. Other Industries.....	23,272	18,609	16,270	—	60,558
TOTAL.....	£ 15,869,435	£ 12,891,355	£ 9,855,018	£ 2,167,731	£ 57,965,271

\* Classes combined in industrial centres, owing to small number of establishments concerned.



## (iii) VALUE OF SOUTH AFRICAN MATERIALS INCLUDED IN TABLE (i), 1915-16 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	3,838,442	2,862,789	2,458,852	864,090	10,024,773
1916-17.....	5,066,241	3,514,859	3,950,260	1,190,891	13,731,251
1917-18.....	6,693,841	4,038,740	5,888,539	1,213,166	17,834,096
1918-19.....	8,351,396	5,661,412	6,345,185	1,486,367	21,844,060
1919-20.....	10,470,454	7,490,801	8,034,045	1,957,951	28,553,941
1920-21.....	9,119,312	8,240,218	7,410,842	1,081,927	26,452,294

## (iv) VALUE OF SOUTH AFRICAN MATERIALS INCLUDED IN TABLE (ii), 1920-21.

Class of Industry.	Witwatersrand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Material.....	295,299	269,837	200,888	16,700	945,028
II. Stone, Clay, etc.....	169,283	11,434	31,370	340	337,186
III. Wood.....	137,201	48,182	27,629	8,385	463,547
IV. Metals, Engineering, etc.....	157,171	24,371	32,529	2,024	336,023
V. Food, Drink, etc.....	5,014,145	3,878,793	2,962,407	375,296	21,281,065
VI. Clothing, Textiles, etc.....	25,314	36,475	4,684	594	78,670
VII. Books, Printing, etc.....	2,027	4,133	1,483	50	9,438
VIII. Vehicles, etc.....	42,322	36,408	7,927	1,421	208,372
IX. Shipbuilding, etc.....	—	666	79	—	745
X. Furniture, etc.....	11,302	23,240	18,608	9,970	74,925
XI. Chemicals, etc.....	181,301	201,341	665,575	12,320	1,176,671
XII. Surgical Instruments, etc.....	—	—	—	—	640
XIII. Jewellery, etc.....	* 8,798	415	65	30	7,371
XIV. Heat, Light, and Power.....	17,589	35,530	175	14,066	85,321
XV. Leather and Leatherware.....	93,518	313,478	28,378	288,889	1,160,720
XVI. Building and Contracting.....	67,596	57,542	65,552	18,507	278,442
XVII. Other Industries.....	131	5,361	300	—	8,132
TOTAL..... £	6,221,597	4,947,207	4,047,709	749,492	26,452,294

\* Classes combined in industrial centres, owing to small number of establishments concerned.

11. **Gross Value of Factory Production.**—The tables given hereunder show the gross value of production in each class of industry in each Province, and in certain important industrial centres. It must be noted that this return in certain respects represents duplicated values. For example, in such an industry as the manufacture of boots and shoes is included again the value of leather produced by tanneries. Every effort was taken, however, to preclude any duplication of value in respect of any particular industry. The average output per employee, per white employee, and per head of the mean white population, is also given.

## (i) GROSS VALUE OF FACTORY PRODUCTION, 1915-16 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	14,816,427	9,665,505	14,266,643	1,886,307	40,434,882
1916-17.....	18,042,980	11,281,394	17,638,889	2,491,152	49,157,414
1917-18.....	22,847,248	13,754,356	21,781,492	2,623,904	60,806,010
1918-19.....	25,544,312	15,796,411	26,373,345	3,220,030	70,934,098
1919-20.....	33,157,026	21,978,325	33,225,833	4,552,660	92,913,844
1920-21.....	35,231,715	23,790,541	34,646,876	4,638,778	98,307,910

(ii) **GROSS VALUE OF FACTORY PRODUCTION OF EACH CLASS IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.**

Class of Industry.	Witwatersrand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Material.....	322,858	335,049	297,184	59,971	1,361,834
II. Stone, Clay, etc.....	1,082,963	187,472	153,771	14,100	2,703,216
III. Wood.....	862,063	696,669	380,145	117,235	2,736,670
IV. Metals, Engineering, etc.....	8,254,668	3,480,414	3,510,090	162,632	20,010,688
V. Food, Drink, etc.....	7,483,704	8,205,354	4,607,838	1,472,640	36,066,135
VI. Clothing, Textiles, etc.....	1,180,539	1,031,491	370,079	98,119	3,233,972
VII. Books, Printing, etc.....	1,602,071	1,336,375	394,121	154,473	4,298,816
VIII. Vehicles, etc.....	632,451	330,659	208,866	36,920	2,181,551
IX. Shipbuilding, etc.....	—	26,347	74,553	—	101,528
X. Furniture, etc.....	492,015	635,340	255,493	164,285	1,674,443
XI. Chemicals, etc.....	1,900,800	1,843,480	2,384,362	104,659	6,602,810
XII. Surgical Instruments, etc.....	102,062	30,441	16,911	15,161	41,435
XIII. Jewellery, etc.....	3,504,146	627,211	268,640	114,840	5,227,224
XIV. Heat, Light, and Power.....	236,438	583,748	101,594	706,782	2,380,516
XV. Leather and Leatherware.....	3,199,094	1,394,100	1,218,955	322,538	9,122,238
XVI. Building and Contracting.....	65,235	136,997	140,635	—	419,875
XVII. Other Industries.....	—	—	—	—	—
<b>TOTAL.....£</b>	<b>31,080,957</b>	<b>20,881,757</b>	<b>14,390,057</b>	<b>3,544,355</b>	<b>98,307,910</b>
	£	£	£	£	£
Average Value of Output per Employee....	554	637	673	574	547
Average Value of Output per White Employee.....	1,302	1,800	2,199	1,361	1,561
Average Value of Output per Head of Mean European Population.....	98	125	236	130	65

\* Classes combined in industrial centres, owing to small number of establishments concerned.

**12. Added Value in Process of Manufacture.**—By deducting from the gross value of the output of factories the cost of materials used, is obtained the value added in the process of manufacture, which practically eliminates any such duplication of values as that referred to in the preceding paragraph. The following tables give returns of such value in the case of each class of industry in each Province, and in certain important industrial centres. Particulars are also given in table (ii) as to the average value added, (a) per employee, (b) per white employee, and (c) per head of the white population.

(i) **VALUE ADDED IN PROCESS OF MANUFACTURE IN FACTORIES, 1915-16 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
1915-16.....	5,743,471	3,949,030	7,742,369	684,425	18,119,295
1916-17.....	7,226,303	4,393,587	8,923,657	869,829	21,433,466
1917-18.....	9,269,870	6,076,189	10,279,981	941,529	26,558,569
1918-19.....	10,275,978	6,140,208	12,313,411	1,184,821	29,914,418
1919-20.....	13,379,467	8,533,142	15,527,365	1,622,614	39,062,588
1920-21.....	13,118,218	8,619,227	16,761,400	1,843,704	40,342,639

## (ii) VALUE ADDED IN PROCESS OF MANUFACTURE IN FACTORIES, IN CERTAIN INDUSTRIAL CENTRES AND IN THE UNION, 1920-21.

Class of Industry.	Witwatersrand.	Cape Peninsula.	Durban.	Port Elizabeth.	Union.
	£	£	£	£	£
I. Raw Material.....	24,989	54,438	78,712	32,717	851,085
II. Stone, Clay, etc.....	906,983	145,187	96,641	13,390	2,055,092
III. Wood.....	393,600	286,804	144,660	55,047	1,175,622
IV. Metals, Engineering, etc.....	4,538,512	1,155,098	1,099,418	91,500	8,878,821
V. Food, Drink, etc.....	1,864,172	2,220,774	789,129	367,696	9,096,633
VI. Clothing, Textiles, etc.....	525,965	488,222	129,107	49,401	1,448,975
VII. Books, Printing, etc.....	968,156	815,980	278,010	88,257	2,732,001
VIII. Vehicles, etc.....	401,356	187,645	140,408	20,569	1,325,531
IX. Shipbuilding, etc.....	—	17,238	41,295	—	68,902
X. Furniture, etc.....	251,776	298,453	126,540	73,123	819,423
XI. Chemicals, etc.....	577,917	777,046	586,117	27,998	2,067,712
XII. Surgical Instruments, etc.....	—	—	—	—	28,249
XIII. Jewellery, etc.....	—	22,733	7,491	10,026	93,700
XIV. Heat, Light, and Power.....	2,884,470	474,664	221,462	85,287	4,254,780
XV. Leather and Leatherware.....	111,961	190,820	46,795	289,517	869,106
XVI. Building and Contracting.....	1,648,376	736,912	626,898	172,096	4,746,690
XVII. Other Industries.....	41,963	118,388	124,356	—	350,317
TOTAL.....£	15,211,522	7,990,402	4,535,039	1,376,624	40,342,639
Average Value Added per Employee.....	£ 271	£ 244	£ 212	£ 223	£ 224
Average Value Added per White Employee.....	681	689	693	529	641
Average Value Added per Head of Mean European Population.....	48	48	74	51	26

\* Classes combined in industrial centres, owing to small number of establishments concerned.

13. **International Comparison of Factory Returns.**—Some interest and value attach to the comparison represented in the following table as to certain values and other particulars in regard to factory production in the Union, Canada, New Zealand and the Commonwealth of Australia. The basis of returns undoubtedly differs in the various Dominions, economic conditions vary greatly, and the elements of the population are dissimilar, so that the comparisons must not in all respects be taken to be exact. Nevertheless, they afford some indication of the relative importance of manufacturing industries in the countries mentioned.

## INTERNATIONAL COMPARISON OF FACTORY RETURNS.

Heading.	Canada (1917).	New Zealand (1919-20).	Commonwealth of Australia (1920-21).	Union of South Africa (1920-21).
Value of Land and Buildings.....£	—	33 436,120	129,264,665	18,702,706
Value of Machinery and Plant.....£	—			
Motive Power—				
Electricity..... H.P.	—	193,784	176,476*	142,852
Steam..... H.P.	—		402,502*	472,877
Oil..... H.P.	—		11,872*	6,976
Gas..... H.P.	—		58,349*	13,273
Cost of Fuel and Light.....£	—	—	5,859,189	2,786,138
Employees—Male..... No.	546,436	56,966	†	166 230
.. Female..... No.	128,474	15,923	†	13,589
TOTAL..... No.	674,910	72,889	336,810	179,819
Total Wages Paid.....£	112,975,777	£ 11,629,406	£ 63,069,511	£ 21,906,089
Average Wage per Employee.....	167	160	163	126
Value of Materials Used.....	329,718,796	47,037,931	205,786,849	57,965,271
Value (Gross) of Production.....	619,215,147	69,780,206	323,737,351	98,307,910
Value Added in Process of Manufacture.....	289,499,353	22,742,365	117,950,502	40,342,639
Value of Production per Head of Employees.....	£ 917	£ 957	£ 837	£ 547
Value of Production per Head of Mean European Population.....	74	57	60	65
Value Added per Head of Employees.....	427	312	305	224
Value added per Head of European Population.....	35	19	22	26

\* 1919-20 figures. † Not available for 1920-21; figures for 1919-20: 280,514 males, 96,220 females.

14. **Monthly Index of Industrial Activity.**—Commencing in July, 1922, the Statistics Office initiated the compilation of a monthly index of industrial activity in consultation and co-operation with various manufacturers' associations. The data are obtained from returns rendered monthly by a number of selected establishments in the four principal industrial centres in the Union, viz., the Cape Peninsula and adjoining areas, Port Elizabeth, Durban and adjoining areas, and the Witwatersrand (including Pretoria); and the figures show, by comparison with the results of the 1920-21 Industrial Census, the relative condition of employment and activity in each of the principal classes of industry in the different centres concerned. Publication is effected through the medium of the *Monthly Bulletin of Union Statistics*.

§ 3. Individual Industries.

1. **Principal Manufacturing Industries.**—The tables given hereunder furnish particulars of the principal manufacturing industries of the Union. Certain important industries, owing to their small number, have been regrouped in order to avoid disclosure of their identity and operations.

**PARTICULARS AS TO PRINCIPAL INDIVIDUAL MANUFACTURING INDUSTRIES, 1915-16 TO 1920-21.**

YEAR.	Number of Factories	Value of Land and Buildings.	Value of Machinery, Plant, and Tools.	Number of Employees.	Amount of Salaries and Wages Paid.	Cost of Fuel, Light, and Power.	Value of Materials Used.	Value of Output.	Value Added to Materials during Process of Manufacture.
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**BACON AND HAM CURING ESTABLISHMENTS.**

		£1000.	£1000.		£1000.	£1000.	£1000.	£1000.	£1000.
1915-16.....	11	33	17	154	11	3	88	131	44
1916-17.....	14	41	20	221	15	3	149	202	53
1917-18.....	17	50	26	308	23	4	279	378	99
1918-19.....	22	90	43	491	34	6	397	525	128
1919-20.....	23	121	55	502	41	10	561	716	155
1920-21.....	22	112	54	453	41	10	508	598	88

**BAKERIES, BREAD, AND BISCUIT FACTORIES.**

1915-16.....	176	364	130	2,730	218	31	1,468	2,024	556
1916-17.....	241	432	179	3,291	246	36	1,687	2,558	671
1917-18.....	262	458	191	3,620	267	37	2,192	2,960	768
1918-19.....	287	470	166	3,909	317	46	2,382	3,262	880
1919-20.....	312	545	205	3,996	363	56	3,097	4,185	1,089
1920-21.....	333	592	233	4,170	407	68	3,351	4,670	1,319

**BOOT AND SHOE FACTORIES AND REPAIRING ESTABLISHMENTS.**

1915-16.....	58	58	54	1,062	99	3	324	504	180
1916-17.....	104	91	87	2,388	129	4	499	727	228
1917-18.....	120	108	95	2,644	161	5	636	968	329
1918-19.....	138	153	142	3,309	239	6	865	1,292	427
1919-20.....	147	192	193	3,030	302	9	1,116	1,675	558
1920-21.....	146	210	206	2,954	278	11	779	1,191	412

**BREWERIES (INCLUDING NATIVE BEER BREWERIES AND MALT WORKS).**

1915-16.....	21	530	409	1,845	175	24	322	1,162	840
1916-17.....	21	572	395	1,917	182	25	346	963	617
1917-18.....	78*	678	365	2,020	193	33	419	1,173	754
1918-19.....	85*	645	378	2,261	218	40	565	1,394	829
1919-20.....	99	658	477	2,147	215	43	688	1,895	1,207
1920-21.....	90	640	718	2,123	234	46	801	2,061	1,260

\* Including Native Beer Breweries on Mines.

PARTICULARS AS TO PRINCIPAL INDIVIDUAL MANUFACTURING INDUSTRIES, 1915-16 TO 1920-21—*continued.*

YEAR.	Number of Factories	Value of Land and Buildings.	Value of Machinery, Plant, and Tools.	Number of Employees.	Amount of Salaries and Wages Paid.	Cost of Fuel, Light, and Power.	Value of Materials Used.	Value of Output.	Value Added to Materials during Manufacture.
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BRICK, TILE, EARTHENWARE, AND POTTERY WORKS.

		£1000.	£1000.		£1000.	£1000.	£1000.	£1000.	£1000.
1915-16.....	97	247	186	3,230	116	41	22	250	228
1916-17.....	117	322	231	4,357	144	55	80	326	246
1917-18.....	113	261	241	4,332	165	46	19	406	386
1918-19.....	122	297	246	5,054	218	71	42	547	505
1919-20.....	169	356	293	6,822	323	106	79	743	663
1920-21.....	181	398	398	7,626	376	132	56	882	826

BRUSH AND BROOM FACTORIES.

1915-16.....	7	9	2	339	12	—	33	53	20
1916-17.....	7	10	2	509	17	1	48	81	33
1917-18.....	7	17	4	722	20	—	54	87	33
1918-19.....	6	20	4	666	26	—	57	99	43
1919-20.....	6	21	5	591	32	1	63	121	58
1920-21.....	7	28	5	533	30	1	60	100	41

BUTTER AND CHEESE FACTORIES.

1915-16.....	59	152	100	660	44	8	483	607	124
1916-17.....	86	201	120	936	62	12	781	999	238
1917-18.....	124	217	138	1,129	76	13	931	1,220	289
1918-19.....	126	316	206	1,291	109	18	1,143	1,484	341
1919-20.....	121	296	194	1,327	116	21	1,147	1,498	351
1920-21.....	116	330	231	1,306	122	24	1,250	1,641	391

CLOTHING FACTORIES, TAILORING, AND DRESSMAKING ESTABLISHMENTS.

1915-16.....	358	348	24	3,995	330	6	454	1,003	549
1916-17.....	515	483	31	5,020	400	8	683	1,331	648
1917-18.....	580	490	33	5,518	453	9	916	1,738	820
1918-19.....	590	577	41	5,923	524	10	1,218	2,220	1,002
1919-20.....	623	701	47	6,282	652	12	1,517	2,800	1,282
1920-21.....	591	681	48	5,580	656	13	1,369	2,497	1,128

COACH AND WAGON WORKS.

1915-16.....	208	209	77	2,525	213	11	266	597	331
1916-17.....	260	253	82	2,972	246	13	310	686	376
1917-18.....	318	293	93	3,285	287	16	389	867	479
1918-19.....	326	316	99	3,347	299	19	398	909	513
1919-20.....	345	324	114	3,516	366	22	521	1,103	583
1920-21.....	346	343	104	3,167	367	22	472	1,045	573

COOPERAGES AND PACKING-CASE WORKS.

1915-16.....	26	37	11	378	22	1	71	104	33
1916-17.....	28	51	14	483	31	2	134	180	46
1917-18.....	42	76	41	846	43	3	157	266	109
1918-19.....	53	116	32	934	59	6	262	381	120
1919-20.....	65	102	62	1,173	94	7	242	412	170
1920-21.....	63	117	50	1,048	88	6	211	343	132

PARTICULARS AS TO PRINCIPAL INDIVIDUAL MANUFACTURING  
INDUSTRIES, 1915-16 TO 1920-21—continued.

YEAR.	Number of Factories	Value of Land and Buildings.	Value of Machinery, Plant, and Tools.	Number of Employees.	Amount of Salaries and Wages Paid.	Cost of Fuel, Light, and Power.	Value of Materials Used.	Value of Output.	Value Added to Materials during of Manu- facture.
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## ELECTRIC LIGHT AND POWER PLANTS.

1915-16.....	79	£1000.	£1000.		£1000.	£1000.	£1000.	£1000.	£1000.
1916-17.....	81	1,620	7,021	8,556	465	608	117	2,542	2,425
1917-18.....	81	1,668	8,128	3,844	513	677	162	2,781	2,629
1918-19.....	124*	1,721	8,998	4,543	629	835	392	2,952	2,560
1919-20.....	115	1,826	9,126	4,939	717	900	195	3,173	2,978
1920-21.....	134	1,851	10,006	5,336	871	1,048	275	3,435	3,159
1920-21.....	140	1,739	10,357	5,691	1,027	985	294	3,078	3,385

## GALVANIZED WARE, TINWARE, AND STEEL TRUNK FACTORIES.

1915-16.....	40	56	31	1,043	66	3	104	228	124
1916-17.....	35	52	38	1,060	63	3	146	266	120
1917-18.....	51	73	54	1,185	77	3	203	372	168
1918-19.....	52	75	53	1,106	95	4	217	393	176
1919-20.....	54	82	75	1,156	103	4	245	446	200
1920-21.....	54	90	76	1,193	119	6	284	487	203

## GRAIN MILLS.

1915-16.....	562	763	817	3,940	213	70	4,900	5,627	727
1916-17.....	667	825	837	4,225	237	84	6,154	7,274	1,119
1917-18.....	743	872	878	4,464	261	124	7,684	8,707	1,023
1918-19.....	638	932	946	4,588	330	115	8,806	10,121	1,315
1919-20.....	691	1,046	1,048	4,855	351	137	11,079	12,631	1,552
1920-21.....	705	1,089	1,142	4,973	360	136	11,032	12,133	1,101

## JAM FACTORIES, FRUIT PRESERVING WORKS, AND SWEET FACTORIES.

1915-16.....	35	118	65	1,905	94	10	500	750	249
1916-17.....	48	141	74	2,530	114	13	614	952	338
1917-18.....	51	153	71	2,793	149	14	792	1,332	540
1918-19.....	59	194	92	2,801	191	17	941	1,538	597
1919-20.....	71	245	102	3,202	250	27	1,324	2,132	809
1920-21.....	71	292	176	3,014	250	24	1,307	1,816	510

## LIME WORKS.

1915-16.....	32	58	42	952	36	18	25	97	71
1916-17.....	40	88	89	1,433	55	17	64	151	87
1917-18.....	41	86	106	1,383	52	18	80	183	104
1918-19.....	30	89	106	1,474	61	21	79	205	126
1919-20.....	31	85	127	1,695	81	24	93	247	154
1920-21.....	33	79	126	1,086	85	25	97	255	159

## PRINTING AND PUBLISHING ESTABLISHMENTS.

1915-16.....	222	609	544	4,908	647	19	417	1,329	912
1916-17.....	243	642	593	5,386	726	21	584	1,873	1,289
1917-18.....	270	645	600	5,633	792	21	733	2,212	1,479
1918-19.....	265	728	616	6,070	899	24	948	2,566	1,648
1919-20.....	273	750	667	6,572	1,153	34	1,245	3,419	2,174
1920-21.....	276	840	766	6,693	1,435	37	1,480	4,114	2,654

\* Including certain Power Plants on Mines not previously enumerated.

PARTICULARS AS TO PRINCIPAL INDIVIDUAL MANUFACTURING  
INDUSTRIES, 1925-16 TO 1920-21—*continued.*

Year.	Number of Factories	Value of Land and Buildings.	Value of Machinery, Plant, & Tools.	Number of Employees.	Amount of Salaries & Wages Paid.	Cost of Fuel, Light, and Power.	Value of Materials Used.	Value of Output.	Value Added to Materials during Process of Manufacture.
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## SAW MILLS.

		£1,000	£1,000		£1,000	£1,000	£1,000	£1,000	£1,000
1915-16.....	56	151	108	1,172	93	7	316	494	178
1916-17.....	109	262	182	2,322	164	13	496	768	272
1917-18.....	125	278	199	2,794	202	14	567	943	375
1918-19.....	127	288	205	2,776	223	15	907	1,371	464
1919-20.....	134	355	218	3,237	286	21	839	1,864	525
1920-21.....	147	384	256	3,745	340	24	910	1,527	617

## SOAP AND CANDLE FACTORIES.

1915-16.....	16	436	486	1,784	150	24	1,147	1,735	588
1916-17.....	16	818	149	1,986	176	24	1,187	1,763	576
1917-18.....	18	843	172	2,369	199	30	1,751	2,348	597
1918-19.....	17	448	606	2,146	192	30	1,750	2,260	510
1919-20.....	18	471	618	2,253	223	32	2,312	3,010	698
1920-21.....	20	535	661	1,937	225	31	1,865	2,316	451

## TANNERIES.

1915-16.....	19	79	40	799	55	3	339	476	136
1916-17.....	23	89	46	920	63	3	459	606	147
1917-18.....	25	119	53	1,245	88	5	681	964	282
1918-19.....	28	153	68	1,409	101	6	741	1,000	265
1919-20.....	31	164	82	1,579	122	9	1,017	1,394	377
1920-21.....	30	173	100	1,373	116	9	564	832	268

## TOBACCO, CIGAR, CIGARETTE, AND SNUFF FACTORIES.

1915-16.....	58	159	91	1,941	94	5	506	1,051	545
1916-17.....	67	199	91	2,241	116	5	560	1,212	653
1917-18.....	83	205	86	2,302	125	5	647	1,417	770
1918-19.....	60	223	90	2,562	144	6	782	1,538	756
1919-20.....	66	264	104	2,662	185	8	990	1,951	901
1920-21.....	64	285	149	3,010	281	9	1,019	2,371	1,352

## WOOL WASHERIES.

1915-16.....	6	15	19	509	19	4	17	66	49
1916-17.....	7	34	30	807	35	6	22	113	91
1917-19.....	10	47	40	981	39	12	32	171	140
1918-19.....	11	64	62	1,780	52	15	55	203	148
1919-20.....	13	78	98	2,113	77	21	62	244	186
1920-21.....	14	88	141	1,330	58	13	35	142	107

2. **Materials Used and Articles Produced.**—Particulars are given hereunder of certain materials used or treated, and of articles produced in certain industries during the year 1920-21, with comparative figures for previous years:—

(i) **BACON AND HAM CURING ESTABLISHMENTS.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Pigs, Cattle, and Sheep.....	13,970,369	356,345	13,763,991	508,550	11,798,552	461,832
Pork.....	21,076	824	243,879	7,023	725,770	13,086
Beef.....	399,340	8,869	250,270	6,066	99,818	2,400
Mutton.....	7,500	250	3,453	100	—	—
Ox Tongues.....	36,150	1,716	24,242	1,079	14,560	455
Other.....	201,348	4,417	163,468	4,848	85,162	2,038
Materials Used in Curing.....	—	10,363	—	11,822	—	7,973
Materials Used in Packing.....	—	10,467	—	12,987	—	6,682
All Other Materials.....	—	3,515	—	9,500	—	10,252
<b>TOTAL.....</b>	—	396,766	—	560,975	—	507,718

**ARTICLES MANUFACTURED.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Bacon and Ham.....	6,535,215	414,347	6,821,415	580,379	5,555,317	490,470
Lard.....	616,429	32,799	732,178	51,881	484,576	30,800
Polonies and Sausages.....	1,072,866	44,208	1,385,656	49,727	1,450,395	56,814
Other Articles prepared from Pork, Beef, Mutton, and Poultry.....	155,191	13,383	194,115	18,775	198,123	11,833
Fertilizing Materials.....	242,979	911	245,273	620	334,626	753
Tinned Beef or Mutton.....	83,614	3,038	—	—	—	—
All other products.....	—	16,777	—	14,946	—	5,465
<b>TOTAL.....</b>	—	525,463	—	716,328	—	596,135

(ii) **BAKERIES, BREAD AND BISCUIT FACTORIES.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	Ton.	£	Ton.	£	Ton.	£
Flour, South African.....	51,772	1,353,234	48,792	1,594,379	46,162	1,652,522
" Imported.....	12,026	312,693	18,798	601,427	22,112	743,918
Meal, Boer or Wheat, etc....	8,614	191,912	9,290	271,789	8,329	244,034
" Maize.....	3,449	38,098	4,067	35,044	3,681	33,544
Sugar.....	2,518	70,169	2,114	89,822	2,666	116,187
	100 lb.		100 lb.		100 lb.	
Fats (including Butter and Margarine.....)	21,121	123,367	20,731	166,139	23,449	198,499
Eggs.....	—	77,197	—	95,875	—	115,982
Fruit.....	—	38,480	—	51,578	—	59,207
Other ingredients.....	—	103,172	—	115,784	—	133,590
Packing Materials.....	—	73,472	—	74,740	—	65,876
<b>TOTAL.....</b>	—	2,381,844	—	3,096,577	—	3,350,858

**ARTICLES MANUFACTURED.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Bread.....	106,864,524	2,413,793	172,971,798	3,186,655	181,864,258	3,525,191
Biscuits.....	8,292,345	364,337	9,328,874	441,358	8,231,896	406,068
Cakes.....	9,463,772	471,133	7,481,467	449,824	10,054,187	621,640
Other Articles.....	—	12,572	—	107,353	—	117,398
<b>TOTAL.....</b>	—	3,261,835	—	4,185,190	—	4,669,837



(iii) **BOOT AND SHOE FACTORIES AND REPAIRING ESTABLISHMENTS.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Leather—By Weight :—		£		£		£
South African..... lb.	4,403,955	555,250	4,645,255	641,861	3,280,732	410,274
Imported..... " "	110,165	12,178	102,502	18,401	64,109	11,964
Leather—By Measure :—						
South African..... Sq.ft.	617,965	61,231	1,209,154	127,923	1,122,022	95,909
Imported..... " "	972,853	95,684	1,121,330	150,468	950,275	112,976
Uppers and Cut Soles Purchased :—						
South African.....	—	24,310	—	17,126	—	13,064
Imported.....	—	5,123	—	19,477	—	5,074
Stains and Polish.....	—	5,724	—	7,264	—	5,742
Thread, Eyelets, Nails, and other Materials.....	—	84,264	—	107,935	—	91,187
Packing Materials.....	—	21,182	—	25,915	—	23,253
<b>TOTAL.....</b>	<b>—</b>	<b>864,955</b>	<b>—</b>	<b>1,118,370</b>	<b>—</b>	<b>779,343</b>

**ARTICLES MANUFACTURED.**

	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Boots and Shoes..... Pairs.	1,029,637	1,061,222	1,806,917	1,383,856	1,308,135	978,438
Slippers..... " "	28,083	10,089	42,860	14,800	41,730	15,424
Veldschoens..... " "	291,555	109,194	315,243	110,549	156,198	58,366
Leggings and Gaiters.....	14,681	9,067	3,800	3,600	3,415	3,586
Uppers for sale as such.....	61,968	17,945	73,444	29,425	34,409	15,525
Parts of Boots and Shoes other than Uppers..... No.	—	1,080	—	1,080	—	3,095
Leather Portmanteaux and Bags..... No.	115	82	764	570	454	558
Harness and Saddlery.....	—	17,653	—	29,917	—	15,704
Leather Laces.....	—	60	—	60	—	172
Other Articles Manufactured.....	—	8,752	—	20,091	—	15,554
Value of Repair Work Done.....	—	56,621	—	80,650	—	84,785
<b>TOTAL.....</b>	<b>—</b>	<b>1,291,765</b>	<b>—</b>	<b>1,674,598</b>	<b>—</b>	<b>1,191,206</b>

(iv) **BREWERIES (INCLUDING NATIVE BEER BREWERIES) AND MALT WORKS.**

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Water..... Galls.	98,311,233	0,795	—	10,823	—	9,064
Malt..... Tons.	10,033	217,301	10,443	272,027	12,018	318,524
Hops..... Tons.	153	31,989	171	36,818	170	60,619
Sugar..... Cwts.	5,597	6,160	6,740	8,432	6,186	10,988
Kafir Corn Meal..... Tons.	6,962	60,935	11,112	121,635	10,330	96,791
Barley..... Tons.	5,218	54,235	5,876	66,033	5,087	112,511
Other Ingredients.....	—	23,297	—	56,091	—	66,492
Packing Materials (Bottles, etc.)	—	158,182	—	116,068	—	127,359
<b>TOTAL.....</b>	<b>—</b>	<b>564,844</b>	<b>—</b>	<b>687,727</b>	<b>—</b>	<b>800,948</b>
<b>ARTICLES MANUFACTURED.</b>						
Ale, Beer, and Stout.... Galls.	7,436,928	1,122,358	8,847,517	1,491,515	8,594,822	1,685,336
Native Beer..... Galls.	7,625,330	104,948	7,501,418	140,399	7,751,847	137,244
Brewer's Grains.....	—	11,335	—	13,875	—	16,078
Other Articles.....	—	155,630	—	249,378	—	222,096
<b>TOTAL.....</b>	<b>—</b>	<b>1,394,271</b>	<b>—</b>	<b>1,895,167</b>	<b>—</b>	<b>2,060,754</b>

## (v) BRICK, TILE, EARTHENWARE, AND POTTERY WORKS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
		£		£		£
Materials Used (exclusive of Fuel):—						
South African.....	—	36,883	—	75,098	—	49,299
Imported.....	—	5,349	—	8,532	—	6,548
<b>TOTAL.....</b>	—	<b>42,232</b>	—	<b>78,630</b>	—	<b>55,847</b>

**ARTICLES MANUFACTURED.**

		£		£		£
Bricks, Building... No.	147,017,458	368,589	191,059,374	529,287	212,332,021	618,954
Fire Bricks..... "	3,322,899	25,634	3,852,965	24,178	2,880,710	23,258
Other..... "	851,129	14,553	1,375,361	15,899	1,190,895	12,591
Tiles..... "	4,893,395	58,733	4,731,694	72,980	5,091,630	92,206
Fire Clay.. Ton (2,000 lb.)	2,144	4,391	2,438	5,472	2,632	5,787
Earthenware..... No.	250,847	21,099	65,609	3,689	—	2,474
Pottery..... "	—	500	—	4,067	—	1,808
Other Articles Manufactured and Work Done.....	—	53,240	—	83,855	—	123,836
Other Articles made of Concrete or Plaster..	—	—	—	2,418	—	1,420
<b>TOTAL.....</b>	—	<b>546,749</b>	—	<b>741,843</b>	—	<b>882,331</b>

## (vi) BRUSH AND BROOM FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
		£		£		£
Bass, Broom, Grass, Hair, Bristles, Fibre, Cane, Ostrich Feathers, and similar Materials:—						
South African.....	—	2,352	—	16,735	—	13,113
Imported.....	—	34,082	—	26,030	—	27,198
Broom Heads and Handles or Timber for same:—						
South African.....	—	9,594	—	8,425	—	9,831
Imported.....	—	1,141	—	1,861	—	2,854
Wire, Twine, Thread, Nails, Glue, Pitch, Resin, Oils, Varnish, Paint, and other Materials for Brushes and Brooms.....	—	7,795	—	8,692	—	5,526
Boxes, Cases, Cartons, Labels, and other Packing Materials	—	1,675	—	1,524	—	1,174
<b>TOTAL.....</b>	—	<b>56,579</b>	—	<b>63,257</b>	—	<b>59,696</b>

**ARTICLES MANUFACTURED.**

	Doz.	£	Doz.	£	Doz.	£
Bass Brooms.....	21,720	26,284	15,014	26,730	12,272	22,077
Hair Brooms.....	34,685	32,869	26,689	39,046	21,047	31,817
Carpet Brooms.....	20,219	19,627	19,090	22,353	13,414	15,990
Banister Brushes.....	8,771	7,811	9,386	14,650	6,400	8,321
Straw or Grass Brooms.....	500	250	1,398	1,277	646	630
Other Brushes and Brooms..	13,133	11,458	14,157	15,032	17,355	21,365
<b>TOTAL.....</b>	—	<b>98,299</b>	—	<b>119,988</b>	—	<b>100,200</b>

## (vii) BUTTER AND CHEESE FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Butter, Fat, or Cream.....	12,431,084	836,993	9,691,365	850,524	9,833,659	938,764
Milk.....	5,512,759	186,268	3,734,957	183,370	4,980,371	185,337
Salt and other Preservatives..	848,279	9,188	683,751	7,937	653,051	7,120
Colouring Matter and other Ingredients.....	—	43,801	—	41,951	—	54,935
Packing Materials.....	—	66,872	—	55,497	—	63,859
<b>TOTAL.....</b>	<b>£ —</b>	<b>1,143,122</b>	<b>—</b>	<b>1,147,279</b>	<b>—</b>	<b>1,250,015</b>

<b>ARTICLES MANUFACTURED.</b>						
	lb.	£	lb.	£	lb.	£
Butter.....	13,732,776	1,142,654	10,894,464	1,183,428	11,517,533	1,308,963
Cheese.....	5,152,830	281,760	3,782,065	256,501	4,346,624	254,199
Margarine.....	715,012	37,031	537,815	26,907	590,000	38,500
Other Articles Manufactured or Produced.....	—	22,831	—	31,296	—	39,024
<b>TOTAL.....</b>	<b>—</b>	<b>1,484,276</b>	<b>—</b>	<b>1,498,222</b>	<b>—</b>	<b>1,640,686</b>

## (viii) CLOTHING FACTORIES AND TAILORING ESTABLISHMENTS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	Yards.	£	Yards.	£	Yards.	£
Cloth for Suits, Costumes, etc. Other Materials (Lining, Trim- ming, etc.).....	1,409,704	875,586	1,502,151	1,049,764	1,527,893	926,353
Packing Materials.....	—	214,904	—	281,540	—	267,257
	—	14,544	—	13,203	—	11,514
<b>TOTAL.....</b>	<b>—</b>	<b>1,105,014</b>	<b>—</b>	<b>1,344,507</b>	<b>—</b>	<b>1,205,124</b>

<b>ARTICLES MANUFACTURED.</b>						
		£		£		£
Suits, Trousers, Overcoats, etc. Costumes, Dresses, Skirts, etc. Other Articles Made.....	—	1,712,132	—	2,116,312	—	1,802,238
Alterations, Making-up Cus- tomers' Material, and other Work Done.....	—	125,900	—	127,381	—	113,268
Millinery.....	—	32,377	—	55,476	—	79,011
	—	94,014	—	143,365	—	167,892
	—	—	—	1,288	—	1,460
<b>TOTAL.....</b>	<b>—</b>	<b>1,964,429</b>	<b>—</b>	<b>2,443,822</b>	<b>—</b>	<b>2,163,809</b>

## (ix) OSAOH AND WAGON WORKS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Timber:—		£		£		£
South African.....	—	97,683	—	115,087	—	111,077
Imported.....	—	36,378	—	49,845	—	39,614
Wooden Parts:—						
South African.....	—	24,877	—	34,339	—	31,464
Imported.....	—	12,487	—	17,896	—	18,187
Paint, Varnish, and Oils.....	—	20,427	—	28,871	—	25,702
Metal and Metal Parts.....	—	144,024	—	180,996	—	148,480
Leather and Canvas.....	—	28,553	—	37,138	—	27,931
Other Materials.....	—	31,590	—	56,750	—	69,541
<b>TOTAL.....</b>	—	<b>396,019</b>	—	<b>520,922</b>	—	<b>471,986</b>

**ARTICLES MANUFACTURED.**

	No.	£	No.	£	No.	£
Wagons.....	2,414	191,405	2,370	217,982	2,093	207,159
Trolleys and Light Wagons...	875	44,457	1,101	57,762	749	41,300
Cape Carts and Buggies.....	1,936	102,387	2,133	113,484	1,457	77,041
Farm Carts.....	1,121	36,529	1,193	39,059	820	27,813
Spiders and Surreys.....	103	6,883	134	9,612	73	6,511
Other Vehicles.....	651	17,007	733	22,095	625	27,278
Bodies for Mechanically Propelled Vehicles.....	118	5,189	109	7,192	100	6,601
Other Articles and Repairs...	—	505,382	—	635,406	—	651,121
<b>TOTAL.....</b>	—	<b>909,239</b>	—	<b>1,108,492</b>	—	<b>1,044,824</b>

## (x) COOPERAGES AND PACKING CASE WORKS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Timber and Wood:—		£		£		£
South African.....	—	67,552	—	72,683	—	53,763
Imported.....	—	147,901	—	146,008	—	125,732
Nails, Screws, Hoop Iron, and other Materials.....	—	46,292	—	23,635	—	31,697
<b>TOTAL.....</b>	—	<b>261,745</b>	—	<b>242,326</b>	—	<b>211,192</b>

**ARTICLES MANUFACTURED.**

	No.	£	No.	£	No.	£
Kegs.....	5,491	3,138	3,588	2,823	1,018	1,648
Casks.....	11,807	25,883	11,495	27,679	5,595	15,194
Butter Boxes.....	5,620	1,020	18,000	2,180	19,350	1,676
Packing Cases*.....	1,453,465	253,941	968,217	201,823	1,400,482	164,414
Wooden Trunks.....	18,371	19,427	32,400	27,329	30,255	30,236
Other Articles Manufactured, Value of Repair Work Done for Customers.....	—	78,012	—	131,869	—	103,857
	—	—	—	18,547	—	25,747
<b>TOTAL.....</b>	—	<b>381,421</b>	—	<b>412,250</b>	—	<b>342,772</b>

\* See also Sawmills and Joinery Works.

## (xi) DRESSMAKING AND MILLINERY ESTABLISHMENTS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Cloth for Costumes, etc.....	Yards. 110,898	£ 57,125	Yards. 113,003	£ 77,039	Yards. 100,963	£ 76,608
Other Materials (Linings, Trim- mings, etc).....	—	54,796	—	92,313	—	83,702
Packing Materials.....	—	1,088	—	3,377	—	3,206
<b>TOTAL.....</b>	—	113,009	—	172,729	—	163,515

## ARTICLES MANUFACTURED.

	Yards.	£	Yards.	£	Yards.	£
Costumes, Dresses.....	—	—	—	—	—	—
Skirts, etc.....	—	142,587	—	174,577	—	168,019
Millinery.....	—	84,308	—	147,324	—	129,093
Other Articles Made.....	—	3,659	—	10,463	—	7,758
Repairs, Alterations, and Making-up Customers' Ma- terials, and Other Work....	—	24,670	—	23,498	—	27,984
<b>TOTAL.....</b>	—	255,224	—	355,862	—	332,854

## (xii) ELECTRIC LIGHT AND POWER PLANTS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>WORKING EXPENSES.</b>						
Generation.....	—	£ 1,542,725	—	£ 1,725,069	—	£ 1,973,562
Distribution (Repairs, Maintenance of Mains, Sub - Stations, and House Service).....	—	199,944	—	255,973	—	290,699
Public Lighting (Re- pairs, Maintenance of Street Lamps).....	—	23,757	—	40,611	—	54,250
Rents, Rates.....	—	44,340	—	84,047	—	103,850
Management and General Expenses (Including Salaries of Boroughs, Assistant Engineers, and Draughtsmen, Printing, Stationery, Advertising, Insurance, and Departmental Charges).....	—	293,310	—	324,557	—	283,165
<b>Total Working Ex- penses.....£</b>	—	2,104,085	—	2,430,857	—	2,705,526
<b>Total Value of Materials Used.....£</b>	—	195,399	—	275,474	—	298,631

(xii) ELECTRIC LIGHT AND POWER PLANTS—*continued.*

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>CURRENT GENERATED.</b>						
	Units. (000)	£	Units. (000)	£	Units. (000)	£
Private Lighting and Domestic Supply (including Heating and Cooking).....	29,183	—	32,327	—	36,546	—
Private Motive Power and Industrial Supply (excluding Tramways)	992,798	—	1,038,129	—	1,018,024	—
Tramways (Private or Municipal).....	21,732	—	24,083	—	26,896	—
Bulk or Mixed Supply.	29,227	—	33,753	—	39,619	—
Municipal Supply—						
Lighting of Buildings	798	—	875	—	1,200	—
Street Lighting.....	9,278	—	9,726	—	10,139	—
Motive Power (excluding Tramways).	3,381	—	3,208	—	3,277	—
Used in Station.....	57,972	—	56,399	—	57,144	—
Total Units Sold or Used Lost in Distribution...	1,144,369	—	1,197,490	—	1,191,835	—
	74,352	—	79,516	—	84,609	—
Total Units Generated.	1,218,701	—	1,277,006	—	1,276,444	—
TOTAL.....	—	3,175,436	—	3,434,928	—	3,678,251

## (xiii) GALVANIZED WARE, TIN WARE, AND STEEL TRUNK FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Corrugated Iron.....	470,726	12,088	639,059	16,485	820,842	18,610
Sheet Iron.....	1,460,500	41,030	1,902,088	51,389	1,774,122	46,176
Black Sheet Iron.....	—	—	498,131	9,015	430,994	9,279
Tinplate.....	5,117,112	123,148	3,728,026	118,359	5,046,078	148,014
Lead.....	—	—	74,544	1,694	91,304	1,695
Lead Pipe.....	—	—	27,931	752	44,603	1,235
Zinc.....	—	—	3,581	167	9,137	702
Solder.....	93,556	5,893	69,712	6,266	94,698	6,444
Wire.....	125,187	2,755	163,784	3,018	456,107	2,913
Copper Sheets.....	8,511	1,013	6,542	1,004	7,869	954
Brass Sheets.....	626	112	763	129	3,385	489
Ingot Tin.....	36,133	5,625	31,565	4,909	37,960	6,184
Tinman's Rivets.....	26,831	723	48,357	3,070	20,337	1,218
Clsters.....	—	—	238	690	589	1,573
Sanitary Ware.....	—	—	—	2,873	—	4,529
Brass Fittings.....	—	1,157	—	1,974	—	2,573
Painting Materials.....	—	1,039	—	1,425	—	2,085
Other Materials.....	—	22,900	—	22,281	—	29,115
TOTAL.....	—	217,492	—	245,490	—	283,787

**ARTICLES MANUFACTURED.**

	No.	£	No.	£	No.	£
Galvanized Ware.....	—	47,828	—	98,083	—	112,212
Tanks.....	2,406	16,540	3,840	27,363	4,678	34,079
Baths.....	12,090	9,801	15,459	13,979	10,830	9,335
Tinware.....	—	157,622	—	178,903	—	189,191
Steel Trunks.....	22,587	12,448	19,315	13,872	35,006	18,937
Other Articles Manufactured..	—	109,898	—	65,788	—	66,280
Work Done for Customers...	—	39,163	—	47,535	—	56,513
TOTAL.....	—	393,208	—	445,523	—	486,547

## (xiv) GRAIN MILLS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	Tons.	£	Tons.	£	Tons.	£
Wheat Treated—						
South African.....	252,875	4,291,346	249,748	5,283,144	170,951	3,830,419
Imported.....	31,992	536,138	34,532	604,171	81,381	2,310,528
Maize Treated.....	473,791	3,651,043	444,268	4,827,532	560,757	4,583,677
Oats.....	9,797	87,044	9,839	75,159	5,502	67,603
Other Grain Treated.....	8,635	86,735	8,592	111,810	8,751	102,702
Bags, Twine, and other Materials.....	—	154,031	—	177,487	—	137,205
<b>TOTAL.....</b>	—	<b>8,806,937</b>	—	<b>11,079,803</b>	—	<b>11,032,134</b>

**ARTICLES MANUFACTURED.**

	Tons.		£		Tons.		£	
	Tons.	£	Tons.	£	Tons.	£	Tons.	£
Flour.....	105,518	2,682,110	91,938	2,826,591	74,485	2,765,608		
Wheat or Boer Meal.....	125,419	2,583,837	128,647	3,576,614	124,508	3,675,385		
Maize Meal.....	463,545	3,919,064	405,894	5,003,301	510,877	4,712,557		
Oatmeal.....	1,520	47,500	1,411	49,024	668	23,680		
Other Products.....	—	365,288	—	395,786	—	365,488		
Rolled Oats.....	—	84,380	—	87,546	—	70,989		
Pearl Barley.....	—	18,578	—	14,842	—	9,145		
Bran and Pollard (Wheat)...	—	420,270	—	589,427	—	496,352		
Bran (Maize).....	—	—	—	88,482	—	94,272		
<b>TOTAL.....</b>	—	<b>10,121,027</b>	—	<b>12,631,413</b>	—	<b>12,133,426</b>		

## (xv) JAM FACTORIES, FRUIT PRESERVING WORKS, AND SWEET FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Fruit.....	24,614,753	194,650	27,975,259	297,539	24,416,862	269,773
Sugar.....	27,052,979	357,357	30,046,315	468,399	24,234,877	517,842
Glucose.....	1,888,138	42,878	2,014,166	45,475	2,065,307	51,557
Gelatine.....	129,144	18,975	172,585	24,333	226,468	27,421
Flavouring and Colouring Matter.....	—	16,386	—	20,164	—	24,305
Other Ingredients.....	—	58,808	—	181,152	—	103,070
Packing Materials.....	—	252,299	—	286,504	—	312,784
<b>TOTAL.....</b>	—	<b>941,353</b>	—	<b>1,323,565</b>	—	<b>1,306,752</b>

**ARTICLES MANUFACTURED.**

	lb.		£		lb.		£	
	lb.	£	lb.	£	lb.	£	lb.	£
Jams and Jellies.....	18,451,287	399,785	18,319,466	493,757	13,774,349	370,862		
Tinned and Bottled Fruit....	2,138,214	51,941	2,381,638	63,644	2,693,541	100,809		
Dried Fruit.....	4,063,586	126,311	3,257,855	171,705	3,349,560	109,150		
Candied Peel.....	326,870	11,154	196,000	8,300	250,228	13,377		
Sweets.....	20,274,911	903,384	21,800,496	1,160,682	20,775,663	1,133,336		
Other Articles.....	—	45,924	—	244,227	—	28,786		
<b>TOTAL.....</b>	—	<b>1,538,499</b>	—	<b>2,132,315</b>	—	<b>1,816,320</b>		

## (xvi) LINE WORKS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Limestone.....	Tons. 189,788	£ 19,342	Tons. 198,838	£ 21,514	Tons. 210,273	£ 24,958
Shells.....	1,500	1,090	8,755	1,273	1,512	1,382
Other Materials.....	—	22,518	—	22,772	—	23,514
Bags, Twine, and other Packing Materials.....	—	36,512	—	47,212	—	46,782
<b>TOTAL.....</b>	—	79,462	—	92,771	—	96,681

**ARTICLES MANUFACTURED.**

	Tons.	£	Tons.	£	Tons.	£
Lime.....	106,004	201,958	119,797	244,745	118,325	251,262
Other Articles Manufactured or Produced.....	—	3,244	—	2,389	—	3,924
<b>TOTAL.....</b>	—	205,202	—	247,134	—	255,186

## (xvii) PRINTING AND PUBLISHING ESTABLISHMENTS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Paper for Newspapers.....	Tb. 17,803,663	£ 311,744	Tb. 19,791,568	£ 399,026	Tb. 20,877,074	£ 499,788
Paper for Books, Periodicals, and Job Printing.....	—	536,936	—	724,711	—	831,610
Straw and other Board.....	—	33,574	—	43,734	—	49,500
Cloth.....	—	11,378	—	19,593	—	16,141
Leather.....	—	7,697	—	7,669	—	9,297
Ink.....	—	27,396	—	25,986	—	26,283
Other Materials.....	—	19,314	—	24,421	—	27,858
<b>TOTAL.....</b>	—	948,039	—	1,245,140	—	1,460,427

**ARTICLES MANUFACTURED.**

	£		£		£	
Newspapers, Magazines, and other Periodicals.....	—	1,042,300	—	1,346,405	—	1,591,545
Job Printing.....	—	1,410,783	—	1,896,827	—	2,385,490
Paper Bags and Cartboard Boxes.....	—	66,808	—	34,605	—	53,793
Other Articles.....	—	58,317	—	120,123	—	61,393
Amount Received for Work Done on Material Supplied by Customers.....	—	18,056	—	21,206	—	22,015
<b>TOTAL.....</b>	—	2,596,062	—	3,418,668	—	4,114,236



## (xviii) REFRIGERATING WORKS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>CAPACITY.</b>						
Cubic Feet of Space.....	4,648,172	—	10,569,092	—	5,346,674	—
<b>PRODUCTION.</b>						
Ice.....	Tons. 51,428	£ 95,338	Tons. 56,586	£ 106,650	Tons. 61,843	£ 123,161

## (xix) SAW MILLS.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.

**MATERIALS USED.**

	£	£	£	£
South African Timber—				
Rough Timber.....	—	231,811	—	267,090
Sawn Timber for Further Treatment.....	—	38,592	—	95,663
Imported Timber—				
Rough Timber.....	—	266,794	—	19,834
Sawn Timber for Further Treatment.....	—	283,517	—	389,647
Other Wood for Joinery Work—				
South African.....	—	13,399	—	5,392
Imported.....	—	56,090	—	20,543
Other Materials.....	—	16,988	—	40,718
<b>TOTAL.....</b>	—	<b>907,191</b>	—	<b>838,887</b>

**ARTICLES MANUFACTURED.**

	£	£	£
Rough Sawn Timber.....	—	578,450	—
Building and Joinery Wood..	—	188,928	—
Furniture Wood.....	—	15,871	—
Wagon and Cart Wood.....	—	41,602	—
Railway Coach and Truck Wood.....	—	165,275	—
Boxes and Packing Cases*..	—	82,882	—
Mining Props and Fencing Poles	—	99,602	—
Sleepers.....	—	16,338	—
Firewood.....	—	32,635	—
Other Wood.....	—	16,388	—
Amount Received for Sawing for Customers.....	—	78,832	—
Other Articles Manufactured..	—	54,362	—
<b>TOTAL.....</b>	—	<b>1,371,294</b>	—

\* See also Packing Case and Wooden Box Factories.

## (xx) SOAP AND CANDLE FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Tallow.....	9,499,638	257,751	12,456,804	407,258	7,797,210	275,000
Oils.....	12,446,546	287,474	15,553,460	448,804	9,197,799	278,325
Fats.....	7,625,784	181,767	6,762,977	199,815	4,415,547	129,595
Resin.....	2,095,478	35,359	3,858,257	73,711	2,093,745	128,245
Dyes.....	37,533	1,880	89,596	2,761	28,430	2,542
Perfumery.....	50,906	6,154	28,810	10,138	36,998	7,441
Chemicals.....	—	78,930	—	94,450	—	92,295
Stearine.....	1,154,095	57,620	1,415,993	75,784	1,853,183	96,200
Paraffin Wax.....	18,266,948	549,145	13,827,607	496,597	16,439,832	600,969
Candle Wick.....	88,260	18,222	95,796	23,183	79,329	17,856
Paraffin.....	—	—	24,000	245	—	—
Other Materials Used in Manu- facture of Soap and Candles.	—	84,907	—	281,975	—	69,514
Cases, Boxes, Cartons, etc....	—	190,536	—	262,732	—	171,433
<b>TOTAL.....</b>	—	<b>1,749,745</b>	—	<b>2,312,008</b>	—	<b>1,865,015</b>

## ARTICLES MANUFACTURED.

Soap—	1918-19.		1919-20.		1920-21.	
	lb.	£	lb.	£	lb.	£
Laundry and Household.....	33,137,602	791,731	44,439,779	1,419,661	28,839,149	952,126
Scouring.....	853,016	20,229	1,048,202	30,523	647,158	32,778
Toilet.....	1,024,932	66,983	1,329,709	100,908	1,060,651	86,175
Antiseptic.....	800	19	14,700	532	39,663	1,813
Soft.....	865,735	17,724	999,486	26,342	958,847	25,429
Powder and Flake.....	478,926	18,439	564,360	38,960	826,566	25,763
Glycerine.....	1,138,741	46,347	1,233,417	38,616	755,305	26,420
Soda Crystals.....	2,010,197	11,276	2,717,974	15,165	2,573,058	13,884
Grease.....	5,867,152	109,350	3,253,793	45,068	3,881,191	37,672
Fatty Acids.....	6,602,000	170,142	5,474,000	163,307	5,458,365	84,457
Candles.....	19,355,958	923,709	22,105,270	1,030,963	17,991,676	919,335
Other Articles Manufactured or Produced.....	—	89,050	—	100,224	—	111,508
<b>TOTAL.....</b>	—	<b>2,259,999</b>	—	<b>3,010,259</b>	—	<b>2,316,360</b>

## (xxi) TANNERIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
		£		£		£
Hides—						
Calf or Yearling... Tons.	37	4,308	68	10,878	348	27,941
Other..... "	5,838	582,468	5,849	801,406	4,512	390,175
Skins—						
Sheep..... No..	79,148	9,530	130,786	29,166	85,250	8,690
Goat..... "	56,754	19,950	37,847	16,400	38,772	9,928
Other..... "	13,681	5,168	15,960	2,795	6,779	1,156
Wattle Bark..... Tons	5,959	33,528	6,131	45,730	4,833	40,045
Wattle Bark Extract.....	—	2,479	—	4,488	—	4,765
Other Vegetable Tanning Materials.....	—	22,977	—	33,875	—	20,064
Mineral Tanning Materials....	—	13,644	—	18,077	—	16,460
Lime and Other Materials Used in Process of Liming.....	—	6,121	—	5,722	—	3,943
Oil, Fat, Tallow, and Other Stuffing Materials.....	—	24,286	—	27,701	—	20,539
Dyeing Materials.....	—	6,444	—	7,220	—	6,042
Other Materials (including Packing Materials).....	—	12,165	—	13,226	—	14,144
<b>TOTAL.....</b>	—	<b>741,068</b>	—	<b>1,016,664</b>	—	<b>563,892</b>

## (xxi) TANNERIES—continued.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>ARTICLES MANUFACTURED.</b>						
	lb.	£	lb.	£	lb.	£
Leather, Sole—						
Vegetable Tanned.....	4,297,903	460,674	5,349,405	644,610	3,513,547	401,807
Chrome Tanned.....	269,789	57,120	462,018	105,460	477,205	67,375
Leather, Upper—						
Vegetable Tanned.....	1,441,161	221,798	1,885,081	273,136	746,471	124,856
Chrome Tanned.....	176,967	48,900	454,334	48,313	629,361	81,227
Leather, Harness (including Strap, Bridle, Rein, Saddle, Skirt, and other Leathers Used in Manufacture of Harness and Saddlery)....	645,316	103,027	1,066,445	188,118	707,811	96,207
Leather, Other.....	385,922	42,952	393,503	57,574	237,144	23,323
Skins.....No.	124,081	42,535	126,300	42,332	78,477	23,881
Wool and Hair.....	—	5,830	—	18,420	—	2,356
Other Articles.....	—	22,736	—	15,835	—	10,931
<b>TOTAL.....</b>	<b>—</b>	<b>1,005,862</b>	<b>—</b>	<b>1,393,798</b>	<b>—</b>	<b>831,963</b>

## (xxii) TOBACCO, CIGAR, CIGARETTE, AND SNUFF FACTORIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
	lb.	£	lb.	£	lb.	£
Tobacco Leaf—						
Union of South Africa.....	10,347,099	318,556	12,489,834	475,828	10,971,543	452,076
Rhodesian.....	1,362,559	83,738	1,501,193	107,909	1,877,266	160,879
Imported.....	367,854	100,743	211,307	66,246	117,589	41,923
Other Materials Used in the Manufacture of Tobacco, etc.....	—	9,045	—	16,661	—	13,505
Packing Materials.....	—	270,266	—	323,687	—	348,578
<b>TOTAL.....</b>	<b>—</b>	<b>782,348</b>	<b>—</b>	<b>900,331</b>	<b>—</b>	<b>1,018,961</b>

**ARTICLES MANUFACTURED.**

	lb.	£	lb.	£	lb.	£
Tobacco.....	8,676,597	432,064	10,093,143	660,653	8,590,067	629,003
Cigars and Cheroots.No.	12,227,546	40,453	16,104,568	45,669	11,447,880	31,154
Cigarettes.....	1,334,049,780	1,050,674	1,517,157,414	1,230,974	1,704,387,510	1,698,117
Snuff.....	157,975	14,277	129,622	13,658	129,250	11,893
Sheep Dip.....	57,000	245	29,000	250	28,604	348
Other Articles.....	—	198	—	32	—	—
<b>TOTAL.....</b>	<b>—</b>	<b>1,537,911</b>	<b>—</b>	<b>1,951,236</b>	<b>—</b>	<b>2,370,515</b>

## (xxiii) WOOL WASHERIES.

Heading.	1918-19.		1919-20.		1920-21.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
<b>MATERIALS USED.</b>						
Soap—						
South African.....	756,604	20,814	791,119	23,672	282,570	8,675
Imported.....	338,245	9,109	533,672	14,082	660,116	15,655
Alkali.....	—	10,815	—	11,367	—	5,280
Other Scouring Materials.....	—	2,481	—	1,119	—	505
Packing Materials.....	—	11,914	—	11,873	—	5,367
<b>TOTAL.....</b>	—	55,023	—	62,118	—	35,482

**WORK DONE.**

		£		£		£
Wool Received in Grease..Bales	133,577	—	136,954	—	72,398	—
Wool Received in Grease....lb.	48,322,802	—	50,520,955	—	26,737,003	—
Weight of Wool after Scouring lb.	18,944,199	—	18,147,094	—	9,024,408	—
Amount Received for Scouring	—	203,168	—	244,137	—	141,554
Value of By-products.....	—	949	—	4,018	—	749
<b>TOTAL.....</b>	—	204,117	—	248,155	—	142,303

3. **Railway Workshops.**—Particulars are given below as to the output of the workshops of the South African Railways from the year 1915-16. The figures relating to the industry carried on in each establishment have been incorporated with the general returns for the Union, but in view of the special interest and importance which attach to them, the principal figures are given in separate form hereunder, and indicate the magnitude of the productive operations involved. The actual value of the output, measured by the standard which would apply to the usual classes of industrial establishment, would undoubtedly and with perfect legitimacy be placed at an altogether higher figure. It will be observed that as set out in the returns, the value does not greatly exceed the total expenditure on wages, fuel, light, power, and materials.

(i) **RAILWAY WORKSHOPS, 1915-16 TO 1920-21.**

Year.	Total Capital.	Value of Land and Buildings.	Value of Machinery, Plant, and Tools.	Employees.	Salaries and Wages Paid.	Cost of Fuel, Light and Power.	Value of Materials Used.	Value of Articles Produced and Work Done.
	£1000	£1000	£1000	No.	£1000	£1000	£1000	£1000
1915-16	2,040	1,251	788	11,660	1,803	42	2,384	4,301
1916-17	2,143	1,298	796	11,806	1,621	39	2,201	4,116
1917-18	2,143	1,298	836	12,252	1,779	47	2,349	4,474
1918-19	2,176	1,306	889	13,596	2,111	53	3,428	5,839
1919-20	2,293	1,371	922	15,772	2,784	70	5,302	8,487
1920-21	2,536	1,437	1,099	17,837	3,418	86	8,344	12,357

## (ii) RAILWAY WORKSHOPS, 1920-21.

Description of Workshops, Etc.	Total Capital.	Value of Land and Buildings.	Value of Machinery, Plant, and Tools.	Number of Employees.
	£	£	£	£
Engineering Workshops.....	1,804,220	1,038,352	765,028	7,981
Locomotive Depot Workshops.....	178,408	101,060	77,343	2,890
Foundries.....	86,746	51,549	35,197	492
Maintenance Workshops.....	193,295	98,162	95,133	5,197
Sawmills.....	126,436	76,201	50,235	315
Electric Light and Power Generating Plants.....	52,743	7,604	45,139	87
Electric Light and Power Workshops.	21,298	15,106	6,187	484
Tarpaulin, Tent, Rope-work, etc., Depot.....	22,800	21,238	1,652	208
Ticket Printing Establishments.....	7,082	5,437	1,595	18
Cartage Workshops.....	15,273	11,315	3,958	111
Miscellaneous (including Sleepers, Cross-ties, Ice Factories, Ship, Tug, etc., Repairing, and Water Condensation Plant).....	27,821	11,271	16,550	64
<b>TOTAL.....£</b>	<b>2,536,212</b>	<b>1,437,295</b>	<b>1,098,917</b>	<b>17,887</b>

Description of Workshop, etc.	Salaries and Wages Paid.	Cost of Fuel, Light and Power.	Value of Materials Used.	Value of Articles Produced and Work Done.
	£	£	£	£
Engineering Workshops.....	1,876,124	53,432	6,066,807	8,212,216
Locomotive Depot Workshops.....	558,021	6,437	502,360	1,161,800
Foundries.....	105,519	4,861	222,565	858,522
Maintenance Workshops.....	680,221	3,482	974,423	1,782,142
Sawmills.....	65,100	5,506	258,210	351,610
Electric Light and Power Generating Plants.....	16,530	6,422	6,220	30,706
Electric Light and Power Workshops.	96,129	1,342	107,098	222,310
Tarpaulin, Tent, Rope-work, etc., Depot.....	27,901	39	149,820	197,394
Ticket Printing Establishments.....	4,088	121	3,809	8,565
Cartage Workshops.....	27,433	370	16,941	50,978
Miscellaneous (including Sleepers, Cross-ties, Ice Factories, Ship, Tug, etc., Repairing, and Water Condensation Plant).....	9,926	3,972	14,724	31,010
<b>TOTAL.....£</b>	<b>3,417,892</b>	<b>85,934</b>	<b>8,843,572</b>	<b>12,357,253</b>

NOTE.—In most cases "Capital" represents the combined value of land and buildings and machinery, plant, and tools

## § 4. Department of Industries.

1. **Formation of Department.**—Upon the constitution of the first Ministry of the Union a portfolio of Commerce and Industries was created which provided for the control of customs and excise, and also of industrial and commercial matters. This portfolio was successively held by Sir Frederick Moor, late Prime Minister of Natal, and Colonel Sir George Leuchars, during whose tenure of office, on a rearrangement of portfolios, the Department of Commerce and Industries was abolished, Ministerial control of customs and excise being vested in the Department of Finance. Matters connected with commerce and industry were then dealt with by a branch of the Customs Department designated as the *Commercial Section*. Simultaneously with these changes the portfolio of Mines, which already included in its administration machinery regulations and the manufacture of explosives, was extended to include industries, with special reference to labour organization as a result of the rise of labour problems connected with the mining and allied industries,

the title being altered to that of "Mines and Industries." This arrangement as regards the commercial section of the Customs Department and the industrial side of the Mines Department continued until the middle of 1916, when, owing to the growing importance of questions affecting industrial production as a result of the War, further alteration was found to be necessary, and the work of the commercial section of the Customs Department was transferred to the Department of Mines and Industries, thus concentrating and developing in the one Department the work previously carried on by the two branches.

**2. Industries Advisory Board.**—One of the earliest developments of this arrangement was the appointment in October, 1916, of an Industries Advisory Board, consisting for the most part of business men, and designed to advise the Minister in regard to the industrial development of the Union and especially on questions of an economic character. The constitution of this Board was as follows:—

Mr. C. G. Smith, Chairman (Durban), Sir T. Cullinan (Johannesburg), Mr. E. Chappell, C.B.E., (Johannesburg), Mr. W. R. Jackson (Johannesburg), Professor G. H. Stanley (Johannesburg), Mr. F. T. Nicholson (Pretoria), Mr. A. J. Chiappini (Cape Town), Mr. W. J. Laite (Cape Town), Mr. J. Pyott (Port Elizabeth), and Mr. G. A. Kolbe (Orange Free State).

**3. Scientific and Technical Committee.**—The necessity for scientific methods of research and management in regard to industrial development was early recognized, and after negotiations with representatives of the various Scientific Societies throughout the Union, a Scientific and Technical Committee was created early in 1917 on the recommendation of the Industries Advisory Board. The constitution of this Committee was as follows:—

Mr. Bernard Price (Chairman), Dr. W. A. Caldecott, Professor J. C. Beattie, Mr. W. J. Burt-Davy, Mr. L. Colquhoun, Professor D. F. du T. Malherbe, Professor J. Orr, Dr. J. D. F. Gilchrist, Professor B. de St. J. van der Riet, and Professor R. B. Young. *Rhodesian Representatives*: Mr. J. G. McDonald and Sir F. J. Newton, K.C.M.G.

The Committee and the Advisory Board, working in close co-operation with the Industries Department, investigated and reported to the Government on questions affecting the economic, scientific, and technical aspects of the utilization of raw materials available in South Africa, and collected data and information in regard to the resources of the Union, which as yet are largely undeveloped.

**4. Advisory Board of Industry and Science.**—In October, 1918, the Industries Advisory Board and the Scientific and Technical Committee were amalgamated under the title of the Advisory Board of Industry and Science. Members of the Board and of the Committee became members of the new body, of which Mr. C. G. Smith was appointed chairman, and Messrs. Bernard Price and E. Chappell, C.B.E., (now Sir Ernest Chappell, K.B.E.), deputy-chairmen. The Board's term of office expired on the 31st March, 1920, and a new Board was appointed in September, 1920, the personnel of which is as follows:—

Professor R. B. Young (Chairman), Col. W. Arnott, Sir J. Carruthers Beattie, Dr. W. A. Caldecott, Sir E. Chappell, C.B.E., A. Crawford, G. A. Kolbe, W. J. Laite, K. B. Quinan, C.H., Professor D. de St. J. van der Riet, Professor G. H. Stanley, the President of the Royal Society of South Africa, Bernard Price, O.B.E. G. M. Clark, A. F. Williams, and Senator the Hon. C. G. Smith. *Rhodesian Representatives*: J. C. McDonald and E. W. S. Montague.

**5. Board of Trade and Industries.**—The Board of Trade and Industries was established on the 6th July, 1921, with the following objects:—

- (a) To hear and examine complaints or recommendations which may be made as to the working of the Customs and Excise Tariffs;
- (b) to advise the Government in regard to—
  - (i) such action as may be necessary or advisable for assisting the maintenance or development of industries established, or likely to be established, in the Union, and
  - (ii) the recasting of the Customs and Excise tariffs and the adjustment of anomalies which may from time to time be shown to occur in these tariffs, as may appear to be necessary with the object described in (i);
- (c) and, generally, to advise on such other matters as the Government may refer to the Board for its consideration and advice.

The Board is constituted as follows: Sir E. H. L. Gorges, K.C.M.G., M.V.O. (chairman), Senator the Hon. J. P. Malan, Professor H. E. S. Fremantle, Mr. W. Marshall, and Mr. K. B. Quinan, C.H.; with the following as assessors: Dr. H. J. van der Byl, Scientific and Technical Adviser to the Industries Division; Mr. G. Owen-Smith, Commissioner of Customs and Excise; Mr. W. J. K. Skillicorn, representing the Railways and Harbours Administration; and Mr. W. F. McMullen, of the Industries Division, Department of Mines and Industries, as Secretary.

**6. Scope of Industries Department.**—The Industries Department has in view the following objects :—

- (a) To provide for industrial research, to co-ordinate as far as possible all industrial investigation and research in the Union and to collect and disseminate data emanating therefrom ;
- (b) to co-operate with other Government Departments and with similar departments in the United Kingdom and Dominions so as to obtain information already available, to avoid overlapping, and to take advantage of facilities for research not available in the Union. To acquire and utilize in arts and manufactures the knowledge already existent in countries more highly developed industrially ;
- (c) to carry out an economic survey of the natural resources of South Africa and to furnish advice in regard to the best methods of utilizing such resources ;
- (d) to furnish advice with regard to the best methods for attacking industrial problems, for inducing industrial improvements, and for facilitating and encouraging manufacture in suitable localities ;
- (e) to co-ordinate various industries so as to obtain the best combined results and the exchange between user and manufacturer of manufacturing improvements and operating experience, and to bring together producer, manufacturer, and purchaser both within the Union and overseas ;
- (f) to standardize scientific and industrial quantities affecting the efficiency of production and the accuracy of statistics ;
- (g) to publish technical, scientific, and statistical information, and to encourage technical and industrial study by all possible means.

**7. Publications of Industries Department.**—The publication of a *Journal of Industries* was commenced in September, 1917. This serves as a medium not only for the dissemination of current information, but for the reports which are being prepared on behalf of the Advisory Board of Industry and Science on the natural resources of the Union. Reports on the following subjects have already been published in the Journal :—

(a) REPORTS PUBLISHED.

1. The Economics of Agricultural Production in South Africa.—(R. A. Letfeldt, D.Sc.)
2. Hides, Skins, and Leather Manufacture.—(E. R. Swale.)
3. Mineral Oil, Solid Bitumens, Natural Gas, and Oil Shale.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
4. South African Fibre Plants : I. Ambari, or Deccan Hemp ; *Hibiscus Cannabinus* L.—(I. B. Pole-Evans, M.A., D.Sc., F.L.S.)
5. Electro-Chemical Industries : Prospects and Possibilities of their Establishment in South Africa.—(H. Bohle, M.V.D.E., M.I.E.E., and C. D. van der Merwe, B.A., Ph.D.)
6. Report on Certain Minerals used in the Arts and Industries : I. Asbestos.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
7. The Grasses of the Eastern Coast Belt Available for the Manufacture of Paper : and the Possibilities and Prospects of Paper-making in the Union of South Africa.—(C. F. Juritz, M.A., D.Sc., F.I.C.)
8. The Commercial Possibilities of Eucalyptus Trees.—(R. H. Crozier.)
9. Iron and Steel in the Union of South Africa.—(Prof. G. H. Stanley, A.R.S.M., F.I.C.)
10. Cotton and Cotton-seed Products.—(H. W. Taylor, B.Agr.)
11. Report on Certain Minerals used in the Arts and Industries : II. Graphite.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
12. Report on Certain Minerals used in the Arts and Industries : III. Magnesite.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
13. Some Cultural Products Imported into the Union of South Africa.—(J. Burrill-Davy, F.L.S., F.R.G.S., F.R.S.S.A.)
14. Report on Certain Minerals used in the Arts and Industries : IV. Mica.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
15. South African Tanning and Dyeing Materials.—[C. Williams, B.Sc. (Lond.), A.R.C.S. (Lond.)]
16. Tartaric Acid and Other By-Products of Wine Industry.—(P. D. Hahn, Ph.D., M.A.)
17. The Manufacture of Ceramic Wares in the Union.—[John Adams, A.R.C.A. (Lond.)]
18. Report on Certain Minerals used in the Arts and Industries : V. Corundum.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
19. Fertilizers. (H. de C. Marchand, B.A., D.Sc.)
20. Report on Certain Minerals used in the Arts and Industries : VI. Talc.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
21. The Importance of a Pig Industry.—(W. A. K. Morkel, M.Sc.)
22. Main Problems in the Economy of Agricultural Production in South Africa.—[H. Wolfe, M.Sc. (Ag.)]
23. Sheep and Wool in South Africa, and their Relation to Industrial Development.—(Charles Mallinson.)
24. Research and Industry in Canada.—(Wm. Flint, D.D.)
25. Inorganic Chemical Industries.—(M. Rindl, Ing. D.)
26. Nickel.—(T. G. Trevor, A.R.S.M.)
27. The Manufacture of Soap and Candles.—(M. Rindl, Ing. D.)
28. Coal : its Value as a Raw Material for Distillation Products.—(Prof. J. A. Wilkinson.)
29. Report on Certain Minerals used in the Arts and Industries : VII. Fluorspar.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
30. Manganese.—(T. G. Trevor, A.R.S.M.)
31. Sulphuric Acid Industry.—(M. Rindl, Ing. D.)
32. Report on Certain Minerals used in the Arts and Industries : VIII. Barytes.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
33. Fibre Plant Investigations.—[E. Holmes-Smith, B.Sc. (Edin.)]
33. Fibre Plant Investigations : Part II.—[E. Holmes-Smith, B.Sc. (Edin.)]
34. A Review of the Union System of Taxation, with Special Reference to the Development of Industries and Resources.—(J. C. Sheridan.)
35. The Union's Viticultural Industry.—(A. I. Perold, B.A., Ph.D.)

36. Nitric Acid and other Inorganic Chemicals.—(M. Rindl, Ing. D.)
37. Dips and Dipping.—(H. H. Green, D.Sc.)
- 37A. Dipping against Seab.—(H. H. Green, D.Sc.)
38. Glass, with Special Reference to its Production in South Africa.—(P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
39. The Manufacture of Ammonia and Ammonium Compounds.—(M. Rindl, Ing. D.)
40. Agricultural and Pastoral South Africa.—(F. D. MacDermott.)
41. Prospects of Hop Growing in South Africa.—(G. Shaw-Scott.)
42. Hydrochloric Acid and Hydrogen Peroxide.—(M. Rindl, Ing. D.)
43. Report on the Marble Deposits on the Farms Marble Hall No. 248 and Scherp Arabie No. 367, Pretoria District.—(T. G. Trevor, A.R.S.M., and P. A. Wagner, Dr. Ing., B.Sc., F.R.S.S.A., M.A.I.M.E.)
44. Financial Resources of South Africa Available for Industrial Expansion.—(E. C. Reynolds.)
45. The Land Bank and its Objects.—(F. B. Herold.)
46. Fruit and Fruit Products of South Africa.—(R. A. Davis.)
47. Soil Erosion and Conservation.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)
48. The Live Stock Industry of South Africa.—(S. B. Woollatt.)
49. The Economic and Natural Factors affecting Factory Location in South Africa.—(S. B. T. Ewing, M.I.E.E.)
50. Fibre Plant Investigations, II.—(E. Holmes-Smith, B.Sc.)
51. Flax Cultivation.—(E. Holmes-Smith, B.Sc.)
52. Inorganic (chemical) Industries.—(M. Rindl, Ing. D.)
53. South African Rubber.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)
54. Vegetable Fats and Oils, Part I.—(M. Rindl, Ing. D.)
55. The Tea Industry in South Africa.—(Hon. W. F. Clayton, M.L.A.)
56. Government Assistance to Industrialists.—(Prof. R. Leslie.)
57. The Utilization of Waste Coal.
58. Economics of Wheat Production in South Africa.—[H. Wolfe, M.Sc. (Agr.)]
59. Transport Methods in South Africa; the Present Position with Reference to the Development of Industries.—(Sir Wm. Hoy, Kt., C.B.)
60. Power Applied to Agriculture.—W. S. H. Cleghorne, B.Sc., A.M.I.M.E.)
61. Iron and Steel in the Union of South Africa. Revised Edition of Bulletin No. 9.—(Prof. G. H. Stanley, A.R.S.M., F.I.C.)
62. *Datura Stramonium*.
63. Fertilizer Production and Natural Fertilizers in the Union.—(C. F. Juritz, M.A., D.Sc., F.I.C.)
64. Artificial Stock Foods and their Manufacture.—(W. J. Palmer, B.S.A.)
65. The Prickly Pear (*Opuntia*): Possibilities of its Utilization.—(C. F. Juritz, M.A., D.Sc., F.I.C.)
66. Sugar and Sugar Products.—(Wallace Jex.)
67. Water Power in the Union of South Africa.—(F. E. Kanthack, C.M.G., M.I.C.E., M.A.H.E.)
68. Timber Trees for Commercial Culture, Part I.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)
- 68A. Timber Trees for Commercial Culture, Part II.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)
69. Apiculture in South Africa: its Present Position and Prospects.—(A. J. Attridge.)
70. Utilizing Prickly Pear and Spineless Cactus: their Value as Fodder for Live Stock.—(J. Burt-Davy, F.L.S., F.R.G.S.)
71. The Production of Foodstuffs for Live Stock in South Africa.—(H. D. Leppan, B.Sc. Agr.)
72. Vegetable Oils and Fats: Sesame and Melon Seeds.—(M. Rindl, Ing. D.)
73. Essential Oils.—(F. J. Tromp, M.A., D.Sc.)
74. The Fish and Fisheries of South Africa.—(J. D. F. Gilchrist, M.A., D.Sc.)
75. Castor Beans and Castor Oil.—(M. Rindl, Ing. D.)
76. Some Sources of Non-Drying Oils.—(M. Rindl, Ing. D.)
77. Tree Planting for the Farm.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)
78. Economic Plants at Kirstenbosch and the Aim of their Cultivation.—(J. W. Mathews.)
79. The Future Development of the Post, Telegraph, and Telephone Services of the Union of South Africa.—(Jur. Wilson, C.M.G.)
80. The Patent System of the Union of South Africa in Relation to its Industrial Development.—(C. W. T. B. Juta.)
81. Olives.—(I. Tribollet.)
82. Insect Pest Remedies.—(C. P. Lounsbury.)
83. Fodder Trees and Shrubs for South African Farms.—(H. D. Leppan, B.Sc. Agr.)
84. The Tobacco Industry.—(H. W. Taylor, B. Agr.)
85. Maize as a Raw Material for Manufacture.—(J. Burt-Davy, F.L.S., F.R.G.S.)
86. Roads and Road-Making.—(A. D. Holmwood.)
87. An Open Road from Primary School to University.—(A. Brown.)
88. Ground-nuts as a Source of Oil.—(M. Rindl, Ing. D.)
89. Vocational Education.—(Percy Coleman.)
90. Cereals Other than Maize—I. Wheat.—(J. H. Neethling.)
91. Influence of Geographical Conditions on the Economic Development of South Africa.—(J. Hutcheon.)
92. The Ostrich Feather Industry.—(F. C. Smith.)

## (b) SPECIAL MEMOIRS.

1. The Base Metal Resources of the Union of South Africa.—(Wm. Versfeld, B.A., D.Sc.)
2. Report on Trade Conditions in British East Africa—Uganda and Zanzibar.—(T. Sleigh, M.B.E.)
3. Native Timber Trees.—(T. R. Sim, Hon. D.Sc., F.L.S., F.R.H.S.)

## § 5. Factories Act.

1. **Definition of Factory.**—In the *Factories Act* (No. 28 of 1918), operative from the 1st May, 1919, a factory is defined as:—

- (1) Premises containing machinery utilized for preparing or making goods for sale, and articles of food or drink;
- (2) laundries, and cleaning and dyeing works, if three or more persons are employed on whole-time work;
- (3) premises in which is carried on the manufacture, making, packing, or preparation of goods for sale or transport, if three or more persons are engaged upon whole-time work.



The office of such premises is not included in the definition. The Act does not apply to mines, farms, shops, industrial or technical schools, prisons or reformatories, and further excludes control of machinery inspection (see Act No. 12 of 1911 and regulations thereunder).

**2. General Provisions.**—The *Factories Act* contains the following provisions:—

(i) *Administration.*—The appointment of a Chief Inspector is provided for, with inspectors under him for various industrial districts. Power of entry is given and full authority to inspect any factory or part thereof.

(ii) *Registration of Factories.*—All factories have to be registered within a period of six months from the date of coming into force of the Act. Registration may be obtained by filling in a prescribed form. An appeal lies to the Minister of Mines and Industries against any decision of an inspector in regard to registration.

(iii) *Employment in Factories.*—A record of employees must be kept. The occupier has also to keep affixed in a conspicuous place certain notices, giving the name and address of the inspector, the working hours of the factory, and an abstract of the Act and Regulations.

No worker over sixteen years of age may work for more than (a) 50 hours a week; or (b) 9½ hours a day; or (c) 5 hours continuously. No person under sixteen years of age may work for more than (a) 45 hours a week; or (b) 8 hours a day; or (c) 4½ hours continuously (5 hours on half-holidays). All the foregoing hours are exclusive of mealtimes. The restrictions do not include persons employed in starting motive power in the factory, making preparations for work, cleaning up, or to unskilled work carried on in the open air. A special exemption may be given by the Minister in the case of a factory where the supply of raw material is intermittent, or subject to seasonal variation, or where raw material is liable to deterioration if untreated, or where continuous processes or the exigencies of the business render special hours necessary during certain times or seasons. Women may not be employed between 6 p.m. and 7 a.m., or boys under sixteen years of age between 6 p.m. and 6 a.m., subject to certain exemptions which may be granted by the Minister, but which may not authorize work between 9 p.m. and 5 a.m.

Overtime is allowed, but for women and for boys under sixteen years of age no overtime may be worked for more than three hours a day on three consecutive days of the week. In the case of women over sixteen years of age, overtime may not be worked on more than sixty days in a year, and in the case of all children under sixteen years of age on more than twenty days in a year. Overtime in these cases is not allowed on holidays or half-holidays, except by permission of the inspector, and when the employees are willing. An overtime register must be kept in every factory.

No female may work in a factory during the four weeks preceding or the eight weeks following her confinement. Provision exists for the payment by Government of an allowance of £1 per week during the twelve weeks above specified if the female is solely dependent upon the wages she ordinarily earns, and where the father is unable to support the child.

Children under twelve years of age may not be employed in any factory. Children over twelve years and under fourteen years of age may only be employed when authorized by the Inspector, subject to the education law. An annual return to Parliament of such authorizations is required. Children under sixteen years of age may not be employed in certain specified trades, and may not be employed in any factory without a certificate of physical fitness in prescribed form.

(iv) *Out-Work.*—Where work is given out, a record has to be kept for the guidance of the Inspector. No such work may be sub-let, though it may be done by other members of the out-worker's family. The Act provides for a label, which may be attached by the Inspector, to work given out in connection with the clothing and textile industries, where the work is performed under satisfactory and sanitary conditions.

(v) *Noxious and Dangerous Occupations.*—Noxious and dangerous occupations may be so declared by proclamation.

(vi) *Holidays.*—Sundays and statutory public holidays are specified. Other days in the year may be substituted. No women or boys under sixteen years of age may work on Saturday afternoons, except when a half-holiday is provided for on some other day of the working week.

(vii) *General Working Conditions.*—Provision is made for proper means of egress in case of fire; for proper sanitation, ventilation, lighting, drinking water, and such matters.

The following Regulations have been framed under the Act:—

- Chapter I.—General. (Government Notice 559/19. *Union Government Gazette*, 2nd May, 1919.)  
 Chapter II.—Handling of Hides and Skins and the Sorting of Wool and Mohair. (Government Notice 2099/20. *Union Government Gazette*, 19th November, 1920.)  
 Chapter III.—Bakehouses and Factories where Foodstuffs are Manufactured, Prepared or Handled. (Government Notice 2247/20. *Union Government Gazette*, 17th December, 1920.)  
 Chapter IV.—Transmission Machinery in use in any Factory. (Government Notice 273 21. *Union Government Gazette*, 18th February, 1921.)

## § 6. Miscellaneous.

1. **Iron and Steel Industry Encouragement Act, 1922.**—Following the lines of a report submitted by the Board of Trade and Industries in June, 1922, this Act (No. 41 of 1922) makes provision for the payment, out of the Consolidated Revenue Fund, of bounties in respect of pig-iron and steel produced in the Union from ores mined in the Union. These bounties are to be paid only if the plant is capable of producing at least fifty thousand tons of pig-iron or steel per annum. Advances, if desirable, may be made to the producer prior to the stage of production having been reached, provided that these advances do not exceed in any one year the amount of bounties which would be obtained if the stage of production had been reached. Every producer desirous of obtaining a bounty under the Act must notify the Minister of his intention to commence production and furnish particulars of the company and the plant. The Act further provides (1) for the nomination by the Governor-General of a representative on the board of directors of any company receiving a bounty; (2) for the examination of the books and accounts of any producer desirous of obtaining a bounty; and (3) for the preparation by the Treasury of annual returns of particulars of bounties paid.

The Schedule to the Act sets forth the rates at which the bounties are to be paid, as shown in the following table:—

**IRON AND STEEL BOUNTIES (ACT NO. 41 OF 1922).**

Financial Year.	Per Ton of Pig-Iron or Steel Produced.	
	s.	d.
1924-5.....	15	0
1925-6.....	15	0
1926-7.....	15	0
1927-8.....	12	6
1928-9.....	10	0
1929-30.....	7	6
1930-1.....	5	0
1931-2.....	2	6

2. **Electricity Act, 1922.**—This Act (No. 42 of 1922) provides for the appointment of a commission of from three to five members to establish, acquire, maintain, and work undertakings for an efficient and cheap supply of electricity in the Union, and to investigate new or additional facilities for that supply. The powers of the commission are wide, and include the appointment of officers, the purchase or sale of plant and property, the purchase or sale of coal, steam, water, and other materials and stores, and the manufacture and sale of by-products.

The Act further provides for the appointment of a Board to control the supply of electricity by the Commission or any private undertaking. The first Electricity Control Board was appointed under the Act on the 28th August, 1922, and consists of the following members: Sir Robert Nelson Kotzé, Kt. (chairman), H. J. van der Bijl, M.A., Ph.D., Scientific and Technical Adviser, and J. A. Vaughan, M.I.C.E., M.I.M.E., M.A.S.M.E., with A. C. Marsh as secretary.

Regulations under the Act were published on the 8th December, 1922.

## CHAPTER XIX.

### COMMERCE.

#### § 1. Customs Unions and Conventions.

1. **Customs Union Conventions.**—The first Customs Union Convention was entered into between the Colony of the Cape of Good Hope and the Republic of the Orange Free State in 1889. An account of the terms of this Convention, of the Customs Conference at Bloemfontein in 1896, the Customs Conventions of 1898 and 1903, the Conference of 1906, and of the Customs Convention which resulted, is given in previous issues of this Year Book. The particulars have not been repeated owing to exigencies of space.

2. **Transvaal-Mozambique Convention.**—The Transvaal-Mozambique Agreement, of which the text is reproduced below, was a Convention entered into between the Transvaal Government and the Government of the Province of Mozambique in 1909 (2nd April), to remain in force for ten years from that date, and thereafter until either party to the agreement gave one year's notice of intention to terminate it. The Convention replaced the *Modus Vivendi* which had been signed on the 12th December, 1901 (with addition signed on the 15th June, 1904), and was denounced by the Union Government by formal notice dated the 1st April, 1922, negotiations for a new agreement being subsequently initiated. The Convention dealt with customs matters, the circulation of commerce, native labour, and railway traffic between the two territories, and under these heads provided for the free entry into the colonies of the products of the soil of either and for the recruitment of native labour in Mozambique for the Transvaal mines. It was also provided that by the periodical revision of railway rates it would be ensured that from 50 to 55 per cent. of the railway traffic to what are known as the *competitive areas* of the Transvaal, should come through Lourenço Marques.

Owing to the conditions brought about mainly by the War this percentage fell to the following figures:—1914: 48.79; 1915: 36.17; 1916: 31.19; 1917: 35.41; 1918: 27.86; 1919: 33.33; 1920: 37.97; 1921: 43.99.

#### THE TRANSVAAL-MOZAMBIQUE CONVENTION.

##### PART I.

##### MATTERS CONCERNING NATIVES.

I. Under this Convention the Government of the Province will permit recruiting within the territories under its direct administration of native labourers for the mining industries of the Transvaal: Provided that such permission will not be effective within areas the natives of which are subject to obligations under local laws at present in force or under legal contracts now existing with the Government of the Province, if those obligations would be interfered with by any recruiting operations.

II. Except in so far as may be in conflict with this Convention, recruiting operations shall be conducted in accordance with regulations at present in force in the Province; but the Government of the Province may alter the said regulations, subject, however, to agreement between the two Governments whenever such alteration affects recruiting operations.

III. The Government of the Province reserves the right to prohibit recruiting by or allotment to a Transvaal employer who, upon a joint investigation by representatives of each Government, may be found to have failed, in some substantial respect or persistently after warning, to comply with the obligations imposed by this Convention or by any Convention or by any regulation in force in the Province not inconsistent with this Convention. In the event of the representatives of both Governments not being able to agree, they shall appoint an umpire whose findings shall be final.

IV. Every licence to recruit native labourers shall be granted by the Government of the Province.

Each application for a recruiting licence shall be made through the Intendant of Emigration at Lourenço Marques, and no application shall be granted unless it be accompanied by a certificate from the Transvaal Secretary for Native Affairs to the effect that the Transvaal Government supports the application and that it is made on behalf of an employer or employers of labour connected with the mining industries of the Transvaal.

Every applicant shall at the same time produce a written undertaking on his own behalf and on behalf of his employers to fulfil all obligations under any regulations in force in the Province or contemplated by this Convention.

The guarantee deposit and licence which the recruiter has to pay shall not exceed those provided by the Provincial Regulations of the 18th November, 1897.

Recruiting licences shall be issued in respect of any one district, and for this purpose the old district boundaries existing in 1907 may be followed, but a licence issued in respect of one district shall on application be transferred to another without extra charge.

Recruiting licences may at any time be cancelled by the Government of the Province in accordance with the Emigration Regulations of the Province.

If at any time after the granting of a licence the Transvaal Government raises any objection against the holder of such licence, the Government of the Province agrees to withdraw the licence.

V. Before leaving the Province every labourer shall be supplied with a passport available for one year, for which a fee of thirteen shillings shall be paid to the Government of the Province by the employer. No other fees shall be charged in connection with legally recruited natives, except those specified in this Convention.

VI. No labourer shall be engaged in the first instance for a longer period than one year, but at the end of the first period he may be re-engaged for a further period or periods, but so that such period or periods, together with the first period, shall not, without the special permission of the Portuguese Curator hereinafter referred to, exceed two years.

Any labourer who fails to return to the Province of Mozambique at the expiration of his period of service, including any period of re-engagement, shall, unless he shall have obtained special permission from the Curator, be considered a clandestine immigrant for all the purposes of this Convention.

VII. The Transvaal Government guarantees that natives will be given their discharge at the expiration of the period of contract, including any period of re-engagement, and that no pressure shall be put on them to renew their contracts.

VIII. The Portuguese Curator shall be entitled to receive a fee of one shilling and sixpence for every three months or part thereof, in respect of every Portuguese native to whom this Convention applies and who has been in the Transvaal for more than one year. Such fee shall be paid to the Portuguese Curator by the employer.

IX. A Portuguese official will undertake the duties of Curator for Portuguese natives in the Transvaal.

The Curator shall be the sole official charged with the function of a consular officer with respect to such natives, and, in addition to the powers vested in him by the regulations now in force in the Province, the following powers and duties shall attach to him—

- (a) To approach the Transvaal authorities with a view to arriving at an understanding in matters relating to Portuguese natives residing in the Transvaal.
- (b) To collect all fees payable to the Curator under this Convention in respect of Portuguese natives in the Transvaal.
- (c) To issue or refuse Portuguese passes to clandestine immigrants.
- (d) To grant or refuse the extension of Portuguese passes to Portuguese natives.
- (e) To promote by all means at his command the registration of Portuguese natives in the Transvaal.
- (f) To organise a deposit and transfer agency for moneys belonging to Portuguese natives.
- (g) To ascertain the allotment of labourers to the different mines for the purpose of recording their places of employment.

X. The railway charges for natives returning to the Portuguese frontier shall be equally favourable with the railway charges made for natives from the Portuguese frontier into the Transvaal.

XI. The following customs provisions shall apply to goods and baggage of native labourers returning from the mining industries of the Transvaal, but the details of these provisions may be revised from time to time by mutual arrangement:—

- (a) Each native labourer will, subject to the terms of sub-section (b) of this article, be permitted by the Portuguese Customs to carry with him into the Province, free of duty and from formal examination, up to sixty kilograms (equal to one hundred and thirty-two pounds) gross weight of baggage.
- (b) The Portuguese Customs, however, reserve the right to examine occasionally and from time to time the baggage carried by the said natives, in order to satisfy themselves that no excessive quantities of goods for trading purposes are being imported under cover of the above privileges.
- (c) In the event of any native, after examination, being found to carry goods whereon the duty leviable, according to the Portuguese tariffs, is more than 2,250 reis (ten shillings), but does not exceed 2,750 reis (twelve shillings) there shall be collected from the native on such goods the difference between 1,687-5 reis (seven shillings and sixpence) and the actual duty leviable.
- (d) No native referred to in this article will be permitted to have in his possession merchandise upon which the Portuguese customs duties exceed 2,750 reis (twelve shillings); the bearer of goods the duties whereon exceed that amount shall be liable to the penalties prescribed by the Portuguese customs law and regulations, other than the confiscation of such goods; but nothing in this sub-section contained shall be deemed to prevent the confiscation of contraband goods, such as dynamite, powder, fire-arms, fuses, and the like, when introduced into the Province by any such native.
- (e) It is understood that, for the purpose of the computation of duties, only such goods as are at the present time ordinarily liable to duty shall be assessed, that is to say, only such goods as by reason of their quantity, nature, or condition, cannot be considered as personal effects of the natives.
- (f) In consideration of the above, the Transvaal Government will pay to the customs of the Province the sum of seven shillings and sixpence per head for each and every native labourer of the Province returning from the mining industries of the Transvaal.

XII. Subject to the terms of this Convention every native of the Province in the Transvaal must be in possession of a Portuguese pass or passport issued by the authorities of the Province.

Any such native found within the Transvaal without such pass or passport shall be considered a clandestine immigrant and shall obtain from the Portuguese Curator or his representative a pass for which a fee of twenty shillings shall be paid.

XIII. No Portuguese native in possession of a Portuguese passport lawfully issued under this Convention shall be liable to pay native tax under the laws of the Transvaal.

XIV. This Convention shall not apply to a native who—

- (a) entered the Transvaal from the Province of Mozambique prior to the 11th day of October, 1899; and
- (b) has not, since that day, resided continuously in a labour district in the Transvaal.

XV. No Transvaal pass shall be issued to a Portuguese native who fails to produce a Portuguese pass, or passport lawfully issued, except in districts where the Curator has no representative, in which case Transvaal pass officers may issue a pass, but shall send all details to the Portuguese Curator in order that the native may be provided with a Portuguese pass, and the Curator shall collect the amount due from the employer (if any), or from the native if he has no employer.

If, however, the Curator refuses to issue a pass to such native, his Transvaal pass shall forthwith be cancelled in accordance with the Transvaal Pass Regulations.

XVI. Except upon production of a written authority from the Portuguese Curator, no pass shall be issued by an official of the Transvaal Government—

- (a) to clandestine immigrants who, being in possession of a Portuguese pass or passport, desire to be employed otherwise than in the mining industries;
- (b) to natives who desire to work for an employer and who did not enter the Transvaal after executing a contract in accordance with law in the Province, or who desire to work with a new employer.

Whenever a Portuguese native is authorized to work for any person (not being the employer by whom he was originally engaged in accordance with law in the Province), or whenever a native is authorized to work for a new employer, the Portuguese Curator shall receive from the employer or native a registration fee of ten shillings. When the engagement of native labourers is made by an agency which is authorized to recruit on behalf of several employers, such labourers shall be regarded for the purposes of this article as having been originally engaged for any of such employers.

XVII. No pass shall be issued in the Transvaal to enable a Portuguese native to travel to any other Colony or territory except the Province of Mozambique without the production of a written authority from the Portuguese Curator.

XVIII. The Transvaal Government shall assist the Curator—

- (a) by facilitating access by him or his representatives to compounds and to all other places where Portuguese natives are located;
- (b) by facilitating the collection of fees payable to the Curator under this Convention in respect of Portuguese natives in the Transvaal;
- (c) by refusing, so far as the Transvaal law allows, the issue or renewal of Transvaal passes to natives who fail to produce a valid Portuguese passport;
- (d) by causing all cases of deaths, accidents, and desertions of Portuguese natives to be reported to him;
- (e) by issuing instructions to all pass officers to the effect that the number of the Portuguese passport must always be mentioned distinctly in the Transvaal pass for reference;
- (f) by issuing instructions to pass officers to the effect that all Portuguese natives must report themselves at the Curator's office before returning home. In districts where the Curator is not represented passes of Portuguese natives desiring to return home shall be sent to him for endorsement;
- (g) by promoting the return home of time-expired labourers via Ressano Garcia or any other place on the border which may be agreed upon by the two Governments.

XIX. The Transvaal Government shall, so far as the Transvaal law allows, assist the Portuguese Curator in preventing the residence in the Transvaal of Portuguese natives without Portuguese passes which are time-expired, and also in discouraging and preventing the entry into the Transvaal of clandestine immigrants.

XX. All moneys received for administration by Native Affairs officials of the Transvaal Government in connection with the estates of deceased Portuguese natives shall be paid over to the Curator, whose acquittances shall be a sufficient discharge therefor. The Curator shall also be notified of the particulars of compensation payable in respect of accidents, in order that such compensation may be paid to the beneficiaries through his office.

## PART II.

### MATTERS CONCERNING RAILWAYS AND PORT.

XXI. The two Governments will mutually and in consultation with each other devise and put into operation means and methods for facilitating and developing both the import and export traffic to and from the Transvaal via Lourenco Marques.

XXII. The two Governments, with respect to traffic of all descriptions for export overseas from the Transvaal through the port of Lourenco Marques, will mutually take such steps as may be considered expedient for facilitating and encouraging the same, and for this purpose they agree that the throughout railway rates—

- (a) from stations in the Central South African Railways within the competitive area;
- (b) from stations between Germiston (including Pretoria) and Komatiport;
- (c) from stations on branch lines connecting either directly with the competitive area or with the through line from Germiston and from Pretoria to Lourenco Marques.

shall in no case be higher than those which are chargeable from such stations by any other export route, and that they shall be divided between the two Railway Administrations on a mileage basis unless the Board herein after mentioned decides otherwise. Before such division is made there shall be deducted the terminal allowances not accruing to each Administration under existing agreements or such other terminal allowances as may from time to time be mutually agreed upon. The charges of all descriptions at the said port for shipping and other services on such traffic shall in no case exceed the lowest charges on similar traffic exported through any port in South Africa having Government railway communication with the interior.

XXIII. In the event of it being found during the continuance of this Convention that the gross tonnage of the seaborne goods traffic included in the Normal, Intermediate, and Intermediate B classes combined or the gross tonnage of the seaborne goods traffic included in the remaining classes combined passing through the port of Lourenco Marques to the competitive area, as compared with the gross tonnage of such traffic by all routes combined, shall fall below 50 per cent., or rise above 55 per cent. of the total gross tonnage of the respective combined classes referred to, then in the former case the Government of the Province, and in the latter case the Transvaal Government, shall have the right to claim the readjustment of railway rates. Such readjustment of rates shall be made as shall be calculated to restore as nearly as possible the percentage of such traffic within the limits provided for herein. Such readjustment shall take place if necessary every six months and the percentages shall be calculated at the end of June and December in each year. The competitive area shall mean the area between the stations Pretoria, Springs, Germiston, Vereeniging, Klerksdorp, inclusive, and seaborne goods traffic shall exclude traffic for the civil, military, and railway authorities.

XXIV. If shipping freights to or from any South African port on traffic to or from the Transvaal be so altered as to influence the course of overseas trade to or from the competitive area to a material extent, the two Governments shall thereupon take such action jointly and in consultation as they may consider most expedient to give effect to the provisions of the last preceding article.

XXV. If railway rates on traffic from Lourenco Marques to stations in the Transvaal require to be altered either for the purpose of maintaining the percentage of tonnage mentioned in article *Twenty-third* or for any other cause, the alteration shall be arranged by the Administration of the C.S.A.R., after consultation with the Administration of the C.F.L.M., and the rates so altered shall be divided between the two Administrations in proportion to the division existing before such alteration.

The rates to be charged from Lourenco Marques over any new railway opened for working within the Transvaal after the date of this Convention shall be arranged by the Administration of the C.S.A.R. after consultation with the Administration of the C.F.L.M., and shall, after the deduction of terminals at the moment obtaining for similar classes of traffic to stations on existing lines, be divided between the two Administrations according to mileage; provided that the share of such rates falling to the C.F.L.M. in division shall not, without the concurrence of that Administration, be less than the share received by it in respect of similar traffic to Johannesburg.

The division of railway rates on existing lines between the C.F.L.M. and C.S.A.R. Administrations on traffic carried between Transvaal and C.F.L.M. stations shall, unless otherwise agreed, continue as at present and any new rates introduced on such lines shall be divided in the same manner; provided that if any alteration of such new rates takes place, the altered rates shall be divided between the two Administrations in proportion to the division existing before such alteration.

The railway rates on the several classes of traffic from Lourenco Marques to stations east of Pretoria and to stations between Witbank and Brakpan and to stations east of Springs on the Springs-Breyten line shall not in any case be higher than the rates to Pretoria, Brakpan, and Springs respectively.

The rates from any other port on overseas traffic to the stations east of Pretoria, Brakpan, or Springs respectively shall not be lower than the through rates from any such port to Pretoria, Brakpan, or Springs respectively plus the ordinary local rates for the time being chargeable for the distance between Pretoria, Brakpan, or Springs respectively and such stations.

The rates from Lourenco Marques on overseas traffic to the stations west of Klerksdorp, south of Vereeniging, and beyond Germiston in the direction of Volksrust respectively shall not be lower than the through rates from Lourenco Marques to Klerksdorp, Vereeniging, or Germiston respectively, plus the ordinary local rates for the time being chargeable for the distance between Klerksdorp, Vereeniging, or Germiston respectively and such stations.

XXVI. For the purpose of better carrying out in detail the provisions of this part of this Convention—

- (a) A Joint Board shall be constituted consisting of four delegates, two being representatives of the Transvaal Government and two of the Government of the Province of Mozambique. One of the representatives of the Government of the Province shall be chairman of the Board and shall preside at all meetings. Each delegate shall, subject to the approval of his Government, have power to appoint one alternate delegate to act in his place while he is absent from any Board meeting;
- (b) the Board shall have its head office at Lourenco Marques, where all its meetings shall be held unless otherwise agreed;
- (c) a meeting of the Board shall be deemed to be constituted if one delegate representing the Transvaal and one representing the Province be present thereat;
- (d) no decision or resolution of the Board shall be valid unless it be agreed to by all the delegates present at the meeting. If the delegates do not unanimously agree upon any question submitted to the Board the matter shall be referred to the two Governments for consideration and mutual decision or failing, such mutual decision by the two Governments, and pending the *status quo ante* the decision or resolution of the Board shall be maintained;
- (e) the minutes and resolutions of the Board shall be reported immediately after their adoption to the Transvaal Government and the Government of the Province, and shall not be given effect to for ten days after being so reported unless the two Governments have specially agreed otherwise in respect of any specific questions or resolutions. If neither Government notify the Board expressing disapproval of such resolutions within such period of ten days, then the same shall be considered as approved and effect shall be given thereto;
- (f) both Governments shall give the Board all such powers, facilities, and assistance, whether by enacting new laws, regulations, or otherwise, as may be necessary for the efficient and expeditious carrying out of this part of the Convention;
- (g) the office and other expenses of the Board, but not the remuneration of the individual members, shall be borne by the Administrations of the C.F.L.M. and the C.S.A.R., in equal shares;
- (h) the Board shall be constituted before the first day of July, 1909.

XXVII. With respect to import traffic to the Transvaal no port, municipal, or other charges at the said port shall be increased nor shall railway rates be increased over the C.F.L.M., nor shall any of the existing facilities be withdrawn or lessened by legislation or by any regulations or other means unless the Board shall previously have agreed thereto.

XXVIII. Neither Administration shall, without agreement with the other, impose railway rates for conveyance of the products of the soil or of the industry of the Transvaal or of the Province (as the case may be) so as to defeat the intention of Part III of this Convention providing for the interchange of products of the soil and of the industry between the Transvaal and the Province.

XXIX. When capital expenditure becomes necessary for effecting improvements to the said port or for increasing the facilities in connection with the import and export traffic, the members of the Board shall in consultation prepare an estimate of such expenditure, and also a scheme for raising the capital and executing the improvements. Such capital shall be raised on the most favourable terms possible. Neither of the two Governments shall, however, be bound to adopt the recommendations of the Board.

XXX. For the purpose of economy and efficiency, the engines, trains, and running staffs in charge thereof, shall not be restricted to the lines of the Administration to which they belong, but may, so far as the two Governments mutually agree, be run over the railway lines of the other Administration.

XXXI. The Administration of the C.S.A.R. shall include any authority in whom the management and control of the railways in the Transvaal are for the time being vested.

### PART III.

#### COMMERCIAL INTERCOURSE AND CUSTOMS.

XXXII. The products of the soil or of the industry of the Province of Mozambique shall not be liable to the payment of any import, export, or transit duties in the Transvaal, and, vice versa, the products of the soil or of the industry of the Transvaal shall not be liable to any import, export, or transit duties in the Province of Mozambique.

XXXIII. Notwithstanding the provisions of the last preceding article—

- (a) liquors distilled and fermented liquors made in the Province of Mozambique shall be subjected on entering the Transvaal to the highest import duties on liquors imported from overseas, and, vice versa, liquors distilled and fermented liquors made in the Transvaal shall be subjected to the highest import duties on liquors imported from overseas on entering the Province of Mozambique;
- (b) the products of the industry of the Transvaal will only be admitted free of duty into the Province of Mozambique and the products of the industry of that Province will only be admitted free of duty into the Transvaal if the elements or chief constituent parts thereof are the products of the soil of the Transvaal or of that Province, as the case may be.

For the purpose of this article distilled liquors and fermented liquors shall mean liquors containing more than 3 per cent. of proof spirit, equivalent to 1.716 degrees centigrade.

XXXIV. Subject to the provisions of the last preceding article, products of the soil or of the industry of the Province shall, if brought into the Transvaal, only be liable to the lowest tax, municipal or otherwise, imposed in the Transvaal on any similar article, whether produced in the Transvaal or not, and, vice versa, products of the soil or of the industry of the Transvaal shall, if brought into the Province, only be liable to the lowest tax, municipal or otherwise, imposed in the Province on similar articles, whether produced in the Province or not.

**XXXV.** Merchandise of any origin or nationality imported through Lourenco Marques and bound for the Transvaal shall be entirely exempt from any charges whatsoever, excepting port and warehousing charges and the charges now known as Industrial Contribution. This article shall, however, be subject to the provisions of article *twenty-seven* of this Convention.

**XXXVI.** Goods *ex bond* and *ex open stocks* within the Lourenco Marques district shall be admitted into the Transvaal upon payment of the duties in force in the Transvaal at the time of entry thereto, such duties being estimated on the overseas value of goods in the case of goods under the *ad valorem* classes.

For the purpose of this article, importers will be required, on arrival of the goods at Lourenco Marques, to pay the Transvaal duties to the Transvaal Customs, or to satisfy such Customs as to the due payment of those duties. Importers will be required to produce, when necessary, proof to the satisfaction of the Transvaal Customs as to the values of the goods, and to furnish any further information which may be required for the protection of the Transvaal revenue. In the case of goods on which Transvaal customs have been paid not entering the Transvaal, the amounts so paid shall be refunded by the Transvaal Customs to the importers.

**XXXVII.** With respect to goods imported into the Transvaal and exported therefrom through the port of Lourenco Marques, no higher export duties shall be imposed either in the Transvaal or in Lourenco Marques than are levied on similar goods exported through the ports of the Cape Colony and Natal.

**XXXVIII.** No higher duties or other taxes shall be levied in the Transvaal on goods imported thereto through the port of Lourenco Marques than are levied on similar goods imported into the Transvaal through the ports of the Cape Colony and Natal.

**XXXIX.** It shall be lawful to re-export from the bonded warehouses in Lourenco Marques any merchandise imported thereto, and the said merchandise shall be exempt from any export or re-exportation duty, and shall only be liable to the payment of warehouse charges and fees and of port dues. The provisions of this article shall apply only to such merchandise as the Portuguese Customs authorities are satisfied has been *bona fide* ordered for the Transvaal.

#### PART IV.

##### MISCELLANEOUS.

**XL.** If, on the establishment of a Union of the South African Colonies, the Transvaal becomes a party to such Union, the Government of the Union shall take the place of the Transvaal Government for all purposes of this Convention, but in such event the provisions of this Convention shall only apply to the area originally contemplated.

**XLI.** This Convention shall continue for ten years from the date hereof, and shall thereupon cease if either Government has given one year's notice to the other of its intention to terminate it. If no such notice has been given, the Convention shall continue from year to year until either Government shall have given one year's notice to the other of its intention to terminate it.

**XLII.** This Convention shall be executed both in the Portuguese language and in the English language.

Thus done at Pretoria under my Hand under the Public Seal of The Transvaal on behalf of the Government of The Transvaal, this First Day of April, 1909.

SELBORNE,  
Governor of the Transvaal.

## § 2. Union Customs Management and Tariff.

**1. Customs Management.**—In terms of section 136 of the *South Africa Act, 1909*, there is free trade throughout the Union. The application of customs control, therefore, affects only the trade of the Union with other countries, carried on in the main with countries overseas.

The management of the Customs of the Union is provided for by Act No. 9 of 1913 (*Customs Management Act*), which became operative on the 1st August, 1913, in substitution for numerous laws previously in force in the various Provinces. The control and management of the collection of duties is vested in a Commissioner of Customs. Every person employed on any duty relating to customs by order or with the concurrence of the Governor-General, or of the Commissioner of Customs, is an officer of customs. Provision is made for the boarding and searching of ships, the sealing of goods, the taking of samples, and the appointment of ports and landing places—free warehousing ports, or ports for limited purposes.

All duties collected are paid into the Union Treasury and are levied on weights and measures established by law in the Union. When notice is given in the House of Assembly by any Minister of State of a resolution to affirm the expediency of increasing any customs dues, the officer of customs is empowered to demand a bond from importers to cover the payment of any such increase which may thereafter be imposed; but such bond may only extend over a single session of Parliament.

(1) *Prohibitions of Importations.*—The goods enumerated in the following list are prohibited to be imported into the Union:—

- (a) Goods which, being foreign manufactures, bear the name, mark, or brands of manufacturers resident in the United Kingdom or any British possession, or which, whether of foreign manufacture or not, bear marks contravening the provisions of any law in force in the Union relating to merchandise marks.
- (b) Coins, base or counterfeit.
- (c) Indecent, obscene, or objectionable prints, paintings, photographs, books, cards, lithographic or other engravings, or any other indecent, obscene, or objectionable articles; in the event of any question arising as to whether such articles are indecent, obscene, or objectionable, the decision of the Minister shall be final.
- (d) Prison-made and penitentiary-made goods.

(e) Printed books, music, and newspapers which are unauthorized prints of any works which are copyright in the United Kingdom or the Union or any British possession.

(f) All animals, articles, matter or things, the importation of which is from time to time prohibited by or under the authority of any law.

Restrictions are imposed upon the importation of habit-forming drugs. A penalty is imposed on any person importing prohibited goods, in addition to forfeiture.

(ii) *Obligations of Importers.*—No importation of goods into the Union may be made without due entry and the payment of any customs dues. Every person carrying on business in the Union is required to keep within the Union reasonable and proper books or accounts of his transactions; and within two years after the date of any importation may be required to produce the bills of lading, invoices, and other documents relating to the goods. The particulars to be contained in invoices are prescribed by regulation. Any person offering goods for sale, or removing them, or having such goods entered in his books, may be required to produce proof as to the person from whom the goods were obtained, and, if he is the importer, as to the place where the import dues were paid.

(iii) *Entry Inwards.*—The master of every ship is required to report in person, or by his authorized agent, within twenty-four hours after the arrival of his ship in a Union port. Due entry of goods must be made before landing. Importers must effect entry within fourteen days of a ship's arrival. In default, the goods may be conveyed to the *King's Warehouse*, and, if not cleared within three months, may be sold.

Station masters on the railways are required to report the arrival of goods from without the Union by train. Similarly, persons arriving overland with goods are required to report.

Undervaluation of goods is punishable with fine.

Provision is made for bonded warehouses under licence of the Commissioner of Customs. Heavy penalties are imposed in respect of unlawful warehousing and smuggling.

(iv) *Exportation of Goods.*—The exportation or carriage coastwise of arms, ammunition, military and naval stores, or goods being capable of conversion into such stores, may be prohibited. Entry outwards has to be made in respect of every ship bound from the Union, delivery being made to the officer of customs of a content of goods loaded in such ship with other particulars. Exporters are required to deliver a bill of entry, and export duty (if any) must be paid.

Special provisions are made in respect of coasting trade between Union ports.

(v) *Duties on Spirits.*—An amendment of Act No. 9 of 1913 was effected by Act No. 27 of 1919, the main provision of which was to make retrospective any increase of duty resolved upon under the Excise Act (1913) and under the Customs Acts as regards spirits (beverages) in stock on the date of any notice of proposed increase issued under the law.

**2. Statistics of External Trade.**—Prior to July, 1905, each Colony or Territory in the Customs Union had its own statistical department recording particulars of its import, export, and inter-colonial trade. In addition, each maintained what was generally known as a Customs Union Office, where records were compiled of the trade between the parties to the Union. From such records was ascertained the amount of Customs duty due to each party in the Customs Union. In 1904 the Governments of the countries in the Union decided that it was desirable that statistics relating to the import, export, and inter-colonial trade should be kept on a uniform basis and by an office created for the purpose.

Since the coming into operation of the *South Africa Act* the compilation of trade statistics has been continued under the Union Government.

**3. Preference.**—The first record of preferential rates of duty is to be found in the records of the Cape Colony. From 1821 to 1830 the duty was approximately 3 per cent. *ad valorem* on British goods, and 10 per cent. on foreign goods and those imported from the East.

Again, in 1840, by an Order-in-Council, dated the 10th August, differential rated duties were imposed on certain articles and these early differential tariff rates were continued, subject to variations, until 1855, when they were abolished by the Customs Tariff Act of that year. From that time until 1903 duties of Customs were levied equally on all goods and articles imported irrespective of the country of origin or manufacture. In that year, under the Customs Union Convention concluded between the Cape Colony, Natal, the Orange River Colony, the Transvaal, and Southern Rhodesia, it was agreed as follows:—

A rebate of Customs duties shall be granted on any goods and articles the growth, produce, or manufacture of the United Kingdom imported therefrom into the Union for consumption therein, and that a rebate should also be granted on goods and articles the growth, produce, or manufacture of any British Colony, Protectorate, or Possession granting equivalent reciprocal privileges to the Colonies and Territories in the Customs Union.

Rebates of duty were continued in subsequent Conventions, and have been continued since the constitution of the Union in favour of the United Kingdom and those British dominions which have afforded reciprocal treatment. The amount of rebates permitted are set out in the customs tariff given in paragraph 5 below.



The principle of Imperial preference was adopted by the British Parliament in 1919. Preference is given on the duties in force in the United Kingdom to the following articles the produce of countries within the British Empire, at the specified rates :—

One-sixth of the duty on tea, coffee, cocoa, sugar, dried fruits, tobacco and motor spirit.

One-third of the duty on cinema films, clocks and watches, motor-cars and motor-cycles, and musical instruments ; 6d. to 1s. per gallon on wines and 2s. 6d. on spirits.

**4. Protection.**—Under Proclamation dated the 14th July, 1922, in terms of the Imports Regulations Act, No. 13 of 1922, the importation into the Union of sugar and of boots and shoes made of leather or of which leather is the chief constituent part was prohibited until after the 30th June, 1923, except under permit issued by the Commissioner of Customs.

The following sections in Act No. 35 of 1922 made provision for the imposition of protective duties in certain circumstances :—

5. (1) Where, in the case of goods imported into the Union of a class or kind produced or manufactured in the Union, the exchange value of the currency of the country of origin or export of any such goods is depreciated and, by reason of such depreciation, goods are being imported into the Union at prices which are detrimental to South African industries, the Governor-General shall, from time to time, determine the rate at which the currency of the country of origin or export of goods imported into the Union shall be converted into the currency in force in the Union, and the rate so determined shall be declared by him by proclamation in the *Gazette*. The difference between the free on board value of the goods as charged to the importer and the free on board value at the rate determined and declared as aforesaid by the Governor-General shall, in addition to the duties otherwise prescribed, be charged, levied, collected, and paid on those goods on importation into the Union as a special or exchange duty : Provided that the special or exchange duty shall not in any case exceed 50 per cent. of the value so determined : Provided, further, that when the free on board price of a proclaimed commodity—

(i) when invoiced in the currency of the country of export and converted into Union currency at the rate of exchange current at the time of importation into the Union ; or

(ii) when invoiced in Union currency ; is within 10 per cent. of the export free on board price of a like commodity imported into the Union from countries whose exchange rate in relation to Union currency is not depreciated, then the provisions of this paragraph shall not apply.

(2) A proclamation issued under sub-section (1) of this section shall not have force or effect until six weeks after its publication in the *Gazette*.

6. Whenever any goods are being sold or offered for sale in the Union for an amount which is less than—

(i) the price at which similar goods are sold wholesale in the principal markets of the country of their manufacture for consumption therein ; added to

(ii) the cost of packing and packages, the free on board charges and the cost of the freight from the port of shipment in such country to the port of entry in the Union, and by reason of such sale or offer for sale an industry in the Union is likely to be seriously affected, the Governor-General may by proclamation in the *Gazette* declare that there shall be charged, levied, collected, and paid on such goods on importation into the Union from that country, in addition to the customs duties otherwise prescribed, a special customs duty equal to the difference between the said price plus the costs and charges aforesaid and the amount at which such goods from that country are being sold or offered for sale in the Union.

**5. Customs Tariff.**—The customs tariff in force in the Union on the 31st July, 1922, is given hereunder, the items being classified under various headings. The number borne by each item in the tariff is given, and also the amount of rebates allowed in each case. The tariff and rebates are fixed by the Union Acts Nos. 26 of 1914, 22 of 1915, 37 of 1916, 36 of 1917, 20 of 1918, 32 of 1919, 44 of 1920, 35 of 1921, and 35 of 1922. The rebates referred to are granted on goods the growth, produce, or manufacture of the United Kingdom and reciprocating British Possessions when imported therefrom into the Union.

The various items of the tariff have been classified under the following heads :—

#### CLASSIFICATION OF ITEMS OF TARIFF.

I. Foodstuffs of animal origin.	XV. Metals (partly manufactured).
II. Foodstuffs of vegetable origin.	XVI. Metals (manufactured).
III. Non-alcoholic beverages.	XVII. Leather and indiarubber.
IV. Spirits and alcoholic liquors.	XVIII. Wood and wicker.
V. Tobacco.	XIX. Earthenware, cements, china, glass, and stoneware.
VI. Live animals.	XX. Paper and stationery.
VII. Animal substances (not foodstuffs).	XXI. Jewellery, timepieces, and fancy goods.
VIII. Vegetable substances (not foodstuffs).	XXII. Optical, surgical, and scientific instruments.
IX. Apparel and textiles.	XXIII. Drugs, chemicals, and fertilizers.
X. Oils, fat, and waxes.	XXIV. Miscellaneous.
XI. Paints and varnishes.	
XII. Stones and minerals.	
XIII. Specie.	
XIV. Metals (unmanufactured).	

UNION CUSTOMS TARIFF.

Tariff No.	Classification and Description.	Rate.		Rebate.	
		£	s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).	
<b>Class I.—FOODSTUFFS OF ANIMAL ORIGIN.</b>					
6	Butter, per lb.....	0	0 2½	0	0 ½
11	Cheese—				
	(a) Made from milk or cream from which no fat has been abstracted, and to which no animal or vegetable fat has been added, per lb.	0	0 1½	0	0 ½
	(b) Other, per lb.....	0	0 6	—	—
21	Eggs, per lb.....	0	0 1	—	—
23	Fish, not being of South African taking, per lb....	0	0 1½	0	0 ½
28	Lard, per lb.....	0	0 1½	0	0 ½
31	Meats, meat fats, soups, and other similar substances used as food, but not including extracts and essences or tallow, per lb.	0	0 1½	0	0 ½
32	Milk or cream, condensed, desiccated, or preserved :—				
	(a) Full cream, per 100 lb.....	0	5 2	1	0
	(b) Skimmed or separated, per lb.....	0	0 6	—	—
170	Fish, fresh, dried, cured, or salted, of South African taking, and raw oil from fish of South African taking	Free		—	—
156A	Casein (in bulk).....	Free		—	—
<b>Class II.—FOODSTUFFS OF VEGETABLE ORIGIN.</b>					
7	Butterine, margarine, ghee, and other substitutes for butter, compound lard, cottolene, nuttose, and other similar substances for use as food or for cooking, per lb.	0	0 3½	0	0 ½
12	Chicory, and substitutes for coffee or chicory, including chicory root, per lb.	0	0 4	—	—
16	Cocoa beans, raw.....	Free		—	—
	Cocoa nibs and shells, per lb.....	0	0 1	—	—
	Cocoa mass, paste or slab, unsweetened, and cocoa butter, per lb.	0	0 1½	—	—
	Cocoa or chocolate, unsweetened, including cocoa beans roasted and crushed; cocoa and chocolate mixed with milk, or other food substance; per lb. (or 10 per cent. <i>ad valorem</i> , whichever duty shall be the greater)	—	—	3	per cent.
17	Coffee—				
	(a) Raw, per lb.....	0	0 0½	—	—
	(b) Roasted or ground, per lb.....	0	0 2	—	—
	(c) Mixed, per lb.....	0	0 3	—	—
18	Confectionery, plain or fancy, of all kinds, compounded, made or preserved with sugar; sweetened cocoa or chocolate; honey, jams, and jellies; pudding and jelly powders; preserves and sweetmeats; candied or preserved ginger or chow-chow; bonbons, surprise packets and crackers, per lb. (or 25 per cent. <i>ad valorem</i> whichever duty shall be the greater)	0	0 2½	0	0 ½
				(or 3 per cent. as the case may be).	
NOTE.— <i>Medicinal preparations properly classed as apothecaryware are not to be included.</i>					
19	Corn and grain—				
	(a) Wheat—				
	(i) In the grain, per 100 lb.....	0	1 2	0	2
	(ii) Ground or otherwise prepared, per 100 lb.	0	2 6	0	3
	(iii) Bran, wheaten, per 100 lb.....	0	1 2	0	2
	(b) Barley, buckwheat, kaffir corn, maize, millet, oats, rye—				
	(i) In the grain or raw, per 100 lb.....	0	2 0	0	2
	(ii) Ground, malted, or otherwise prepared, including samp, per 100 lb.....	0	2 9	0	3

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	CLASS II.—FOODSTUFFS OF VEGETABLE ORIGIN— <i>contd.</i>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
19	Corn and Grain— <i>contd.</i> (c) Rice, per 100 lb..... (not including patent, proprietary, or other specially prepared foods for invalids or infants, or corn and grain prepared as vegetables)	0 1 0	—
20	Dates, per lb.....	0 0 0½	—
24	Fodder—Chaff, hay, lucerne, oat-hay, oil-cake, and other fodder not otherwise described, per 100 lb.	0 2 0	0 2
25	Fruits— (a) Preserved, of all kinds, bottled, tinned, or otherwise preserved, including pulp and candied peel, per lb. (b) Dried, of all kinds, including almonds and nuts, per lb.	0 0 2½ 0 0 2½	0 0½ 0 0½
36	Onions and garlic, not preserved, per lb.....	0 0 0½	—
37	Peas and beans, and other leguminous seeds not elsewhere provided for— (a) Dried, per 100 lb..... (b) Ground or otherwise prepared, per 100 lb... <i>Not including peas and beans preserved as a vegetable.</i>	0 2 0 0 2 9	0 2 0 3
38	Pickles, sauces, chillies, chutneys, celery, salt, and other condiments, per lb.	0 0 2½	0 0½
41	Potatoes, not preserved, per 100 lb.....	0 2 0	0 2
43	Spices and turmeric— (a) Ground, per lb..... (b) Unground, per lb.....	0 0 2½ 0 0 0½	0 0½ 0 0½
45	Sugar— (a) Candy, loaf, castor, icing, and cube, per 100 lb. (b) Other kinds, including golden and maple syrup, molasses, saccharum, glucose, and treacle, per 100 lb. (c) Saccharine and derivatives of orthotoluene sulphamide, dulcin and derivatives of phenylcarbamide and other sweetening substances, per lb. <i>NOTE.—In the case of sugar upon which bounties are granted in the country of origin, an additional duty equal to the amount of such bounty is to be levied.</i>	0 6 0 0 4 6 1 0 0	— — —
46	Tea— (a) In packets or tins, not exceeding 10 lb. each in weight, per lb. (b) In larger packets, or in bulk, per lb.....	0 0 6 0 0 4	— —
49	Vinegar, per gallon of any strength not exceeding the strength of proof— (a) In bottles or vessels of a capacity of not more than one imperial quart, per imperial gallon (b) In larger vessels or in bulk, per imperial gallon <i>NOTE.—Proof will be held to be equal to 6 per cent. of absolute acid, and will be determined in the manner prescribed by the Customs authorities.</i>	0 1 1 0 0 7	0 1 0 1
57	Biscuits, cakes, puddings, and pastry.....	25 per cent.	3 per cent.
61	Extracts and essences of all kinds for food for flavouring, or for perfumery, not elsewhere enumerated, including concentrated soup and ethyl and amyl acetates	25 per cent.	3 per cent.
91	Confectioners' requisites, namely:—Moulding starch, gelatine (animal or vegetable), and unsweetened desiccated cocoanut; in bulk	3 per cent.	3 per cent.
101	Fruits, fresh or green, including cocoanuts.....	3 per cent.	3 per cent.
106	Hops.....	3 per cent.	3 per cent.
140	Vegetables, fresh or green, but not including garlic, potatoes, or onions	3 per cent.	3 per cent.

## UNION CUSTOMS TARIFF—continued.

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>Class III.—NON-ALCOHOLIC BEVERAGES.</b>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
50	Waters—Mineral, aerated, and table— (a) In bottles, containing each not more than $\frac{1}{2}$ reputed pint, per dozen bottles (b) In bottles containing more than $\frac{1}{2}$ reputed pint, and not more than $1\frac{1}{2}$ reputed pint, per dozen bottles (c) In larger size bottles or other containers, per imperial gallon NOTE.— <i>Bona fide medicinal waters are not included in this item.</i>	0 0 9 0 1 0 0 1 0	— — —
55	Beverages— (a) Fruit juices, cordials, and syrups, not elsewhere enumerated (b) All other kinds not exceeding 3 per cent. of proof spirit	25 per cent. 25 per cent.	3 per cent. 3 per cent.
2	<b>Class IV.—SPIRITS AND ALCOHOLIC LIQUORS.</b> Ale, beer, and cider: all kinds of strength exceeding 3 per cent. of proof spirit, per imperial gallon	0 2 9	0 6
44	Spirits— (a) Perfumed, per imperial gallon..... and in addition per £100..... (b) Liqueurs, cordials, and mixed spirits, exceeding 3 per cent. of proof spirit, per imperial gallon or per £100, whichever duty shall be the greater (c) Other sorts exceeding 3 per cent. of proof spirit, per imperial proof gallon <i>No allowance will be made for underproof in excess of 15 per cent.</i> (d) Medicinal and toilet preparations and essences (liquid), syrups, and tinctures, containing over 3 per cent. of proof spirit, per imperial gallon (or 25 per cent. <i>ad valorem</i> , whichever duty shall be the greater) NOTE.— <i>Such spirits, if and when overproof, shall be specially entered and strength overproof declared, and the duty on the mixture shall then be leviable at £1. 17s. 6d. per imperial proof gallon, or 25 per cent. ad valorem, whichever duty shall be the greater.</i>	1 19 0 10 0 0 1 18 6 25 0 0 1 17 6 1 18 6	— — — — — —
51	Wines— (a) Still wines not exceeding 20 per cent. of proof spirit, per imperial gallon (b) Still wines exceeding 20 per cent. of proof spirit, but not exceeding 50 per cent., per imperial gallon (c) Sparkling wines, per imperial gallon..... (and in addition 15 per cent. <i>ad valorem</i> on all the above classes of wine) NOTE.— <i>Wines containing less than 3 per cent. of proof spirit are not included in the above; and wines containing more than 50 per cent. of proof spirit are classed as spirits.</i>	0 4 0 0 8 0 0 12 6	— — —
47	<b>Class V.—TOBACCO.</b> Tobacco— (a) Cigars and cigarillos, per lb..... (and in addition 15 per cent. <i>ad valorem</i> ) (b) Goorak, or gooracco, and hookah mixture, and all imitations or substitutes therefor or for tobacco, per lb.	0 8 6 0 6 0	— —

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
		£ s. d.	s. d.
		(or per cent. <i>ad valorem</i> ).	(or per cent. <i>ad valorem</i> ).
47	CLASS V.—TOBACCO— <i>contd.</i> Tobacco— <i>contd.</i>		
	(c) Snuff, per lb.....	0 4 0	—
	(d) Cigarettes, per lb..... (and in addition 15 per cent. <i>ad valorem</i> )	0 6 0	—
	(e) Manufactured, per lb.....	0 5 0	—
	(f) Unmanufactured, per lb.....	0 3 6	—
	<b>Class VI.—LIVE ANIMALS.</b>		
3	Animals—		
	(a) Cattle for slaughter, each.....	1 10 0	—
	(b) Sheep for slaughter, each.....	0 5 0	—
	(c) Mules and geldings, each.....	1 0 0	—
147	Animals, living, not elsewhere enumerated, and animals bred in South Africa imported overland	Free	—
	<b>Class VII.—ANIMAL SUBSTANCES (Not Foodstuffs).</b>		
102	Glue, in bulk.....	3 per cent.	3 per cent.
104	Hair: hog, camel, and badger, for broom and brush-making	3 per cent.	3 per cent.
162	Bones, feathers, grass, ivory, hair, hoofs, horns, moss, shells, skins, teeth, wool, and other parts of animals, birds, fishes, or reptiles, not being manufactured, polished, or further prepared than dried or cleaned, but in their raw or unmanufactured state	Free	—
	<b>Class VIII.—VEGETABLE SUBSTANCES (Not Foodstuffs).</b>		
44 (2)	Starch, not elsewhere enumerated, per lb.....	0 0 1	—
92	Corks and bungs, and cork-wood unmanufactured...	3 per cent.	3 per cent.
127	Rope for driving, drilling, and water-boring.....	3 per cent.	3 per cent.
137	Thread: loot and shoe makers', saddlers' and sail-makers', and seaming twine and binding twine, and harvest yarn	3 per cent.	3 per cent.
150	Bags (not including paper bags) for flour, grain, manure, local manufactures, produce, sugar, wool, coal and minerals, and bagging and sacking in the piece	Free	—
159	Coir, candle-wick, cotton, flax, fibre, flock, hemp, and jute; raw, waste, or unmanufactured	Free	—
161	Copra.....	Free	—
184	Rattans, cane, and bamboo: unmanufactured, and osiers	Free	—
	<b>Class IX.—APPAREL AND TEXTILES.</b>		
13	Clothing, second-hand, for sale, per coat, vest, trousers, cloak, mantle, or shawl, each (or 25 per cent. <i>ad valorem</i> , whichever duty shall be the greater)	0 2 0	—
58	Blankets and sheets, or rugs, cotton, hair, or woollen, or manufactures of cotton, hair, or wool, commonly used as blankets or rugs; padded quilts; and coats, jackets, or other apparel made of blanketing or baize, not elsewhere enumerated	25 per cent.	3 per cent.
60	Clothing, bespoke, or made by a tailor or dressmaker to the order of an individual (not including under-clothing)	25 per cent.	3 per cent.
72	Shawls.....	25 per cent.	3 per cent.
85	Canvas in the piece, not less than 8 oz. in weight per yard of 28½ inches width	3 per cent.	3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
		£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
148	CLASS IX—APPAREL AND TEXTILES— <i>continued.</i> Appointments and uniforms for the military, naval, or other forces of His Majesty, whether Imperial, Union, or Colonial	Free	—
193A	Apparel (not being goods specifically charged with duty under Act No. 26 of 1914, Act No. 22 of 1915, Act No. 37 of 1916, or Act No. 44 of 1920) being articles of clothing for the human body made up for immediate use as such, but not including articles merely for the purpose of adornment, nor articles made of or containing silk or imitation silk, and not including furs and muffs: hats and caps	15 per cent.	3 per cent.
*193B	Piece goods made of cotton, hair, or wool, or mixtures thereof	15 per cent.	3 per cent.
	<b>Class X.—OIL, FAT, AND WAXES.</b>		
8	Candles, per 100 lb.....	0 5 0	0 10
33	Motor spirit, namely, benzine, benzoline, naphtha (not potable),* gasoline, petrol, and petroleum spirit generally, per imperial gallon	0 0 2	—
*34	Oils, lubricating (not elsewhere specified), per imperial gallon	0 0 3	—
35	Oils, mineral: illuminating and burning, having a specific gravity of less than 900 at 60 degrees Fahrenheit, and a flashing point of less than 160 degrees Fahrenheit, per imperial gallon	0 0 1	—
42	Soaps, soap powders, and extracts, per 100 lb..... (or 25 per cent. <i>ad valorem</i> , whichever duty shall be the greater)	0 4 9	0 7 (or 3 per cent. <i>ad valorem</i> , as the case may be).
42A	Soyo, in packages containing over 10 gallons, and of weight of not less than 13½ lb. to the imperial gallon, when intended for use in the manufacture of condiments, and subject to such conditions as the Commissioner of Customs may prescribe, per lb.	0 0 1½	—
63	Glycerine, distilled, not in bulk.....	25 per cent.	3 per cent.
69	Oils, essential or perfumed, including eucalyptus...	25 per cent.	3 per cent.
126	Resin, in bulk.....	3 per cent.	3 per cent.
172	Glycerine, crude, in bulk.....	Free	—
178	Oils: palm, palm kernel, cotton seed, whale, and coconut, in bulk for manufacturing purposes, and under such conditions and regulations as the Customs may prescribe	Free	—
178A	Oil seeds and nuts imported for the purpose of manufacturing oils, but as regards edible kinds under such conditions and regulations as the Commissioner of Customs may prescribe	Free	—
189	Tallow, including vegetable tallow.....	Free	—
191	Wax, namely, paraffin and stearine, and stearine grease, ordinarily used in the manufacture of candles or explosives	Free	—
	<b>Class XI.—PAINTS AND VARNISHES.</b>		
48	Varnish, per imperial gallon.....	0 2 0	—
*193	Paints .....	20 per cent.	3 per cent.

\* See paragraph 6 below, for special rebate.

## UNION CUSTOMS TARIFF—continued.

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>Class XII.—STONES AND MINERALS.</b>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. or per cent. <i>ad valorem</i> ).
14	Coal and patent fuel, per ton of 2,000 lb.....	0 3 0	—
15	Coke, per ton of 2,000 lb.....	0 1 0	—
76	Asbestos packing and boiler compositions.....	3 per cent.	3 per cent.
79	Barytes and pumice, in bulk.....	3 per cent.	3 per cent.
99	Fire clay and terra-alba.....	3 per cent.	3 per cent.
131	Slates for roofing.....	3 per cent.	3 per cent.
175	Marble, in the rough or sawn.....	Free	—
	<b>Class XIII.—SPECIE.</b>		
156	Bullion (in the bar or sheet), coin, specie, bank-notes, and other paper currency	Free	—
	<b>Class XIV.—METALS UNMANUFACTURED.</b>		
146	Zinc: fume, dust, and shavings.....	3 per cent.	3 per cent.
	<b>Class XV.—METALS PARTLY MANUFACTURED.</b>		
73	Acetylene gas lamps: metal parts for the manu- facture of	3 per cent.	3 per cent.
117	Metals—		
	(a) Aluminium in plain, perforated, or corrugated sheets, but otherwise unmanufactured	} 3 per cent.	} 3 per cent.
	(b) Brass, copper and composition metal, plain or perforated sheets, but otherwise unmanufac- tured		
	(c) Iron and steel—		
	(i) Rough, rolled or partly manufactured, to be completed or further manufactured in the Union		
	(ii) Sheets, plain, perforated, galvanized, cor- rugated, or enamelled		
	(iii) Angle, bar, channel, hoop, rod, plate, H.T., and similar iron or steel, not per- forated or put together or worked up in any way for structural or other purposes, not elsewhere enumerated		
	(d) Lead: bar, pipe, sheet, foil, and acetate of		
	(e) Tin and zinc: bar, plate, sheet, plain or per- forated, but otherwise unmanufactured		
	(f) Metal of all sorts in bars, blocks, ingots and pigs, and scrap metal, not elsewhere described		
	<b>Class XVI.—METALS MANUFACTURED.</b>		
18A	Crown corks and glass stoppers (see Class XIX)		
27	Guns and gun-barrels, firearms—		
	(a) Single, per barrel.....	1 0 0	—
	(b) Double and other, per barrel.....	0 15 0	—
	(and in either case in addition 15 per cent. <i>ad valorem</i> )		3 per cent.
40	Pistols and revolvers, each.....	0 5 0	—
	(and in addition 15 per cent. <i>ad valorem</i> )		3 per cent.
73A	Airships, aeroplanes and other aircraft, including completed parts thereof	3 per cent.	3 per cent.
81	Bolts, nuts, rivets, screws, nails, and washers, rexine studs and brass and iron tips and caps for boots and shoes	3 per cent.	3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.		Rebate.	
		£	s. d.	s. d.	(or per cent. <i>ad valorem</i> ).
	CLASS XVI.—METALS MANUFACTURED— <i>continued.</i>				
88	Chains for hauling.....	3	per cent.	3	per cent.
89	Chimneys, metal (smoke-stacks).....	3	per cent.	3	per cent.
93	Cranes, elevators, and shears.....	3	per cent.	3	per cent.
94	Crucibles, cupels, cupelling furnaces, graphite, ingot, moulds, retorts, and furnaces for roasting minerals	3	per cent.	3	per cent.
98B	Filters: being machinery, apparatus and appliances directly connected with, and essential to the construction of filtering or water purifying plants attached to or used in connection with a public water supply system	3	per cent.	3	per cent.
110	Jacks, screw and hydraulic.....	3	per cent.	3	per cent.
113	Lifts, power, including the gates.....	3	per cent.	3	per cent.
114	Machinery—				
	(a) Machinery, apparatus, appliances, and implements (not including material vehicles, mechanics' tools, domestic machines, or harness) for agricultural, manufacturing, mining, bookbinding, printing, and other industrial purposes	3	per cent.	3	per cent.
	(b) Machinery, apparatus, appliances, implements, and electrical material used in connection therewith for the generation, storage, transmission, distribution of, and lighting by gas or electric power, but not including electroliers, hand-lamps, or fancy fittings				
118	Metal shaft sets, and rails, buckets, skips, trucks, and tubs, wheeled or otherwise, for hauling on rails or wires	3	per cent.	3	per cent.
121	Pipes, piping, and tubes of all kinds for gas, steam, drainage, sewerage, irrigation, water supply, or pumping, including cocks, meters, and taps, but not including grids, manhole covers and fittings, surface boxes, down-piping and guttering	3	per cent.	3	per cent.
123	Presses: wool, hay, straw, and forage.....	3	per cent.	3	per cent.
125	Railway construction or equipment requisites as follows:—Rails, sleepers, fastenings for rails or sleepers, girders, iron bridge-work, culvert tops, locomotives, tenders, ballast trucks, goods wagons, carriages, trolleys, engine water-tanks, turn-tables, permanent or fixed signals, weigh-bridges, and railway lamps	3	per cent.	3	per cent.
132	Sprayers and sprinklers and other apparatus for the prevention or the destruction of pests or diseases in stock, plants, or trees	3	per cent.	3	per cent.
133	Springs, axles, steps, and other metal parts not ordinarily made in the Union for carts, carriages, coaches, and wagons	3	per cent.	3	per cent.
133A	Structural steelworks, and the equipment directly connected with and essential to the construction of barges for irrigation and other water supply purposes	3	per cent.	3	per cent.
135	Tanks and vats, suitable and intended for mining purposes, and substructures for the same	3	per cent.	3	per cent.
136	Telegraphs and telephones: materials and instruments for use in construction and working of telegraph and telephone lines	3	per cent.	3	per cent.
138	Traction engines and power lorries, and trailers for the same, stone crushers, steam rollers, and street-sweeping and street-spraying machines; asphalt melting and mixing plant, tar and pitch boilers	3	per cent.	3	per cent.



UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>CLASS XVI.—METALS MANUFACTURED—<i>contd.</i></b>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
139	Tramway construction and equipment requisites as follows:—Rails, sleepers, fastenings for rails or sleepers, iron gates, girders, iron bridge-work, culvert tops, cars, trolleys, water-tanks, and turn-tables, and railless cars (electric) worked by current from overhead wires	3 per cent.	3 per cent.
141	Water-boring and pumping apparatus, and pumps (not including beer pumps)	3 per cent.	3 per cent.
142	Wire.....	3 per cent.	3 per cent.
143	Wire-netting for fencing; droppers, gates, hurdles, posts, standards, strainers, staples, stiles, winders, and other materials or fastenings of metal ordinarily used for agricultural or railway fencing; and fruit tree netting	3 per cent.	3 per cent.
144	Wire rope.....	3 per cent.	3 per cent.
151	Band instruments and stands, the bona fide property of any Imperial, military, naval, or any Union or Colonial corps, and not the property of individuals	Free	—
	<b>Class XVII.—LEATHER AND INDIA-RUBBER.</b>		
29	Leather, adulterated or loaded, per lb..... or— per £100..... whichever duty shall be the greater	0 0 6 20 0 0	— 3 per cent.
52	Boots and shoes, per £100..... With a minimum per pair of— Men's..... Women's..... Children's.....	20 0 0 0 0 9 0 0 6 0 0 3	3 per cent. — — —
	<i>NOTE.—Infants' shoes and booties are not included in this item.</i>		
65	Harness and saddlery.....	25 per cent.	3 per cent.
67	Leather manufactures, namely, leggings, bags, trunks, portmanteaux, holdalls, belts, and gun-cases, made wholly or chiefly of leather (not including fancy handbags)	25 per cent.	3 per cent.
107	Hose, transmission.....	3 per cent.	3 per cent.
109	Indiarubber, unmanufactured.....	3 per cent.	3 per cent.
112	Leather: patent, enamelled, roan, and morocco, pig-skin in the piece, and valve hide	3 per cent.	3 per cent.
112A	Leather: imitation, leatherette, including pegamoid, rexine and similar articles used for upholstery	3 per cent.	3 per cent.
128	Saddlery and harness furniture and saddle-trees....	3 per cent.	3 per cent.
	<b>Class XVIII.—WOOD AND WICKER.</b>		
54	Vehicles— (a) Carriages, carts, coaches, and wagons, and finished parts thereof, not elsewhere enumerated, per £100 (b) Second-hand carriages, carts, coaches, and wagons, per vehicle (and in addition 15 per cent. <i>ad valorem</i> , but in no case shall the duty be less than 25 per cent. <i>ad valorem</i> ) (Not including motor-cars or cycles.)	25 0 0 10 0 0	3 per cent. 3 per cent. 3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>CLASS XVIII.—WOOD AND WICKER—(continued).</b>	£ s. d. (or per cent. <i>ad valorem</i> ).	a. d. (or per cent. <i>ad valorem</i> ).
108	Hubs, rims, spokes, felloes, shafts, tentbows and poles, cut or fashioned, not finished except when for wagons and carts commonly used for the conveyance of goods	3 per cent.	3 per cent.
129	School furniture and requisites, being all articles certified by the Superintendent-General or Director of Education, or any official appointed for that purpose in any Province or Territory in the Union to be used in any school	3 per cent.	3 per cent.
145	Wood—		
	(a) Unmanufactured.....	3 per cent.	3 per cent.
	(b) Ceiling and flooring boards, planed, tongued, and grooved	3 per cent.	3 per cent.
162	Cooperage—		
	(a) Staves in the rough.....	Free	—
	(b) Hoop iron or hoop steel, shaped or fashioned.	Free	—
	(c) Vats for the manufacture of wines.....	Free	—
163	Cork dust, paper shavings, sawdust, husks, and other waste substances intended and suitable for use only as packing material	Free	—
192	Wood meal and wood pulp.....	Free	—
	<b>Class XIX.—EARTHENWARE, CEMENTS, CHINA, GLASS, AND STONWARE.</b>		
10	Cement for building purposes, per 400 lb.....	0 1 3	0 3
18A	Crown corks and other stoppers, made of metal, glass, earthenware, or mineral or vegetable composition, used alone or in combination with cork or other substances as stoppers for bottles and jars of common glass or earthenware, whether imported in combination or separately, per gross	0 0 3	—
59	Bricks (except Bath).....	25 per cent.	3 per cent.
83	Bottles and jars of common glass or earthenware, and bottles ordinarily used for aerated waters, empty	3 per cent.	3 per cent.
87	Cement, liquid, for tube mills.....	3 per cent.	3 per cent.
103	Gypsum (sulphate of lime or plaster of paris), in bulk	3 per cent.	3 per cent.
155	Bottles and jars of common glass or earthenware, being ordinary trade packages for the goods contained therein, imported full of any article liable to a rated duty only	Free	—
	<b>Class XX.—PAPER AND STATIONERY.</b>		
9	Cards, playing, per pack..... (and in addition per £100 <i>ad valorem</i> )	0 0 9 15 0 0	3 per cent. 3 per cent.
53	Printed, lithographed, and embossed matter—		
	(a) Enlargements or reproductions of lithographs and photographs, picture postcards, Christmas, birthday, pictorial, New Year, and other cards, directories, guide-books and handbooks relating to South Africa, Christmas annuals, holiday and special numbers or editions of South African newspapers, magazines or periodicals, per £100	25 0 0	3 per cent.

\* See also paragraph 6 below.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	CLASS XX.—PAPER AND STATIONERY— <i>contd.</i>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
	(b) Account books, printed stationery and forms in books, pads, or loose bank cheques, drafts, promissory notes, bills of exchange and similar forms, scrip, share certificates, company reports, and letter headings, per £100	25 0 0	3 per cent.
	(c) Envelopes, printed, lithographed, or embossed, with the exception of what is technically known as <i>side die</i> , and printed paper bags and printed cardboard boxes of every description, per £100	25 0 0	3 per cent.
	(d) Labels, tickets, and address tags, printed or lithographed, per £100 (or 3d. per pound, whichever duty shall be the greater)	25 0 0	3 per cent.
	(e) Catalogues and price lists of Union firms, printed and posted abroad to individuals in South Africa, per £100 (or 3d. per pound, whichever duty shall be the greater)	25 0 0	3 per cent.
	(f) All advertising matter, printed, lithographed, or embossed, including advertising invoice forms and similar stationery usually issued gratis or at nominal prices, per £100 (or 3d. per pound, whichever duty shall be the greater)	25 0 0	3 per cent.
82	Bookbinders' requisites, namely: boards, cloths, leather, marble paper, skin, thread, tape, vellum, webbing, wire, gold and silver leaf, parchment, imitation leather, binders' paper and cardboard and linen board	3 per cent.	3 per cent.
120	Paper: all plain or composite papers, including tissue paper, in the original mill wrappers, flat or folded, not less than 16 in. by 15 in.; and in reels, including paper in reels used for the monotype type-setting machine; but not including ruled or printed papers, stationery, blotting, wall, sanitary, sensitized, tracing, or carbon paper	3 per cent.	3 per cent.
124	Printing, lithographic, and ruling inks, roller composition, stamping colours, and printers' bronze	3 per cent.	3 per cent.
149	Atlases, charts, globes, and maps.....	Free	—
153	Books and music, printed (including newspapers and periodicals not elsewhere enumerated) which are not foreign unauthorized prints of any British or South African copyright work the importation of which is prohibited, or which are not advertising matter elsewhere enumerated	Free	—
157	Catalogues or price lists of foreign firms addressed to importers, merchants, or manufacturers, or public libraries and similar institutions	Free	—
165	Diagrams, designs, drawings, models, and plans....	Free	—
168	Engravings, lithographs, and photographs, not including enlargements or reproductions of photographs, and not being labels or advertisements elsewhere enumerated	Free	—
176	Newspapers, or supplement editions or parts thereof, and intended to be completed and published in the Union	Free	—
179	Paintings, pictures, picture books, and etchings, not being advertisements or labels elsewhere enumerated	Free	—
193	Suspenders, metal (bookbinders' requisite) .....	20 per cent.	3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>Class XXI.—JEWELLERY, TIMEPIECES, AND FANCY GOODS.</b>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
4	Beads, per lb..... (or 25 per cent. <i>ad valorem</i> , whichever duty shall be the greater)	0 0 6½	0 0½
64	Gold and silver plate, and gold and silver plated ware.	25 per cent.	or 3 per cent.
66	Jewellery, including imitation jewellery, and rolled gold, enamel, or gilt jewellery, precious stones and pearls and imitations thereof, cut or polished and whether mounted or unmounted; completed portions or parts of any article of jewellery, imitation or otherwise; watches and watch-cases, and the set-up mechanism or movements therefor; ornamental hat-pins, ornamental hairpins, and ornamental buckles, bead necklaces, and muff chains, and similar articles of adornment.	25 per cent.	3 per cent.
166	Diamonds and other gems, or precious stones, in their rough state	Free	—
	<b>Class XXII.—OPTICAL, SURGICAL, AND SCIENTIFIC INSTRUMENTS.</b>		
74	Ambulance materials (imported by recognized associations, corps, or hospitals, lawfully established for instruction or drill in first aid to the wounded)	3 per cent.	3 per cent.
77	Laboratory glassware and porcelainware, scientific instruments for laboratory use, and scientific measuring instruments (not being essential parts of any machinery) used in controlling any manufacturing operation	3 per cent.	3 per cent.
188A	Surgical instruments and appliances, and instruments and appliances used in the diagnosis or treatment of diseases or affections of the human or animal body; agar-agar and peptone for making bacterial culture media	Free	—
	<b>Class XXIII.—DRUGS, CHEMICALS, AND FERTILIZERS.</b>		
1	Acetic and pyroligneous acids and extracts, essences of vinegar, of any strength not exceeding the strength of proof— (a) In bottles or other vessels of a capacity of not more than one imperial quart, per imperial gallon (b) In larger vessels, per imperial gallon..... and in addition, in either case, for each degree of strength in excess of the strength of proof, per degree NOTE.— <i>Proof will be held to be equal to 6 per cent. of absolute acid, and will be determined in the manner prescribed by the Customs authorities.</i>	0 1 7 0 1 1 0 0 5	0 1 0 1 0 1
5	Blasting compounds, including all kinds of explosives suitable and intended for blasting, and not suitable for use in firearms (including detonators); and collodion cotton not intended for manufacturing purposes, per lb.	0 0 2½	0 0½
8A	Carbide of calcium, per 100 lb.....	0 2 6	0 6
26A	Fuse (excepting electric), per lb.....	0 0 1½	0 0½
26	Gunpowder and other explosives suitable for use in firearms, per lb. (and in addition 15 per cent. <i>ad valorem</i> )	0 0 6	3 per cent.
39	Pills, imported in packages, not for direct sale retail to the public, per lb.	1 0 0	—
62	Fireworks of all descriptions.....	25 per cent.	3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	CLASS XXIII.—DRUGS, CHEMICALS, AND FERTILIZERS— <i>contd.</i>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
68	Medicinal preparations, not elsewhere enumerated, other than pills imported in packages not for direct sale retail to the public, when prepared by any secret or occult art, and recommended to the public under any general name or title as specifics for any diseases or affections whatsoever affecting the human or animal bodies	25 per cent.	3 per cent.
75	Ammonia (solution) and anhydrous ammonia, ammonium carbonate, ammonium chloride (sal ammoniac); ammonium nitrate, and ammonium perchlorate: in bulk	3 per cent.	3 per cent.
78A	Barium (peroxide) in bulk.....	3 per cent.	3 per cent.
84	Calcium: carbonate, caustic, chloride, chlorate, bisulphite; in bulk	3 per cent.	3 per cent.
86	Carbonic acid gas.....	3 per cent.	3 per cent.
90	Collodion cotton, glycerine other than crude, amatol, and kieselguhr: in bulk for manufacturing purposes	3 per cent.	3 per cent.
95	Cyanide of potassium and of sodium, sulpho-cyanide of potassium, sodium, and calcium	3 per cent.	3 per cent.
96	Disinfectants in bulk, provided they are of a standard approved by the Commissioner of Customs	3 per cent.	3 per cent.
98A	Ferro silicon, in bulk.....	3 per cent.	3 per cent.
115	Magnesium sulphate, in bulk.....	3 per cent.	3 per cent.
120A	Paates and powders containing not less than 30 per cent. of water—soluble phosphoric oxide, in the dry substance, for use in clarifying sugar juice; in bulk	3 per cent.	3 per cent.
122	Potassium and sodium: carbonate, bi-carbonate, caustic and silicate, chlorate, bi-chromate, permanganate, red and yellow prussiate of: in bulk	3 per cent.	3 per cent.
130	Sheep-dip, sheep-dipping powders, materials suitable only for dip, and dipping-tanks	3 per cent.	3 per cent.
134	Substances for the prevention or the destruction of pests or diseases in stock, plants, or trees; sulphate of copper, arsenic, and arsenious acid, arsenate of soda	3 per cent.	3 per cent.
135A	Tar and tar oil, creosote and creosote oil: in bulk	3 per cent.	3 per cent.
140A	Vitreous alumina-silicate compositions, or borax glasses, with or without colouring or opacifying material, suitable for and intended for use only in the manufacture of enamelled ware; in bulk	3 per cent.	3 per cent.
154	Borax, boracic acid, bromine, litharge, manganese, dioxide, quicksilver, assay mabor, and assayer's bone ash	Free	—
167	Dyes; colour preparations (not including boot blacking and boot polishes) used in the manufacture or preparation for sale of articles; substances for preparing or bating hides and substances for tanning and finishing leather, including alum and hyposulphite; under such conditions and regulations as the Commissioner of Customs may prescribe	Free	—
171	Guano and other substances, animal, mineral, or vegetable, artificial or natural, suitable for use as fertilizers or manures: phosphate rock	Free	—
177	Nitrates, except nitrate of ammonium, for manufacturing purposes or for fertilizers. in bulk	Free	—
180	Platinum, chloride of, and platinum wire.....	Free	—
183A	Radium.....	Free	—
187	Sulphur and iron pyrites: in bulk.....	Free	—
188	Sulphurous anhydride.....	Free	—
190	Vaccine virus, rennet, toxin, and serum.....	Free	—

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
	<b>Class XXIV.—MISCELLANEOUS.</b>	£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
22	Films for bioscopes and cinematographs, per 100 feet or per £100 (whichever duty shall be the greater)	0 5 0	—
30	Matches—	20 0 0	—
	(a) Wooden, in boxes or packages of not more than 100 matches, per gross of boxes or packages	0 2 0	—
	In boxes containing more than 100, but not more than 200 matches, per gross of boxes or packages	0 4 0	—
	And for every 100 additional matches, in boxes or packages, per gross of 100 matches	0 2 0	—
	(b) Fuses, vestas, or wax matches, or other patent lights used as such, in boxes or packages containing not more than 50 per gross of boxes or packages	0 2 0	—
	In boxes or packages of more than 50, but not more than 100, per gross of boxes or packages; and for every 50 additional in boxes or packages, per gross of 50 matches	0 4 0	—
	( <i>Match splints to be classed, and pay duty, as matches</i> )	0 2 0	—
56	Bioscopes, magic lanterns, cinematographs, phonographs, gramophones, and records therefor	25 per cent.	3 per cent.
70	Perfumery, cosmetics, dyes, powders, and other preparations for toilet use, not elsewhere enumerated	25 per cent.	3 per cent.
71	Tobacconists' wares, including pipes, pouches, pipe covers, pipe stands, pipe cases, smokers' cabinets, cigar and cigarette holders, match-boxes, tobacco jars, cigar and cigarette cases, ash trays, cigar and cigarette lighters	25 per cent.	3 per cent.
76A	Asphalt, bitumen, pitch, and heavy oil, and preparations thereof, for road or pavement construction; in bulk; provided they are of a standard approved by the Commissioner of Customs	3 per cent.	3 per cent.
78	Bands and belting of all kinds for driving machinery; boiler tubes, bolting cloth, and mill silk	3 per cent.	3 per cent.
80	Battery cloth and baize gauze, matting, sieving, and screening for use in connection with machinery and apparatus, including brattice cloth, but not including coconut matting	3 per cent.	3 per cent.
97	Emery, in bulk, emery cloth, and paper, emery wheels, and sandpaper	3 per cent.	3 per cent.
98	Felt, rubberoid, uralite, and similar substances for building purposes	3 per cent.	3 per cent.
100	Fire escapes and fire extinguishing appliances and apparatus	3 per cent.	3 per cent.
105	Haircloth, and springs for furniture.....	3 per cent.	3 per cent.
111	Launches, tugs, and lighters; provided that when condemned or landed to be broken up duty shall be paid at the Customs on the hull and all fittings, according to the tariff that may be in force	3 per cent.	3 per cent.
118	(a) Meerschaum, amber, and amberoid: in the rough	3 per cent.	3 per cent.
	(b) Stems (other than wooden) and mouthpieces for tobacco pipes; when imported by manufacturers of tobacco pipes	3 per cent.	3 per cent.
	(c) Other materials, in a raw or semi-manufactured state suitable for and intended for use only in the manufacture of tobacco pipes, under such conditions as the Commissioner of Customs may prescribe	3 per cent.	3 per cent.

UNION CUSTOMS TARIFF—*continued.*

Tariff No.	Classification and Description.	Rate.	Rebate.
		£ s. d. (or per cent. <i>ad valorem</i> ).	s. d. (or per cent. <i>ad valorem</i> ).
	CLASS XXIV.—MISCELLANEOUS— <i>contd.</i>		
119	Packing and lagging for engines, machinery, piping, and buildings	3 per cent.	3 per cent.
158	Church decorations, altars, band instruments, bells, fonts, lecterns, pulpits, organs, plate, or vestments, and illuminated windows; imported by or for presentation to any religious body	Free	—
160	Consular uniforms and appointments, and printed official consular stationery	Free	—
164	Cups, medals, and other trophies imported for presentation as prizes at examinations, exhibitions, shows or other public competitions for skill or sport, for bravery, good conduct, humanity, for excellence in art, industry, invention, manufactures, learning, science, or for honourable or meritorious public services, or for rifle shooting by Imperial, Union, or Colonial forces, or recognized rifle associations, not being for the purpose of advertisement; provided that such articles shall on importation or delivery free from the Customs bear engraved or otherwise indelibly marked on them the occasion or purpose for which they are presented	Free	—
169	Fish, fry and ova.....	Free	—
173	Ice.....	Free	—
174	Life boats, belts, and buoys, and other life-saving apparatus	Free	—
181	Public stores, imported or taken out of bond by, and bona fide for the sole and exclusive use of, the Government of His Britannic Majesty and of any Government belonging to the Union; provided that a certificate be delivered to the Customs authorities given under the hand of an officer approved by the Principal Officer of Customs, setting forth that any duty levied on such public stores would be borne directly by the Government; and provided further that no portion of such stores used or unused shall be sold or otherwise disposed of so as to come into possession of or into consumption by any persons not legally entitled to import the same free of duty without the consent of the Principal Officer of Customs, and the payment of the duties to him by the officer so selling or disposing of such public stores at the rate leviable at the date of sale	Free	—
182	Seeds, bulbs, plants, and tubers, for planting or sowing only, not including edible kinds or fodder	Free	—
183	Sculpture, being original works of art, or replicas thereof	Free	—
185	Specimens illustrative of natural history and exhibits for public museums or scientific purposes, and antiquities for the same purposes	Free	—
186	Stone linings, pebbles, and steel balls for tube mills..	Free	—
193	ALL GOODS, WARES, AND MERCHANDISE NOT ELSEWHERE CHARGED WITH DUTY, AND NOT ENUMERATED IN THE FREE LIST, AND NOT PROHIBITED TO BE IMPORTED INTO THE UNION	20 per cent.	3 per cent.

6. **Special Rebates (Act No. 35 of 1922).**—In terms of Act No. 35 of 1922, section *nine*, special rebates of the duty that would otherwise be payable are allowed in the case of the articles enumerated hereunder, on first importation or when taken out of bond:—

**SPECIAL REBATES OF DUTIES ON CERTAIN ARTICLES UNDER  
ACT No. 35. OF 1922.**

Article.	Rebate <i>ad valorem</i> of Duty Otherwise Payable.
Woollen yarn imported or taken out of bond for use in the manufacture of woollen piece-goods or machine-knitted goods.....	17 per cent.
Oils used in the lubricating of yarn in the process of weaving....	17 per cent.
Gums.....	The whole
and } when used solely for the making of paints.....	17 per cent.
Turpentine }	The whole.
Solvent naphtha, sealite, and similar fluxes used for purpose of sealing containers of commodities.....	The whole.
Raw felt, straw plaits, inside bands, and linings cut to shape for use in making of hats and caps.....	The whole.
Cotton piece-goods used in making of bags for South African produce and manufactures.....	12 per cent.
Matured wine-casks imported and used as containers for export of South African wines.....	The whole.

### § 3. Trade Commissioner Services.

1. **Trade Commissioner of the Union in London.**—(i) *General.*—Until within a short period of the constitution of the Union the Cape was the only South African Government to have its own special trade representative in the United Kingdom. Just before the formation of the Union, however, the Natal Government appointed an officer under the title of Commercial Agent and both the Transvaal and Orange River Colony had attached to the offices of their Agents General in London officers specially charged with the supervision of trade and commercial matters. On the establishment of Union in 1910, these offices were merged in one and placed under the control of an officer styled the Trade Commissioner for the Union of South Africa, who with his staff formed an integral portion of the High Commissioner's Office in London, although housed in separate premises at 90 Cannon Street, E.C. This arrangement continued until the removal of the High Commissioner's Office to the new premises in Trafalgar Square, when opportunity was taken to house all sections of the High Commissioner's staff under one roof.

The work of the Trade Commissioner's Office is limited to the export trade of South Africa, and until the appointment of the Commissioner of Commerce (see paragraph 2), embraced all exports to the United Kingdom and to the Continents of Europe and America.

(ii) *Intelligence Service.*—The Union Department of Agriculture is advised by cable weekly of the prices obtaining and of the general trend of markets and this information forms a useful guide to the producer and shipper. Advice is also sent where the Trade Commissioner in his investigations discovers the likelihood of any developments affecting producers' interests. Sales of wool, mohair, feathers, hides, etc., are attended and closely watched and constant visits are paid to the Baltic Exchange, Mark Lane, Mincing Lane, and other marketing centres. The office of the Trade Commissioner is called upon to reply to numerous trade inquiries, and considerable advantage is taken by the commercial public of the facilities the office affords in this connection. Many of these inquiries are made personally, and the South African merchants, producers, and shippers are making increasing use of the Trade Commissioner's services in prosecuting their inquiries and promoting their business in Great Britain. A useful function is performed in bringing producers and consumers into touch with each other and in giving business introductions where such are necessary.



(iii) *Inspection of Produce.*—The duties which fall under the heading of inspection are only slightly less important. Consignments of Union produce are examined and reports made on their condition and quality. Advice is given where goods fall short of market requirements and directions indicated in which alterations in packing, quality, or grading are desirable. Every shipment of fruit is inspected and faulty or damaged packs noted and reported on. This is a feature of the work which is of great benefit not only to growers but to the receivers who are only too eager to invite official inspection when cases of wastage arise.

(iv) *Propaganda.*—Trade propaganda has chiefly taken the form of exhibitions organized and run by the Trade Commissioner. In recent years these have been conducted on a scale hitherto not attempted by South Africa and they have attracted considerable attention both in England and on the Continent. In other less direct and less obvious ways the Trade Commissioner is called upon to take steps to widen existing markets and find new markets for South African products. The Trade Commissioner represents the High Commissioner on various Boards and Committees—e.g. the Empire Cotton Growing Corporation, the South African Committee of the Imperial Institute, Refrigeration Association, Poultry Association, etc. He is also a member of the South African Section of the London Chamber of Commerce and generally identifies himself with all trade movements in the United Kingdom which have a bearing on the trade interests of the Union.

**2. Commissioner of Commerce for the Union (Rotterdam).**—The Office of the Commissioner for the Union on the Continent of Europe, with Headquarters in Rotterdam, was created at the beginning of 1922, and Mr. Karl A. Spilhaus was appointed the first Commissioner, assuming duty in April of that year. The offices of the Commissioner of Commerce are at 15c Coolsingel, Rotterdam.

Honorary Trade Commissioners for the Union have been appointed at Helsingfors, Finland.

**3. H. M. Trade Commissioner.**—The post of His Majesty's Trade Commissioner was created in 1908 as a result of the Imperial Conference of 1907. An officer was appointed for each of the four larger Dominions by the Board of Trade to co-operate with their Commercial Intelligence Branch in fostering British trade; undertaking work similar to the commercial side of the activities of the British Consular Service in foreign countries. The scheme was in the nature of an experiment, and the organization proportionately small. The four Trade Commissioners were respectively instructed to open offices at Cape Town, Melbourne, Montreal, and Wellington. In 1918 steps were taken to carry out an important scheme of development as recommended by the Dominions Royal Commission, and it was decided to appoint Trade Commissioners in Calcutta and Bombay, the West Indies (Port of Spain, Trinidad), the East Indies (Singapore), as well as additional Trade Commissioners in the Dominions. In South Africa the Senior Trade Commissioner is stationed at Johannesburg, the Cape Town office remaining in charge of the additional Trade Commissioner. In Canada offices have been opened in Toronto and Winnipeg, and for Australia the Second Trade Commissioner is located in Sydney. In addition, Imperial Trade Correspondents in the other chief commercial centres of these Dominions co-operate with the Trade Commissioners. In South Africa there are Imperial Trade Correspondents at Durban, East London, Port Elizabeth, Bulawayo, Maseru (Basutoland), and Serowe (Bechuanaland).

The Commercial Intelligence Branch of the Board of Trade having been made with the Exhibitions Branch into a Department (the first fruits of which was the inauguration of an annual British Trade Fair) was in 1917 reconstituted as the Department of Overseas Trade, with a Parliamentary Under-Secretary, linking it alike with the Board of Trade and the Foreign Office, the whole commercial side of the Board of Trade being simultaneously reorganized in order to deal more effectively with British industry from the point of view of production, research, publicity, development, and intelligence.

A further development of the Trade Commissioners Service which is of particular interest and historical importance is its new Imperial aspect resulting from the decision of the Imperial War Conference. The services of H.M. Trade Commissioners in various parts of the British Empire were offered to the Government of India and to the Dominions in order to supplement an oversea intelligence organization of their own. This offer was accepted by the Union of South Africa, by India, and by New Zealand.

The primary object of the Trade Commissioner is to direct importers in South Africa, whether of finished manufactures, machinery for local production, or raw materials, to British sources of supply, and generally to work for the promotion of trade within the Empire. This obviously entails a close study of local requirements and of foreign competition in this market, as well as a knowledge of the capabilities of British producers and manufacturers oversea. It is also clear that there is almost unlimited scope for work in this field. The work is complementary and parallel to that of the Industries Section of the Union Department of Mines and Industries and of the Union Trade Commissioner

in London, with whom the Department of Overseas Trade in London and the Trade Commissioners in South Africa are in constant touch.

**4. American Trade Commissioner in South Africa.**—Since the establishment in 1912 of the U.S.A. Department of Commerce as a separate department, there has been a steady growth in the Bureau of Foreign and Domestic Commerce, in which are centered the trade promotion activities of the American Government. This Bureau has grown from a comparatively small organization until now there are five regional, fifteen commodity, six technical, and three administrative divisions, with a staff of over 300 in Washington alone. In addition, there are eight district offices, located in the principal commercial centres of the United States, and twenty-three co-operative offices which are maintained by local chambers of commerce. In the foreign field the Department of Commerce maintains twenty-seven offices, including the Johannesburg office, which was opened in 1920. A corps of travelling experts, investigating market conditions in the trades in which they are qualified authorities, is another feature of the foreign staff. In addition to these resources, the Department has the active co-operation of about one thousand American diplomatic and Consular Officers, located in every part of the world.

The chief function of the Bureau of Foreign and Domestic Commerce is assistance to American commerce in its broadest sense. Information on general commercial conditions, as well as on various trades and industries, is made available to the business public through many channels, especially the publications of the Bureau, of which a weekly "Commerce Reports" is the most important. Accurate, up-to-date reports which can be of practical value to American manufacturers and exporters, are received in Washington by cable and mail, and are promptly disseminated. The Foreign service is also interested in aiding firms located in their territories to find markets in the United States, especially for raw materials. A large part of the overseas representatives' attention is devoted to assisting importers and others who are desirous of securing American agencies, or purchasing American products.

**5. Canadian Trade Commissioner.**—The Canadian Trade Commission Service was established by Order-in-Council on the 21st November, 1891, and the first officer was appointed in 1894. Since then the Service has extended and at present Canadian Trade Commissioners to the number of twenty-eight are stationed in various parts of the world, including South Africa. In addition there are special Trade Commissioners who investigate overseas fields of trade in connection with some particular branch of Canadian trade. These activities of the overseas Trade Commissioners are supplemented by the appointment by the Canadian Department of Trade and Commerce of persons resident in other countries as part-time commercial agents who are allowed a small salary for services rendered. In addition arrangements were made by the Canadian Government with the British Government in 1912, whereby a large number of British Consuls were placed at the disposal of Canadians who may wish to consult them on trade matters.

The purpose of the Canadian Trade Commissioner Service is to promote the sale of Canadian products abroad and to provide Canadian manufacturers and exporters with information regarding trade conditions in countries where Canadian goods are likely to find a market. In addition to this direct work for Canadian export, overseas Canadian Trade Commissioners submit to headquarters data in reference to raw materials, etc., on behalf of the producers or manufacturers in any Dominion where they may be placed.

As there is no regular line of steamships between Canada and Africa, the Canadian Government has subsidized a steamship service to carry on trade between Canada and South Africa.

**6. Trade Commissioner for Madagascar.**—A Trade Commissioner for Madagascar has been appointed at Durban.

#### § 4. Imports and Exports.

**1. South African Oversea Trade, 1826 to 1909.**—The earliest statistics relating to the oversea trade of South Africa are those of the Cape of Good Hope, dating from 1826. From the year 1862 records of imports and exports through Durban are available, and from 1905 the figures relative to the trade with the Transvaal through Delagoa Bay become accessible, although the railway line from Lourenco Marques and the Transvaal was opened as early as 1893. Prior to the last mentioned date, the whole of the trade of the States now comprised within the Union was carried through Cape and Natal ports, but after the opening of the Delagoa Bay-Transvaal railway line an increasing volume of trade was carried along that route. In 1906 the value of imports through Cape and Natal ports totalled £26,972,804 while that through Delagoa Bay reached £3,654,120. The export trade through Cape and Natal ports during the same year was valued at £43,048,979, but that through Delagoa Bay was only £237,749. Table (i) gives the value of imports and exports through Cape

and Natal ports from 1826 to 1909. Tables (ii) and (iii) the quantity and value of the principal articles of South African produce exported from the Cape of Good Hope during the same period, and through Natal from 1862 to 1909. In each table the amount represents the average over five years. Table (iv) gives the value of imports and exports through Cape and Natal ports and Delagoa Bay from 1906 to 1909.

(i) VALUE OF IMPORTS AND EXPORTS THROUGH CAPE OF GOOD HOPE AND NATAL PORTS, 1826 TO 1909 IN AVERAGES OF FIVE YEARS.\*

YEAR.	IMPORTS.		EXPORTS.	
	Cape.	Natal.	Cape.	Natal.
Average.	£	£	£	£
1826-1829.....	299,235	—	244,250	—
1830-1834.....	357,087	—	276,556	—
1835-1839.....	906,902	—	469,261	—
1840-1844.....	950,718	—	564,509	—
1845-1849.....	1,109,443	55,922†	512,718	11,992†
1850-1854.....	1,602,797	112,614	778,124	27,053
1855-1859.....	2,095,155	149,272	1,639,240	80,427
1860-1864.....	2,560,848	464,432	2,165,965	152,993
1865-1869.....	2,073,253	337,167	2,371,541	254,008
1870-1874.....	4,002,930	777,527	4,048,092	594,111
1875-1879.....	5,930,230	1,471,010	5,625,099	674,307
1880-1884.....	7,590,288	1,978,187	7,742,134	827,249
1885-1889.....	5,546,540	2,506,215	7,788,303	921,811
1890-1894.....	10,017,987	3,134,309	11,917,037	1,618,413
1895-1899.....	16,294,320	4,845,715	20,171,390	1,834,067
1900-1904.....	25,254,743	10,859,135	10,944,130	2,214,964
1905-1909.....	16,360,299	8,261,765	41,381,433	3,439,233

\* Exclusive of bullion and specie.

† Figures for one year only—1849.

(ii) QUANTITY AND VALUE OF PRINCIPAL ARTICLES OF SOUTH AFRICAN PRODUCE EXPORTED FROM CAPE COLONY, 1826 TO 1909, IN AVERAGES OF FIVE YEARS.

(a) QUANTITY.

Year.	Wool.	Sheep and Goat Skins.	Hides.	Ostrich Feathers.	Wine.	Copper.	Gold.	Diamonds.	Mohalr.
	1,000 lb.	No. 1,000	No. 1,000	1,000 lb.	1,000 galls.	Tons, 2,000 lb.	Oz.	Carats.	1,000 lb.
1826-1829..	40	128	64	7	1,392	—	—	—	—
1830-1834..	85	210	64	5	981	—	—	—	—
1835-1839..	404	331	41	8	1,090	—	—	—	—
1840-1844..	1,488	300	39	8	709	—	—	—	—
1845-1849..	3,781	395	50	1	484	—	—	—	—
1850-1854..	7,113	465	38	1	346	—	—	—	—
1855-1859..	16,235	1,023	78	2	805	3,200	—	—	—
1860-1864..	28,063	1,315	28	1	165	3,317	—	—	2
1865-1869..	35,542	1,824	24	17	—	4,565	—	—	89
1870-1874..	43,080	2,724	57	30	—	10,621	802	—	724
1875-1879..	36,687	2,481	97	71	—	13,470	6,776	—	1,510
1880-1884..	40,446	3,020	127	218	—	18,233	4,932	452,747	3,857
1885-1889..	51,821	3,778	222	260	113	29,853	89,091	3,195,507	7,373
1890-1894..	66,543	5,059	264	256	84	25,479	1,186,739	2,813,102	9,833
1895-1899..	68,471	4,360	370	355	78	24,444	3,220,263	3,380,115	11,460
1900-1904..	60,421	4,208	199	416	90	27,111	1,924,206	2,026,232	13,137
1905-1909..	78,839	6,163	176	609	297	22,824	7,445,218	4,250,100	15,650

## (b) VALUE.

Year.	Wool.	Sheep and Goat Skins.	Hides.	Ostrich Feathers.	Wine.	Copper.	Gold.	Diamonds.	Mohair.
	£	£	£	£	£	£	£	£	£
1826-1829.	1,203	8,454	26,408	1,700	124,603	—	—	—	—
1830-1834.	4,644	13,991	36,124	1,845	81,433	—	—	—	—
1835-1839.	23,051	22,246	24,089	1,870	95,603	—	—	—	—
1840-1844.	73,442	20,094	25,021	3,811	57,982	—	—	—	—
1845-1849.	180,158	25,256	23,365	5,174	44,457	—	—	—	—
1850-1854.	383,043	35,201	14,850	4,612	35,624	—	—	—	—
1855-1859.	967,889	95,732	61,869	12,886	115,103	94,967	—	—	—
1860-1864.	1,508,079	117,775	17,992	46,355	23,054	—	—	—	147
1865-1869.	1,802,290	158,721	13,192	342,165	—	100,515	—	5,098	4,410
1870-1874.	2,558,991	207,164	38,196	152,183	—	253,887	3,129	1,027,334	56,321
1875-1879.	2,282,627	243,853	38,813	438,005	—	269,141	34,565	1,904,809	120,531
1880-1884.	2,082,285	319,092	63,043	953,544	—	384,292	17,552	3,417,280	248,727
1885-1889.	1,824,871	303,551	110,116	442,036	21,238	617,155	302,498	3,716,880	272,301
1890-1894.	1,088,868	390,049	75,664	407,624	19,247	837,867	4,145,711	3,815,626	403,088
1895-1899.	1,803,580	340,473	129,349	648,500	18,737	295,121	11,286,046	4,515,672	677,430
1900-1904.	1,573,900	401,945	43,714	922,950	24,125	482,888	7,002,445	5,137,295	605,688
1905-1909.	2,302,338	612,505	94,537	1,026,222	52,617	406,252	27,296,836	7,231,252	750,095

## (iii) QUANTITY AND VALUE OF PRINCIPAL ARTICLES OF SOUTH AFRICAN PRODUCE, EXPORTED THROUGH NATAL, 1862-1909 IN AVERAGES OF FIVE YEARS.

Year.	Wool.		Sheep and Goat Skins.	Hides.	Maize.	Ivory.	Gold.	Coal.	Wattle Bark.	Sugar.
	Quantity.	Value.								
Average.	1,000 lb.	£	No. ,000	No. ,000	Tons, 2,000 lb.	£	Oz.	Tons, 2,000 lb.	Tons, 2,000 lb.	Tons, 2,000 lb.
1862-1864	1,187	49,559	11	16	715	31,350	—	—	—	2,100
1865-1869	2,256	83,271	59	19	782	10,446	—	—	—	4,320
1870-1874	5,846	228,037	358	125	331	12,039	—	—	—	6,921
1875-1879	10,156	396,826	129	171	879	11,245	—	—	—	6,979
1880-1884	15,015	500,849	121	251	1,748	5,249	2,140	—	—	8,515
1885-1889	24,077	620,893	337	261	4,701	2,262	73,000	—	*1,187	8,142
1890-1894	22,339	556,606	400	208	1,450	—	62,800	51,529	*30,722	5,438
1895-1899	23,002	559,369	346	388	2,175	—	40,125	118,047	6,993	4,477
1900-1904	8,833	228,711	684	1,070	5,094	—	257,034	251,563	13,232	7,902
1905-1909	20,992	628,194	1,559	4,128	46,392	—	303,284	952,241	23,734	3,731

\* Packages.

## (iv) VALUE OF IMPORTS AND EXPORTS THROUGH CAPE AND NATAL PORTS AND DELAGOA BAY, 1906 TO 1909 (EXCLUDING SPECIE).

YEAR	IMPORTS.				EXPORTS.			
	Cape.	Natal.	Delagoa Bay.	Total.	Cape.	Natal.	Delagoa Bay.	Total.
	£	£	£	£	£	£	£	£
1906	18,102,872	8,869,932	3,654,120	30,626,924	40,048,693	3,000,266	237,749	43,286,708
1907	15,586,792	7,552,326	3,395,923	26,535,041	44,504,450	3,580,571	296,839	48,381,860
1908	13,739,878	6,709,422	3,016,993	24,366,293	42,011,582	3,624,957	241,850	45,880,389
1909	14,610,981	7,624,598	4,826,371	27,061,950	46,573,223	4,482,036	253,998	51,309,255

2. **Imports and Exports from 1906.**—The subjoined table gives the total value of imports and exports (excluding specie) in respect of the territories comprising the Union, from 1906 to 1909, and in respect of the Union from 1910, with the value per head of the mean population, and per head of the mean white population, and the proportion per cent. of exports to imports:—

**IMPORTS AND EXPORTS FROM 1906 (INCLUDING GOVERNMENT IMPORTS BUT EXCLUDING SPECIE).**

YEAR.	VALUE.			VALUE PER HEAD OF MEAN POPULATION.				PROPORTION PER CENT. OF EXPORTS TO IMPORTS.
	Imports.	Exports.	Total.	Total Population.			European Population.	
				Im-ports.	Exports.	Imports and Exports.	Imports and Exports.	
<i>States now comprised in Union.</i>	£	£	£	£ s. d.	£ s. d.	£ s. d.	£ s. d.	%
1906.....	31,075,830	41,706,271	72,782,101	5 14 8	7 13 11	13 8 7	62 8 8	134.2
1907.....	26,841,517	46,636,275	73,477,792	4 17 1	8 8 7	13 5 8	61 16 10	173.8
1908.....	24,532,520	43,910,451	68,442,971	4 6 11	7 15 6	12 2 5	56 10 4	179.0
1909.....	27,355,877	49,296,673	76,652,550	4 14 11	8 11 1	13 6 0	62 2 1	180.2
<i>Union.</i>								
1910.....	36,727,367	53,609,340	90,336,707	6 5 0	9 2 5	15 7 5	71 19 0	145.9
1911.....	36,925,384	57,024,000	93,949,384	6 3 3	9 10 4	15 13 7	73 7 6	154.4
1912.....	38,838,960	62,974,219	101,813,179	6 7 3	10 6 5	16 13 8	78 0 1	162.1
1913.....	41,828,841	66,569,364	108,398,205	6 14 8	10 14 3	17 8 11	81 10 0	159.1
1914.....	35,354,971	39,933,612	75,288,583	5 11 9	6 6 3	11 18 0	55 11 4	113.0
1915.....	31,810,717	34,817,983	66,628,700	4 18 10	5 8 2	10 7 0	48 5 10	109.4
1916.....	40,399,945	65,683,381	106,083,326	6 3 5	10 0 8	16 4 1	75 10 7	162.6
1917.....	36,476,238	91,574,835	128,051,073	5 9 7	13 15 1	19 4 8	89 11 8	251.1
1918.....	49,487,168	70,632,924	120,120,092	7 6 3	10 8 8	17 14 11	82 12 2	142.8
*1919.....	50,791,205	106,402,627	157,193,832	7 11 0	15 16 3	23 7 3	106 9 5	209.5
*1920.....	101,827,104	98,896,483	200,723,587	14 17 10	14 9 3	29 7 1	133 16 6	97.1
*1921.....	57,800,316	74,354,154	132,154,470	8 6 5	10 14 0	19 0 5	86 15 0	128.6

\* Includes value of gold premium, which is estimated at £3,888,981 from the 24th July to the 31st December, 1919, £11,228,967 for 1920, and £8,535,015 for 1921. In subsequent tables the value of the gold premium is excluded.

3. **Imports into the Union.**—The following tables give particulars as to the value of various classes of articles, various articles in detail, and the total value of imports into the Union from the year 1910:—

(i) **VALUE OF IMPORTS OF VARIOUS CLASSES INTO THE UNION FROM 1910 (INCLUDING GOVERNMENT STORES BUT EXCLUDING SPECIE).**

Year.	Animals (Living).	Agriculture (Articles for use in).	Food and Drink.	Raw Materials for Manufacture.	Manufactured Articles.	Imports from Southern and Northern Rhodesia.	Total.
	£	£	£	£	£	£	£
1910.....	144,439	846,926	5,942,062	3,565,749	26,370,909	57,282	36,727,367
1911.....	187,697	846,557	6,339,523	3,515,872	26,155,164	80,571	36,925,384
1912.....	173,810	719,408	6,364,289	3,820,454	27,085,162	75,837	38,838,960
1913.....	275,252	759,310	7,587,146	4,109,744	28,979,570	117,819	41,828,841
1914.....	121,262	626,840	5,998,254	3,022,805	25,431,847	153,963	35,354,971
1915.....	62,008	537,288	6,192,304	2,714,384	22,148,053	156,670	31,810,717
1916.....	76,812	680,382	5,839,629	3,680,605	29,786,816	329,701	40,399,945
1917.....	56,191	584,486	5,113,831	3,623,765	26,662,601	435,454	36,476,238
1918.....	82,197	721,041	4,734,401	3,971,813	39,525,327	440,389	49,487,168
1919.....	435,460	*1,016,821	4,852,217	4,434,021	39,351,656	701,030	50,791,205
1920.....	517,673	*1,762,061	14,070,104	8,891,661	75,309,965	1,275,640	101,827,104
1921.....	299,469	*1,294,930	5,398,033	4,498,271	45,783,017	526,656	57,800,316

\* Including Agricultural Machinery which, prior to 1919, was included with Manufactured Articles.

(ii) **PROPORTION PER CENT. TO TOTAL VALUE OF IMPORTS INTO THE UNION OF IMPORTS OF VARIOUS CLASSES FROM 1910 (INCLUDING GOVERNMENT STORES BUT EXCLUDING SPECIE).**

Year.	Animals (Living).	Agriculture (Articles for use in).	Food and Drink.	Raw Materials for Manufacture.	Manufactured Articles.	Imports from Southern and Northern Rhodesia.	Total.
1910.....	0.39	1.76	16.18	9.71	71.80	0.16	100.00
1911.....	0.51	1.75	17.17	9.52	70.83	0.22	100.00
1912.....	0.45	1.85	16.39	9.84	71.28	0.19	100.00
1913.....	0.66	1.82	18.14	9.82	69.28	0.28	100.00
1914.....	0.34	1.77	16.97	8.55	71.93	0.44	100.00
1915.....	0.20	1.69	19.47	8.53	69.62	0.49	100.00
1916.....	0.19	1.70	14.45	9.11	73.73	0.82	100.00
1917.....	0.15	1.60	14.02	9.04	73.10	1.19	100.00
1918.....	0.17	1.46	9.57	8.02	79.87	0.91	100.00
1919.....	0.86	*2.00	9.55	8.73	77.48	1.38	100.00
1920.....	0.51	*1.73	13.82	8.73	73.96	1.26	100.00
1921.....	0.52	*2.24	9.34	7.78	79.21	0.91	100.00

\* Including Agricultural Machinery which, prior to 1919, was included with Manufactured Articles.

(iii) **VALUE OF IMPORTS INTO THE UNION OF RAW MATERIALS FOR MANUFACTURES AND MANUFACTURED ARTICLES FROM 1910 (INCLUDING GOVERNMENT STORES).**

YEAR.	RAW MATERIAL FOR MANUFACTURES.		MANUFACTURED ARTICLES.					
	Metals and Minerals.	Other.	Furniture, etc.	Machinery, etc.	Metal Manufactures (not Machinery).	Ollman's Stores.	Textiles.	Miscellaneous.
	£	£	£	£	£	£	£	£
1910...	1,576,625	1,989,124	1,108,726	3,845,157	2,492,708	1,283,685	10,080,461	7,560,172
1911.....	1,462,184	2,053,688	1,294,628	3,112,555	2,456,647	1,342,536	10,532,952	7,415,646
1912.....	1,784,010	2,035,844	1,340,799	2,833,289	2,521,268	1,329,515	10,832,104	8,822,167
1913.....	1,776,656	2,333,088	1,332,250	2,999,132	2,717,996	1,429,602	10,698,727	9,801,863
1914.....	1,340,376	1,682,429	975,835	2,626,813	2,030,004	1,285,066	9,214,072	9,299,157
1915.....	1,339,203	1,375,181	751,583	1,966,180	1,404,473	1,333,836	9,296,254	7,395,727
1916.....	1,672,622	1,707,983	1,210,229	2,217,038	1,837,590	1,766,733	13,662,241	9,062,935
1917.....	1,853,261	1,770,504	796,433	1,909,267	1,626,566	1,875,289	12,837,757	7,717,289
1918.....	1,781,497	2,190,318	1,044,790	1,744,352	1,770,134	2,068,150	23,379,008	9,521,893
1919.....	2,299,067	2,134,954	1,231,463	*2,609,647	3,669,055	2,805,476	15,912,338	13,123,677
1920.....	3,967,806	4,923,855	3,083,455	*4,501,945	6,785,170	4,384,014	30,872,662	25,679,719
1921.....	2,104,436	2,303,835	1,608,337	*5,070,946	4,037,718	3,489,710	14,638,677	10,937,629

\* Exclusive of Agricultural Machinery included with Articles for use in Agriculture and exclusive of Electrical Machinery included with Miscellaneous Manufactured Goods.

(iv) **ANNUAL VALUE OF IMPORTS OF ARTICLES OF VARIOUS CLASSES INTO THE UNION, FROM 1910 (INCLUDING GOVERNMENT STORES).**

(a) **Articles for use in Agriculture.**

Articles.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Fodder and Forage.....	5,590	3,859	4,391	5,300	11,089	10,083
Implements of all kinds*.....	409,530	412,541	495,657	768,123	1,304,085	1,004,743
Manures and Fertilizers.....	137,880	116,091	117,123	52,937	240,022	196,258
Plants, Bulbs, and Trees.....	4,880	2,166	964	2,909	6,375	7,007
Seeds.....	42,673	23,616	30,433	31,204	39,559	28,451
Sheep Dip.....	79,455	74,026	72,473	136,348	160,951	48,388
<b>TOTAL.....</b>	<b>£ 679,808</b>	<b>£ 632,299</b>	<b>721,041</b>	<b>1,010,821</b>	<b>1,762,061</b>	<b>1,294,930</b>

\* Exclusive of Agricultural Machinery prior to 1910.

(iv) ANNUAL VALUE OF IMPORTS OF ARTICLES OF VARIOUS CLASSES INTO THE UNION FROM 1910 (INCLUDING IMPORTS FOR GOVERNMENT)—*contd.*

## (b) Articles of Food and Drink.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
<i>Agricultural and Garden Produce—</i>						
Coffee, Raw and Roasted...	650,350	628,580	852,007	692,370	1,153,215	609,982
Corn and Grain (including Malt).....	877,455	938,966	495,089	359,403	3,143,841	413,367
Flour and Meal.....	631,602	404,872	210,216	460,378	2,009,709	422,893
Fruit, Fresh (including Nuts).	63,700	52,701	65,296	38,677	73,231	53,212
Fruit, Dried or Preserved, and Dates.....	75,789	54,011	33,580	93,863	219,074	68,025
Rice.....	358,868	412,429	451,176	381,042	810,487	480,446
Sugar and Sugar Products...	408,417	199,259	330,123	73,679	113,361	432,330
Tea.....	270,942	361,119	472,274	421,601	507,268	439,169
Vegetables, Fresh.....	29,501	4,690	50	3,320	34,163	17,857
Vegetables, Preserved.....	36,038	20,388	10,407	24,828	54,596	17,066
<i>Dairy Products—</i>						
Butter and Butter Substitutes	260,267	135,545	204,927	72,270	211,827	106,831
Cheese.....	152,592	78,636	14,498	2,037	93,672	4,944
Milk, Condensed.....	416,070	338,769	143,002	342,533	647,599	385,033
<i>Farm Produce (General)—</i>						
Eggs, Fresh.....	62,771	4,844	6	7	5	8
Hams, Bacon, and Salted Meats	238,350	108,633	16,201	6,654	11,480	33,261
Lard.....	55,826	35,688	1,192	2,537	42,087	7,097
Meat and Poultry (Frozen)...	92,365	1,340	3	4,689	65,578	2,520
Meat, Preserved.....	125,773	107,301	87,413	88,017	168,708	36,407
<i>Miscellaneous Articles of Food and Drink—</i>						
Aerated Waters.....	13,165	4,245	1,989	3,211	6,351	4,901
Ale and Beer.....	40,485	31,004	21,618	11,133	57,872	29,183
Biscuits and Cakes.....	66,821	28,611	4,182	11,482	26,308	14,086
Confectionery, Jams, and Jellies.....	279,337	203,745	67,278	223,435	691,330	254,680
Fish: Fresh, Dried, and Pre- served.....	244,301	181,971	67,074	296,226	868,957	215,498
Pickles, Sauces, Condiments, and Spices.....	87,208	152,147	290,481	210,090	221,929	105,635
Wines and Spirits.....	420,309	470,447	467,212	376,932	891,830	662,277
All other Food and Drink (N.O.D.).....	427,290	509,895	427,107	651,792	1,045,626	581,295
<b>TOTAL.....£</b>	<b>6,446,255</b>	<b>5,470,056</b>	<b>4,734,401</b>	<b>4,852,217</b>	<b>14,070,104</b>	<b>5,398,033</b>

## (c) Raw Material.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
<i>Metals, Minerals, etc., Raw or Partly Manufactured—</i>						
Brass and Copper.....	35,752	37,668	57,007	106,111	131,440	89,822
Coal and Coke.....	72,029	29,028	823	926	805	5,526
Iron and Steel.....	916,232	907,767	1,017,528	1,536,661	3,256,850	1,438,053
Lead.....	16,934	20,921	20,157	19,041	15,071	16,417
Nitrates.....	233,689	255,137	253,474	305,153	202,113	361,118
Quicksilver.....	26,987	47,903	63,922	26,976	52,906	29,781
Sulphur.....	47,840	74,933	96,987	48,481	61,918	51,757
Tar, Bitumen, and Asphalte..	30,164	31,213	18,876	67,208	120,754	61,350
Tin.....	81,197	60,810	12,908	12,599	17,484	71,418
Zinc.....	126,666	271,257	239,815	175,911	108,315	69,194
<b>TOTAL.....£</b>	<b>1,588,000</b>	<b>1,736,646</b>	<b>1,781,497</b>	<b>2,299,067</b>	<b>3,967,806</b>	<b>2,194,436</b>
<i>Other Raw Material—</i>						
Dye Stuffs.....	6,294	27,287	40,310	71,552	89,128	64,853
Glycerine for Manufactures..	493,702	388,768	424,018	137,662	538,361	435,818
Hides and Skins.....	13,288	55,810	75,047	143,406	119,494	16,038
Hops.....	30,330	24,453	35,178	37,596	68,047	47,607
Horns.....	367	332	82	347	284	91
Leather, Unmanufactured...	209,365	164,563	162,915	200,374	319,162	133,184
Stones, Marble, etc.....	27,151	9,547	5,182	15,265	56,083	28,932
Tobacco, Raw and Partly Pre- pared.....	45,607	20,897	32,708	42,899	38,922	28,463
Wax, Paraffin and Stearine..	223,815	363,843	530,227	346,223	813,966	249,934
Wood, Raw and Partly Pre- pared.....	977,810	696,406	884,649	1,140,180	2,880,408	1,298,915
<b>TOTAL.....£</b>	<b>2,018,835</b>	<b>1,760,996</b>	<b>2,190,316</b>	<b>2,134,954</b>	<b>4,923,855</b>	<b>2,303,835</b>
<b>TOTAL—ALL RAW MATERIAL £</b>	<b>3,606,925</b>	<b>3,497,642</b>	<b>3,971,813</b>	<b>4,434,021</b>	<b>8,891,661</b>	<b>4,498,271</b>

(iv) ANNUAL VALUE OF IMPORTS OF ARTICLES OF VARIOUS CLASSES INTO THE UNION FROM 1910 (INCLUDING IMPORTS FOR GOVERNMENT)—*contd.*

## (d) Manufactured Articles.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1910.	1920.	1921.
<i>Furniture and Other Articles for the Interior (exclusive of Hardware)—</i>						
Basketware.....	£ 15,236	£ 10,751	£ 10,684	£ 6,818	£ 30,382	£ 11,272
Brushware.....	83,338	61,136	77,820	84,325	146,512	81,162
Clocks and Watches.....	81,113	87,764	115,290	118,597	197,625	109,153
Furniture of all sorts, including Carpets.....	617,878	398,168	409,450	456,586	1,291,935	661,111
Glass and Glassware.....	225,171	253,872	283,889	331,046	927,921	445,343
Lampware.....	50,841	42,125	34,555	58,379	98,199	79,658
Mats and Matting.....	18,465	16,322	10,123	20,684	39,156	23,556
Plate and Plateware.....	139,608	80,621	93,979	155,028	361,725	197,082
<b>TOTAL.....£</b>	<b>1,211,648</b>	<b>950,759</b>	<b>1,044,700</b>	<b>1,231,463</b>	<b>3,083,455</b>	<b>1,608,337</b>
<i>Machinery (not including Locomotives) and Articles in connection with—</i>						
Anti-friction Grease.....	46,862	59,086	56,459	55,594	112,602	79,694
Agricultural Machinery.....	178,705	74,874	85,063	•	•	•
Electrical Machinery.....	546,739	161,611	127,364	†	†	†
Fire Engines.....	16,130	5,980	3,771	9,485	16,294	25,250
Manufacturing and Sawing Machinery.....	304,332	238,472	208,475	557,073	1,216,882	1,608,184
Mining Machinery.....	910,441	698,965	588,480	779,148	737,395	1,116,255
Printing Machinery.....	46,767	11,433	7,284	28,196	106,575	177,005
Water-boring Machinery.....	24,287	5,378	1,865	2,687	21,314	106,493
All other (N.O.D.) and parts thereof.....	1,009,126	703,412	665,591	1,176,564	2,290,883	1,958,065
<b>TOTAL.....£</b>	<b>3,083,389</b>	<b>1,959,209</b>	<b>1,744,352</b>	<b>2,009,647</b>	<b>4,501,945</b>	<b>5,070,946</b>
<i>Metal Manufactures, other than Machinery—</i>						
Brass and Copper Ware.....	44,753	33,059	33,418	64,041	122,709	93,370
Fencing Material: Wire, Standards, etc.....	519,979	96,916	80,868	337,442	1,153,917	315,616
Lead Manufactures.....	19,770	20,471	5,461	10,954	42,580	10,919
Tin Manufactures.....	39,267	35,252	19,573	45,146	133,048	61,776
Wire Ropes.....	114,072	104,915	95,912	274,582	537,768	227,654
Zinc Manufactures.....	647	85	62	676	188	70
Hardware and Cutlery and Iron Manufactures (N.O.D.)	1,705,281	1,343,993	1,584,840	2,936,214	4,797,960	3,328,313
<b>TOTAL.....£</b>	<b>2,443,769</b>	<b>1,634,691</b>	<b>1,770,134</b>	<b>3,669,055</b>	<b>6,788,170</b>	<b>4,037,718</b>
<i>Oilman's Stores, including Ship Chandlers' Stores—</i>						
Candles.....	24,836	1,747	1,041	1,855	5,173	2,725
Matches.....	3,664	3,652	10,543	3,786	3,886	1,584
Oils.....	756,563	1,204,467	1,463,955	1,813,500	3,041,950	2,812,758
Paints and Painters' Goods.....	201,954	214,344	222,045	478,626	616,996	352,027
Soap of all kinds.....	139,028	79,233	70,631	69,504	135,474	48,929
All other (N.O.D.).....	208,216	257,572	299,935	438,121	580,535	271,687
<b>TOTAL.....£</b>	<b>1,334,261</b>	<b>1,761,015</b>	<b>2,068,150</b>	<b>2,805,476</b>	<b>4,384,014</b>	<b>3,489,710</b>
<i>Textile Goods, Wearing Apparel, etc.—</i>						
Apparel and Slops.....	2,607,521	2,521,620	2,951,647	3,122,207	7,985,419	3,004,855
Bags—Corn, Coal, etc.....	437,339	897,111	1,353,068	1,329,696	1,054,582	766,420
Boots and Shoes.....	1,207,510	1,283,497	1,603,723	1,538,927	3,362,135	1,79,366
Canvas and Duck.....	75,345	206,143	283,780	418,789	481,574	429,415
Cotton Piece Goods.....	1,635,285	4,121,870	8,010,277	3,504,670	5,769,491	3,200,924
Cotton Manufactures (N.O.D.)	1,403,220	2,692,852	4,273,576	2,619,122	4,821,007	2,640,638
Haberdashery and Millinery.....	1,503,713	1,125,164	1,408,635	1,213,981	2,094,866	932,631
Hats and Caps.....	247,943	303,892	404,305	382,881	837,158	476,563
Jute Manufactures.....	31,810	78,610	142,785	60,150	81,171	39,632
Linen Piece Goods.....	6,832	5,777	9,680	6,013	31,632	32,739
Linen Manufactures.....	47,471	37,834	44,596	38,711	131,285	103,821
Silk Piece Goods.....	49,075	217,701	458,677	389,713	892,868	604,220
Silk Manufactures.....	41,616	55,562	73,079	59,874	201,698	189,687
Tents and Tarpsaulins.....	72,903	24,258	16,649	53,161	74,591	45,511
Uniforms and Appointments.....	54,070	137,458	205,681	75,099	121,345	88,111
Woolen Piece Goods.....	332,692	546,617	895,303	531,678	1,752,334	829,718
Woolen Manufactures.....	517,252	537,849	642,687	567,036	1,229,476	783,417
<b>TOTAL.....£</b>	<b>10,271,663</b>	<b>14,793,815</b>	<b>23,379,008</b>	<b>15,912,338</b>	<b>30,872,002</b>	<b>14,638,677</b>

\* Included with Articles for use in Agriculture. † Included with Miscellaneous Manufactured Goods



(iv) ANNUAL VALUE OF IMPORTS OF ARTICLES OF VARIOUS CLASSES INTO THE UNION FROM 1910 (INCLUDING IMPORTS FOR GOVERNMENT)—*contd.*(d) MANUFACTURED ARTICLES—*continued.*

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
<b>Miscellaneous Manufactured Goods—</b>						
Arms and Ammunition.....	319,831	414,032	480,202	276,611	568,720	342,770
Beads.....	21,744	16,370	18,601	15,782	35,136	43,345
Binding Twine and Harvest Yarn.....	17,457	59,033	157,279	24,090	29,507	16,055
Binoculars and Films.....	*	47,467	60,480	44,833	80,588	78,285
Blasting Compounds, including Dynamite.....	77,787	4,230	828	1,565	2,618	1,106
Boats.....	6,192	1,123	1,013	3,817	11,432	5,016
Cement.....	132,969	37,980	882	17,764	134,084	153,400
Cordage and Rope.....	51,407	76,321	72,223	119,773	129,445	75,763
Drugs, Chemicals, and Medicines.....	917,163	1,140,651	1,284,302	1,080,573	1,544,486	1,084,929
Earthenware and Chinaware (including Bricks).....	154,894	161,770	187,837	208,021	525,207	447,037
Electrical Cable and Fittings.....	574,839	396,950	394,706	1,091,502†	1,812,198†	2,219,579†
Indiarubber Goods.....	43,796	474,689	441,073	565,176	1,403,719	344,558
Instruments, Musical.....	156,279	78,987	60,469	134,074	419,297	202,011
Instruments (N.O.D.).....	39,222	36,028	51,708	65,251	111,393	160,087
Jewellery.....	158,153	94,060	96,739	125,527	264,717	74,645
Leather Manufactures (N.O.D.).....	117,886	69,504	81,819	83,763	197,232	67,772
Paper of all sorts.....	341,369	693,179	991,943	1,116,030	1,626,153	1,216,120
Perfumery.....	77,056	146,647	212,506	251,997	308,869	223,061
Phonographs.....	79,562	15,762	19,190	32,078	75,432	59,648
Printers' Materials.....	51,171	54,139	27,106	41,697	74,000	61,162
Railway and Tramway Materials (including Locomotives).....	1,934,013	1,136,468	1,078,607	2,440,930	5,280,768	4,816,292
Saddlery and Harness.....	76,608	12,082	20,179	21,450	63,132	23,122
Sporting Goods, Toys, and Tobacconists' Wares.....	263,877	271,070	371,086	414,592	856,389	500,578
Stationery and Stationers' Goods of all Sorts.....	781,490	872,344	1,188,372	1,289,874	1,987,197	1,457,523
Tobacco: Cigars, Cigarettes, and other Manufactures.....	131,622	85,506	78,577	117,032	227,082	99,186
Vehicles of all sorts, not Motor Vehicles, Motor, of all sorts..	323,679	124,364†	125,358†	177,062†	414,914†	212,830†
Wood Manufactures (not Furniture).....	752,985	782,945‡	829,034‡	1,770,093‡	4,279,645‡	1,183,546‡
Works of Art.....	231,930	238,080	201,655	243,073	706,515	359,121
All other Articles not classified or specified.....	24,079	8,120	6,481	17,405	46,652	38,908
	720,741	879,954	1,261,576	1,309,942	2,463,073	1,369,424
<b>TOTAL MISCELLANEOUS £</b>	<b>8,579,801</b>	<b>8,431,961</b>	<b>9,521,893</b>	<b>13,123,677</b>	<b>25,679,719</b>	<b>16,937,629</b>

\* Included with phonographs. † Including electrical machinery. ‡ Excluding tyres imported separately. || Includes tyres imported separately.

4. Exports from the Union.—The following tables give particulars as to the value of various classes of articles, the quantity and value of various articles in detail, and the total value of articles the produce of the Union exported each year from 1910:—

## (i) ANNUAL VALUE OF EXPORTS FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES, BUT EXCLUDING SPECIE AND VALUE OF GOLD PREMIUM).

Year.	Living Animals	Agricultural and Pastoral Produce.	Products of Mines.	Other Articles.	Exports to Southern and Northern Rhodesia.	Total South African Products.	Imports Re-exported.	Grand Total.
	£	£	£	£	£	£	£	£
1910...	42,362	9,184,687	41,095,801	240,589	464,935	52,228,374	1,380,966	53,000,340
1911...	45,388	9,246,134	45,509,969	314,772	482,090	55,389,353	1,634,647	57,024,000
1912 ..	39,988	11,163,506	49,394,640	407,227	597,752	61,594,113	1,380,166	62,974,219
1913 ..	34,106	12,239,524	51,856,555	439,354	559,095	65,114,634	1,454,739	66,569,364
1914 ..	33,568	9,090,642	28,475,121	369,561	535,184	38,495,676	1,438,536	39,933,612
1915 ..	44,165	9,930,016	22,087,205	562,012	547,448	33,181,146	1,636,837	34,817,983
1916 ..	32,797	12,915,537	46,586,369	1,108,516	607,235	63,250,454	2,432,927	65,683,381
1917 ..	47,452	16,291,187	70,419,894	1,267,942	655,760	88,682,145	2,892,690	91,574,835
1918 ..	60,763	18,192,359	45,962,174	1,309,652	833,756	96,358,791	4,274,220	70,632,924
1919 ..	53,704	39,064,453	62,996,738	1,406,791	870,742	98,392,338	4,121,308	102,513,646
1920 ..	68,260	25,623,600	58,053,616	1,736,636	1,294,994	81,777,116	5,890,400	87,667,516
1921 ..	54,142	17,899,393	41,251,152	1,072,288	1,109,668	61,386,643	4,432,496	65,819,139

## (ii) PROPORTION PER CENT. TO TOTAL VALUE OF VALUE OF EXPORTS OF VARIOUS CLASSES FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES BUT EXCLUDING SPECIE AND VALUE OF GOLD PREMIUM).

Year.	Living Animals.	Agricultural and Pastoral Produce.	Products of Mines.	Other Articles.	Exports to Southern and Northern Rhodesia.	Exports Total South African Produce.	Imports Re-exported.	Grand Total.
1910...	0.08	17.69	78.38	0.45	0.87	97.42	2.58	100.00
1911...	0.08	16.21	79.44	0.55	0.85	97.13	2.87	100.00
1912...	0.05	17.72	78.44	0.65	0.95	97.81	2.19	100.00
1913...	0.06	18.39	77.90	0.64	0.82	97.81	2.19	100.00
1914...	0.09	22.76	71.31	0.90	1.34	96.40	3.60	100.00
1915...	0.13	28.52	68.47	1.61	1.57	95.30	4.70	100.00
1916...	0.05	19.66	73.97	1.69	0.93	96.30	3.70	100.00
1917...	0.05	17.79	76.90	1.38	0.72	96.84	3.16	100.00
1918...	0.09	25.76	65.07	1.85	1.18	93.95	6.05	100.00
1919...	0.05	32.26	61.45	1.37	0.85	95.98	4.02	100.00
1920...	0.08	29.23	60.51	1.98	1.48	93.28	6.72	100.00
1921...	0.08	27.20	62.67	1.03	1.69	93.27	6.73	100.00

## (iii) NUMBER AND VALUE OF LIVING ANIMALS EXPORTED ANNUALLY FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES).

## (a) Number.

	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Bulls and Oxen.....	315	1,394	1,871	1,030	1,546	1,748
Cows and Calves.....	110	159	326	47	106	224
Donkeys and Jackasses.....	2	35	39	93	20	28
Goats.....	219	3,216	4,491	4,784	4,843	1,752
Horses.....	446	344	282	263	427	239
Mules.....	141	145	115	187	312	86
Ostriches.....	26	—	—	—	—	—
Pigs.....	2,189	2,198	3,444	3,762	1,144	1,793
Poultry.....	13,869	24,151	25,261	27,467	10,299	13,416
Sheep and Lambs.....	3,794	3,820	3,616	2,965	2,613	7,793

## (b) Value.

	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Bulls and Oxen.....	£ 3,042	£ 13,680	£ 21,681	£ 13,243	£ 21,838	£ 18,312
Cows and Calves.....	1,316	2,105	4,167	687	3,625	4,674
Donkeys and Jackasses.....	16	278	225	510	159	140
Goats.....	221	2,812	4,201	4,447	6,459	1,788
Horses.....	12,901	7,264	5,784	9,563	12,144	4,945
Mules.....	4,085	3,411	2,770	4,619	6,893	1,567
Ostriches.....	933	—	—	—	—	—
Pigs.....	5,830	6,948	11,190	8,896	6,455	7,235
Poultry.....	2,357	5,044	5,504	6,201	3,666	4,454
Sheep and Lambs.....	4,031	4,558	4,982	4,431	5,429	9,302
All other animals.....	2,450	269	259	1,107	2,192	1,635
TOTAL.....£	38,082	46,369	60,763	53,704	68,360	54,142

(iv) QUANTITY AND VALUE OF EXPORTS FROM THE UNION OF PRODUCE OF THE LAND, AGRICULTURAL AND PASTORAL (OTHER THAN LIVING ANIMALS), FROM 1910 (INCLUDING SHIPS' STORES).

## (a) Quantity.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Aloes.....J..lb.	773,391	730,797	530,077	1,202,982	796,515	549,504
Argol.....lb.	138,404	523,893	588,194	379,620	020,279	344,039
Arrowroot.....lb.	43,119	10,195	—	1,208	1,315	7
Bark, wattle...lb.	119,591,456	104,041,379	110,244,357	140,406,846	176,819,212	170,823,744
Buchu Leaves..lb.	204,271	125,410	80,675	149,166	139,149	124,842
Butter.....lb.	39,946	1,584,741	1,544,000	512,588	487,876	2,698,201
Cheese.....lb.	445	159,095	487,872	1,560,782	314,301	458,698
Coffee.....lb.	35,388	60,621	145,987	49,254	51,051	63,681
Corn, Grain, and Meal—						
Barley.....lb.	89,812	1,681,258	598,538	3,974,586	14,321	12,478
Beans and Peas.....lb.	78,443	4,471,242	3,867,564	8,889,505	2,226,310	307,294
Bran.....lb.	524,608	1,216,717	1,323,102	2,792,054	1,884,760	1,019,095
Kaffir Corn..lb.	1,175,540	5,219,713	1,621,250	8,710,572	1,101,759	3,168,246
Maize.....lb.	199,722,008	406,542,334	509,495,794	246,205,197	69,675,591	777,246,032
Oats.....lb.	8,861,208	14,187,735	7,728,344	48,451,138	3,694,565	8,998,893
Wheat.....lb.	22,636	48,614	15,113	45,641	21,603	33,435
Wheaten Flour.....lb.	965,972	3,568,417	7,799,750	6,059,008	4,447,918	3,405,147
All other Corn, Grain, and Meal.....lb.	5,086,834	71,873,288	170,688,933	370,669,314	84,345,186	221,963,025
Cotton, Raw...lb.	31,796	118,363	183,228	289,890	997,238	914,268
Eggs.....No.	1,265,257	5,490,719	3,070,641	8,661,790	11,450,002	22,724,601
Feathers, Ostrich.....lb.	869,281	432,249	108,924	904,611	285,144	296,711
Flowers, Ever-lasting.....lb.	81,279	17,006	11,649	27,436	48,078	31,642
Fruit, Fresh, including Nuts...lb.	—	—	—	—	—	—
Fruit, Dried...lb.	43,380	1,970,434	3,793,179	5,391,139	3,434,925	7,327,951
Hay and Fodder.....lb.	17,331,902	13,463,414	7,619,850	3,362,887	12,645,844	9,624,481
Hides and Skins—						
Ox and Cow...lb.	16,589,686	16,141,476	12,506,970	19,586,819	18,862,413	14,295,679
Goat.....lb.	7,984,707	6,792,446	5,888,351	11,944,565	6,128,618	3,489,928
Sheep.....lb.	28,041,336	29,465,567	25,284,318	39,775,368	24,066,098	27,919,822
Seal.....lb.	86,061	60,947	107,046	133,863	166,724	145,522
All other kinds.....lb.	—	—	—	—	—	—
Horns.....lb.	—	—	—	—	—	—
Meats.....lb.	335,888	25,141,272	22,463,083	49,034,043	16,314,214	4,668,779
Mohair.....lb.	19,717,080	14,253,740	10,645,684	16,942,021	6,283,888	17,128,915
Oatmeal.....lb.	19,781	414,288	1,431,040	573,286	19,455	44,084
Plants, Bulbs, and Trees.....	—	—	—	—	—	—
Seeds.....	—	957,063	2,184,374	3,824,594	1,941,282	1,305,177
Spirits—						
Brandy....Gall.	726	151,531	111,484	40,994	27,522	19,250
All other (Potable). Gall.	122,725	210,303	157,939	256,334	200,452	62,991
Sugar.....lb.	1,330,996	4,132,624	5,718,570	38,327,007	33,228,962	137,924,105
Sugar (Molasses and Treacle).lb.	9,605,766	5,182,823	750,192	8,917,253	8,774,951	36,060
Tea.....lb.	87,610	101,376	84,122	383,605	87,444	51,831
Tobacco.....lb.	175,896	992,429	1,502,578	1,436,793	1,773,092	525,991
Tobacconists' Wares (Calabashes).....	280,079	3,197	6,430	52,180	60,200	14,853
Vegetables—						
Onions.....lb.	401,048	914,226	1,226,049	1,337,224	1,271,918	1,194,496
Potatoes....lb.	1,855,460	8,332,643	10,027,732	7,277,900	6,014,460	7,150,499
All other Fresh.	—	—	—	—	—	—
Wax—						
Bees.....lb.	301	47	170	—	1,543	34
Berry.....lb.	11,085	13,098	15,074	22,480	21,519	150
Wines.....Gall.	56,616	260,392	458,906	406,282	489,926	378,125
Wood and Timber.	—	—	—	—	—	—
Wool, Sheep's..lb.	145,369,585	134,922,501	115,634,498	184,927,986	110,504,747	230,421,915

(iv) QUANTITY AND VALUE OF EXPORTS FROM THE UNION OF PRODUCE OF THE LAND, AGRICULTURAL AND PASTORAL (OTHER THAN LIVING ANIMALS), FROM 1910 (INCLUDING SHIPS' STORES)—*continued.*

(b) Value.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Aloes.....	8,043	6,859	6,417	13,522	15,607	4,298
Argol.....	2,650	10,670	11,478	7,986	7,852	2,233
Arrowroot.....	957	109	—	93	88	1
Bark, wattle.....	277,545	287,662	412,107	602,182	986,484	670,127
Buchu Leaves.....	30,394	20,638	16,948	37,130	67,243	21,257
Butter.....	2,342	110,589	115,973	45,444	54,827	257,166
Cheese.....	19	10,051	30,247	82,923	23,770	28,046
Coffee.....	1,347	2,955	6,728	3,152	3,981	4,351
Corn, Grain, and Meal—						
Barley.....	306	6,577	2,974	15,196	232	98
Beans and Peas..	454	55,276	124,054	102,968	25,096	3,155
Bran.....	1,097	3,966	5,163	12,199	11,547	4,993
Kaffir Corn.....	2,337	12,098	7,362	40,961	5,842	10,182
Maize.....	408,642	1,157,253	1,600,137	1,145,408	344,268	2,295,769
Oats.....	23,688	57,353	28,686	192,730	23,437	30,904
Wheat.....	104	381	150	415	330	317
Wheaten Flour...	4,181	33,591	87,121	72,649	71,963	41,964
All other Corn, Grain, and Meal	16,805	294,156	687,740	1,856,200	474,687	684,937
Cotton, Raw.....	930	5,732	11,799	19,251	69,830	30,527
Eggs.....	7,028	34,998	25,089	78,487	124,779	201,295
Feathers, Ostrich...	2,286,386	373,445	88,628	1,646,014	547,336	461,533
Flowers, Everlastings	4,820	1,074	610	1,795	2,805	2,014
Fruit, Fresh, Includ- ing Nuts.....	56,270	47,279	24,605	75,066	182,673	419,877
Fruit, Dried.....	1,293	38,922	85,368	152,598	154,953	193,660
Hay and Fodder...	39,820	40,445	29,405	15,535	64,721	32,332
Hides and Skins—						
Ox and Cow.....	556,899	692,900	548,051	1,068,053	1,182,317	362,269
Goat.....	235,077	361,912	405,369	1,076,543	879,478	132,475
Sheep.....	708,963	1,168,181	1,329,236	2,827,053	2,141,027	713,341
Seal.....	3,409	2,512	4,710	8,951	15,933	12,111
All other kinds...	1,449	6,117	1,099	4,753	15,139	6,680
Horns.....	12,332	3,324	2,363	24,938	36,612	11,486
Meats.....	8,041	577,446	603,150	1,286,056	493,778	173,490
Mohair.....	899,756	931,360	1,641,899	1,654,235	518,973	583,643
Oatmeal.....	200	5,545	18,826	7,766	467	1,116
Plants, Bulbs, and Trees.....	2,337	2,681	2,318	2,799	4,186	3,609
Seeds.....	851	17,053	45,826	91,329	29,188	26,348
Spirits—						
Brandy.....	252	54,767	65,560	32,744	33,523	23,220
All other (Potable)	3,931	24,588	41,865	30,916	28,880	10,561
Sugar.....	8,975	53,335	75,626	436,789	456,231	2,069,764
Sugar (Molasses and Treacle).....	13,951	13,940	3,352	56,599	82,459	798
Tea.....	2,032	3,326	3,856	14,094	4,082	1,819
Tobacco.....	12,425	57,300	89,504	81,703	112,630	39,005
Tobacconists' Wares (Calabashes).....	16,325	86	230	1,627	2,687	846
Vegetables—						
Onions.....	1,718	6,565	10,157	9,680	11,630	7,575
Potatoes.....	7,268	39,771	51,736	55,435	62,082	35,633
All other Fresh...	11,899	24,857	28,300	38,511	53,101	38,317
Wax—						
Bees.....	20	4	13	—	142	6
Berry.....	441	449	331	1,142	1,184	10
Wines.....	11,578	54,793	115,500	103,489	189,700	94,367
Wood and Timber..	3,565	3,994	5,023	5,256	10,772	7,038
Wool, Sheep's.....	4,493,747	7,013,329	9,689,630	17,919,088	15,988,103	8,236,835
<b>TOTAL.....£</b>	<b>10,244,899</b>	<b>14,332,275</b>	<b>18,192,859</b>	<b>33,064,453</b>	<b>25,623,600</b>	<b>17,899,393</b>

## (v) QUANTITY AND VALUE OF THE PRODUCTS OF MINES EXPORTED FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES).

## (a) Quantity.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
<b>PRODUCE OF THE MINES.</b>						
Asbestos.....lb.	2,849,581	8,726,319	7,606,380	11,041,482	16,083,553	9,903,208
Coal—						
Bunker.....Tons	1,392,301	1,771,230	1,276,333	1,427,380	1,852,663	1,636,445
Cargo.....Tons	379,032	704,810	1,208,386	1,002,010	1,301,272	1,795,093
Copper Ore.....*Tons	7,440	10,336	4,665	5,803	7,870	183
Copper Regulus.....*Tons	12,048	7,055	1,509	45	1,310	—
Corundum.....Tons	—	1,909	4,231	1,031	397	38
Diamonds.....Carats	4,620,891	1,909,801	2,571,646	2,752,303	2,039,554	316,702
Gold, Raw.....Oz.	8,764,452	—†	—†	—†	9,364,087	8,862,748
Gold, Slag or Concentrates.....	—	—	—	—	—	7,390
Iron (Chrome) Ore.....Tons	452	233	933	119	489	—
Lead Ore.....Tons	448	—	—	59	333	5
Manganese Ore.....Tons	577	49	106	161	11	—
Matte.....lb.	3	—	—	—	—	—
Salt, Common.....lb.	124,348	4,751,795	11,300,138	4,880,687	2,750,836	1,331,836
Tin Ore.....Tons	3,241	2,791	2,150	1,344	2,423	1,712
Tungsten Ores.....Tons	—	14	37	8	—	—
Zinc Ores.....Tons	7	31	—	—	2,368	1,294
Other Ores and Minerals...Tons	—	—	—	—	—	—

\* Tons of 2,240 lb. In other cases ton = 2,000 lb.

† Not available.

## (b) Value.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Asbestos.....	21,011	64,477	58,065	86,944	171,701	105,434
Coal—						
Bunker.....	1,015,607	1,881,164	1,006,314	2,277,733	3,035,949	3,201,449
Cargo.....	157,414	472,432	1,033,064	928,772	1,482,802	1,940,014
Copper Ore.....	188,430	445,962	258,920	312,610	222,917	7,629
Copper Regulus.....	338,355	304,772	88,330	2,550	49,962	—
Corundum.....	—	18,940	45,139	12,317	5,000	614
Diamonds.....	8,688,803	5,029,041	7,063,043	11,546,788	11,597,451	1,355,487
Gold, Raw.....	32,066,162	38,240,750	35,230,528	47,671,538	35,547,079	34,453,586
Gold, Slag or Concentrates.....	22,174	—	—	—	—	850
Iron (Chrome) Ore.....	122	962	3,834	472	1,151	2
Lead Ore.....	1,205	45	—	1,204	4,452	40
Manganese Ore.....	485	239	518	453	101	11
Matte.....	515	—	—	—	—	—
Salt, Common.....	118	7,708	20,419	6,813	4,168	2,346
Tin Ore.....	301,190	285,458	245,067	145,077	297,160	155,045
Tungsten Ore.....	—	1,852	5,613	1,000	—	—
Zinc Ores.....	55	402	—	3	16,868	6,040
Other Ores and Minerals.....	2,965	0,172	3,320	2,394	16,726	12,705
<b>TOTAL.....£</b>	<b>43,404,617</b>	<b>46,766,388</b>	<b>45,962,174</b>	<b>62,996,738</b>	<b>53,053,616</b>	<b>41,251,152</b>

## (vi) QUANTITY AND VALUE OF ALL OTHER ARTICLES NOT ENUMERATED IN THE PRECEDING TABLES EXPORTED FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES).

## (a) Quantity.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Aerated Waters.....Doz.	—	—	—	6,704	7,432	4,015
Ale and Beer.....Gall.	31,787	226,804	186,466	184,966	118,035	86,405
Apparel and Slops.....	—	—	—	—	—	—
Bags.....No.	4,067	3,500	13,000	30,003	28,230	20,475
Biscuits, Bread, and Cakes...lb.	60,570	381,449	731,713	334,171	329,589	226,424
Blasting Compounds.....lb.	675,218	8,001,888	3,960,080	1,966,210	5,232,010	3,687,470
Books, Printed.....	—	—	—	—	—	—
Candles.....lb.	128,814	391,504	745,083	233,856	287,037	241,336
Confectionery and Jams.....lb.	335,929	2,211,885	3,801,597	9,048,637	4,842,413	1,073,219
Curiosities.....	—	—	—	—	—	—
Drugs.....	—	—	—	—	—	—
Fish, Dried.....lb.	1,496,647	2,062,332	3,271,312	2,166,833	2,711,190	2,570,773
Fish, Fresh.....lb.	436,049	551,879	613,590	885,674	900,605	1,242,371
Fish, Preserved.....lb.	2,045,933	3,573,746	2,454,905	3,953,076	3,629,739	2,853,490
Flour, ground from Imported Wheat.....lb.	9,265,741	2,360,932	976,899	629,107	514,945	2,091,839

(vi) QUANTITY AND VALUE OF ALL OTHER ARTICLES NOT ENUMERATED IN THE PRECEDING TABLES EXPORTED FROM THE UNION FROM 1910 (INCLUDING SHIPS' STORES)—*continued.*

(a) QUANTITY—*continued.*

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Furniture.....	—	—	—	—	—	—
Glycerine.....lb.	754,903	53,799	150	212	61	30
Haberdashery.....	—	—	—	—	—	—
Hats and Caps.....Doz.	7	141	221	106	236	47
Iron and Steel Manufacture.....	—	—	—	—	—	—
Ivory.....lb.	740	740	587	2,107	4,703	2,933
Jewellery and Platedware.....	—	—	—	—	—	—
Leather and Leather Manufactures.....	—	—	—	—	—	—
Manures.....lb.	2,910,228	4,867,392	4,798,932	10,723,006	7,980,810	4,129,068
Matches.....Gross	3,896	44,201	53,458	53,147	39,493	63,168
Oil, Whale.....Gall.	1,811,352	766,102	501,577	453,546	1,739,253	244,799
Pickles and Sauces.....lb.	1,909	10,962	29,494	13,143	14,503	7,199
Soap.....lb.	110,687	1,423,730	3,144,392	890,219	1,026,158	545,754
Stationery.....	—	—	—	—	—	—
Tents and Tarpaulins.....	—	—	—	—	—	—
Tobacco, Cigars, and Cigarettes.....lb.	8,676	162,832	258,059	182,048	175,383	110,825
Vehicles.....	—	—	—	—	—	—
Whalebone.....lb.	—	—	—	93,415	31,499	19,703
Whale Residue.....lb.	—	75,520	—	330,902	981,320	153,455
Wood Manufactures.....	—	—	—	—	—	—
Works of Art.....	—	—	—	—	—	—
All other Articles.....	—	—	—	—	—	—

(b) Value.

ARTICLES.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Aerated Waters.....	£ 1,506	£ 3,801	£ 3,247	£ 1,597	£ 1,705	£ 1,255
Ale and Beer.....	3,484	48,583	51,314	53,112	35,938	27,297
Apparel and Slops.....	232	7,940	11,836	17,375	22,868	5,925
Bags.....	47	279	1,026	446	1,172	995
Biscuits, Bread, and Cakes.....	1,049	13,419	30,613	15,382	17,489	11,343
Blasting Compounds.....	22,978	342,604	156,603	82,894	242,812	175,813
Books, Printed.....	2,610	599	517	1,700	3,149	1,223
Candles.....	2,267	14,552	34,858	11,710	15,061	0,265
Confectionery and Jams.....	5,687	54,257	105,953	239,669	149,763	38,001
Curiosities.....	1,590	249	260	628	1,104	1,163
Drugs.....	698	7,358	15,840	11,957	13,015	12,131
Fish, Dried.....	15,759	29,909	53,917	33,458	43,473	30,167
Fish, Fresh.....	6,159	10,527	13,947	19,235	23,109	32,480
Fish, Preserved.....	55,314	133,213	123,953	197,305	264,565	191,574
Flour, ground from Imported Wheat.....	30,761	15,918	8,250	5,694	7,778	25,594
Furniture.....	2,604	5,642	9,001	11,620	29,238	24,199
Glycerine.....	17,486	1,471	11	33	5	5
Haberdashery.....	426	147	180	980	3,069	742
Hats and Caps.....	9	244	499	234	858	145
Iron and Steel Manufacture.....	785	2,208	5,948	5,049	10,570	5,950
Ivory.....	224	177	97	908	2,697	1,178
Jewellery and Platedware.....	368	81	—	1,323	277	1,615
Leather and Leather Manufactures.....	2,798	25,462	39,158	61,773	45,136	28,279
Manures.....	9,740	32,264	67,538	127,799	73,946	31,317
Matches.....	550	7,425	9,564	11,110	8,247	14,183
Oil, Whale.....	106,989	54,680	82,316	52,093	233,079	25,191
Pickles and Sauces.....	103	588	1,739	851	869	450
Soap.....	1,386	29,520	68,242	29,247	41,746	19,957
Stationery.....	3,935	8,693	14,045	16,615	28,255	19,373
Tents and Tarpaulins.....	551	2,314	5,505	4,877	4,359	2,747
Tobacco, Cigars, and Cigarettes	1,978	50,897	77,041	60,314	71,024	50,660
Vehicles.....	9,019	6,792	11,805	0,545	23,849	11,099
Whalebone.....	1,645	131	—	4,613	524	263
Whale Residue.....	12,622	859	5	4,725	3,365	3,980
Wood Manufactures.....	2,498	5,794	10,254	7,367	33,039	8,180
Works of Art.....	1,671	279	106	951	1,430	2,416
All other Articles.....	23,214	143,224	314,414	305,482	276,453	247,846
TOTAL.....£	350,700	1,062,031	1,309,652	1,406,701	1,736,636	1,072,288

5. **Trade with British and Foreign Countries.**—The tables below give particulars as to the value of the trade carried on by the Union with certain British and foreign countries since 1910. From the restoration of more or less normal relations up to 1921, the direction of trade, as far as imports were concerned, tended to revert to pre-war conditions, except in the case of Rhodesia and Kenya Colony, with which countries there was considerable trade expansion. Among foreign countries Germany ranked second. In the case of exports it remained to be seen how far South Africa would retain the new markets for coal in India, Ceylon, Egypt, and Aden. The two former are of much greater importance because of the considerable import trade with these countries. Germany again began to occupy her former position as South Africa's chief foreign customer, taking a large quantity of wool, maize, bark, and hides and skins, a portion of which is undoubtedly distributed to other European countries. Although the United Kingdom nominally receives over 70 per cent. of the exports, such a statement is somewhat misleading, as a very large proportion merely constitutes entrepôt trade, part of the cargo shipped in South Africa being conveyed direct to the Continent. The great bulk of the Union's gold export, though sold in London, went to the United States, and the same country was one of the best customers for diamonds.

(i) **VALUE OF IMPORTS INTO THE UNION FROM BRITISH AND FOREIGN COUNTRIES (SUMMARY) FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).**

YEAR.	From United Kingdom.	From other parts of the British Empire.	Total, British Empire.	From Foreign Countries.	Grand Total.
	£	£	£	£	£
1910.....	22,340,197	3,767,908	26,108,100	10,619,267	36,727,367
1911.....	21,811,181	3,852,290	25,663,471	11,261,913	36,925,384
1912.....	22,944,782	3,921,032	26,865,814	11,973,146	38,838,960
1913.....	23,745,640	5,012,714	28,758,354	13,070,487	41,828,841
1914.....	20,990,686	4,598,658	25,589,344	9,765,627	35,354,971
1915.....	19,099,117	3,804,147	22,813,264	8,997,453	31,810,717
1916.....	24,035,220	4,721,368	28,756,588	11,643,357	40,399,945
1917.....	19,642,342	5,454,063	25,096,405	11,379,833	36,476,238
1918.....	20,690,845	7,580,679	34,271,524	15,215,644	49,487,168
1919.....	23,914,530	8,358,992	32,173,522	18,617,683	50,791,205
1920.....	55,708,357	13,187,112	68,895,469	32,931,635	101,827,104
1921.....	33,829,762	6,467,481	40,297,243	17,503,073	57,800,316

(ii) **VALUE OF EXPORTS FROM THE UNION INTO BRITISH AND FOREIGN COUNTRIES (SUMMARY) FROM 1910 (INCLUDING SHIPS' STORES BUT EXCLUDING SPECIE).**

YEAR.	To United Kingdom.	To other parts of the British Empire.	Total, British Empire.	To Foreign Countries.	Shipped as Stores.	Articles through the Post.	Grand Total.
	£	£	£	£	£	£	£
1910.....	47,480,989	1,473,881	48,963,870	3,614,350	973,238	57,882	53,609,340
1911.....	50,784,255	1,641,552	52,425,807	3,444,200	1,099,729	54,264	57,024,000
1912.....	56,117,967	1,919,257	58,037,124	3,721,011	1,163,941	52,143	62,974,219
1913.....	59,026,265	2,033,662	61,059,927	4,294,626	1,153,353	61,458	66,509,364
1914.....	33,942,545	2,026,709	35,969,254	2,768,713	1,148,085	47,560	39,933,612
1915.....	28,189,094	2,588,554	30,777,648	2,905,030	1,090,766	43,989	34,817,983
1916.....	55,666,547	3,617,117	59,283,664	4,092,285	2,230,877	76,555	65,683,331
1917.....	73,843,459	4,704,828	78,548,287	9,760,579	3,170,345	95,624	91,574,835
1918.....	51,021,882	5,562,631	56,584,513	11,482,927	2,453,159	112,325	70,632,924
1919.....	77,441,642	6,279,991	83,721,633	16,929,779	2,743,356	118,878	102,513,646
1920.....	59,935,518	7,904,198	67,839,716	15,513,347	4,135,835	178,618	87,667,516
1921.....	46,629,720	6,091,465	53,321,185	8,775,200	3,553,776	168,978	65,819,139

## (iii) PERCENTAGE VALUE OF IMPORTS INTO THE UNION FROM BRITISH AND FOREIGN COUNTRIES FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).

YEAR.	From United Kingdom.	From other parts of the British Empire.	Total, British Empire.	From Foreign Countries.	Grand Total.
1910.....	60·83	10·26	71·09	28·91	100·00
1911.....	59·07	10·43	69·50	30·50	100·00
1912.....	59·08	10·09	69·17	30·83	100·00
1913.....	56·77	11·98	68·75	31·25	100·00
1914.....	59·37	13·01	72·38	27·62	100·00
1915.....	59·76	11·96	71·72	28·28	100·00
1916.....	59·49	11·69	71·18	28·82	100·00
1917.....	53·85	14·95	68·80	31·20	100·00
1918.....	53·93	15·32	69·25	30·75	100·00
1919.....	46·89	16·46	63·35	36·65	100·00
1920.....	54·71	12·95	67·66	32·34	100·00
1921.....	58·53	11·19	69·72	30·28	100·00

## (iv) PERCENTAGE VALUE OF EXPORTS FROM THE UNION INTO BRITISH AND FOREIGN COUNTRIES FROM 1910 (INCLUDING SHIP'S STORES, BUT EXCLUDING SPECIE).

YEAR.	To United Kingdom.	To other parts of the British Empire.	Total, British Empire.	To Foreign Countries.	Shipped as Stores.	Articles through the Post.	Grand Total.
1910.....	88·58	2·75	91·33	6·74	1·82	·11	100·00
1911.....	89·06	2·88	91·94	6·04	1·92	·10	100·00
1912.....	89·11	3·05	92·16	5·91	1·85	·08	100·00
1913.....	88·67	3·06	91·73	6·45	1·73	·09	100·00
1914.....	84·99	5·08	90·07	6·93	2·88	·12	100·00
1915.....	80·96	7·43	88·39	8·35	3·13	·13	100·00
1916.....	84·75	6·51	90·26	6·23	3·39	·12	100·00
1917.....	80·64	5·14	85·78	10·66	3·46	·10	100·00
1918.....	72·24	7·88	80·12	16·25	3·47	·16	100·00
1919.....	75·54	6·13	81·67	15·54	2·08	·11	100·00
1920.....	68·37	9·02	77·39	17·69	4·72	·20	100·00
1921.....	70·84	10·17	81·01	13·33	5·40	·26	100·00

## (v) ANNUAL VALUE OF IMPORTS INTO THE UNION FROM VARIOUS BRITISH COUNTRIES OF ORIGIN FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).

COUNTRY OF ORIGIN.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£1,000.	£1,000	£1,000.	£1,000.	£1,000.	£1,000
United Kingdom.....	22,367	22,344	26,691	23,815	55,709	33,830
Australia.....	1,793	1,194	1,333	1,904	4,294	1,783
Kenya Colony (late B.E.A.).....	6	51	139	95	143	65
British West Africa.....	4	49	92	1	27	3
British West India Islands.....	11	38	52	10	16	6
Canada.....	754	1,102	1,235	2,020	3,715	1,637
Ceylon.....	192	216	260	255	333	242
Egypt.....	—	5	11	20	93	26
Hong-Kong.....	8	9	15	6	14	4
India.....	1,007	2,090	3,388	2,680	2,653	1,797
Malta.....	3	2	2	2	3	2
Mauritius.....	195	61	173	22	27	13
New Zealand.....	66	12	—	4	11	8
Nyasaland Protectorate.....	1	4	13	2	1	—
South Sea Islands.....	6	—	—	—	—	21
South-West Africa.....	—	43	47	448	429	270
Straits Settlements.....	10	27	55	16	33	27
Zanzibar.....	2	117	296	139	86	22
Other parts of British Empire.....	75	28	20	34	83	14
<b>TOTAL.....</b> £1,000	<b>26,500</b>	<b>27,392</b>	<b>33,822</b>	<b>31,473</b>	<b>67,620</b>	<b>39,770</b>
Imported from Southern and Northern Rhodesia—						
South African Produce.....	77	262	350	601	1,066	442
Not South African Produce...	20	81	100	100	209	85
<b>TOTAL IMPORTS FROM ALL BRITISH COUNTRIES.....</b> £1,000	<b>26,597</b>	<b>27,735</b>	<b>34,272</b>	<b>32,174</b>	<b>68,895</b>	<b>40,297</b>

\* See Foreign Countries, table vii.



## (vi) ANNUAL VALUE OF EXPORTS FROM THE UNION INTO VARIOUS BRITISH COUNTRIES FROM 1910 (EXCLUDING SPECIE).

COUNTRY OF DESTINATION.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.
United Kingdom.....	49,312	51,944	50,682	77,029	59,458	46,265
Aden.....	2	81	206	276	153	167
Australia.....	91	230	208	336	442	208
Kenya Colony (late B.E.A.).....	11	86	215	102	126	82
Canada.....	15	74	232	72	—	3
Ceylon.....	23	78	176	194	60	288
Egypt.....	†	858	221	909	350	294
India.....	58	58	83	89	115	978
Mauritius.....	33	124	215	253	318	234
New Zealand.....	7	34	30	40	77	47
South-West Africa.....	*	343	445	450	645	373
Straits Settlements.....	168	265	283	204	331	172
Southern and Northern Rhodesia.....	526	661	834	871	1,295	1,110
Other parts of British Empire.....	7	77	133	100	77	98
<b>TOTAL SOUTH AFRICAN PRODUCE...</b>	<b>50,253</b>	<b>54,408</b>	<b>53,943</b>	<b>80,931</b>	<b>63,447</b>	<b>50,319</b>
Imports re-exported :—						
United Kingdom.....	100	236	360	413	478	365
Southern and Northern Rhodesia.....	850	970	1,337	1,308	2,315	1,895
Other parts of British Empire.....	28	685	945	1,070	1,600	742
<b>TOTAL TO BRITISH COUNTRIES..£1000</b>	<b>51,291</b>	<b>56,299</b>	<b>56,585</b>	<b>83,722</b>	<b>67,840</b>	<b>53,321</b>

\* See Foreign Countries table (viii). † Included in Other Foreign Countries until 1916, table (viii).

## (vii) ANNUAL VALUE OF IMPORTS INTO UNION FROM VARIOUS FOREIGN COUNTRIES OF ORIGIN FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).

COUNTRY OF ORIGIN.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.
Austria.....	133†	2†	—†	—†	10	10
Belgium.....	555	18	4	21	853	586
Belgian Congo.....	—	15	5	15	6	1
Czecho-Slovakia.....	—	—	—	—	15	47
Denmark.....	74	64	19	18	40	93
Finland.....	—	—	—	47	274	97
France.....	567	477	473	614	1,298	796
Madagascar.....	10	51	128	56	132	18
Other French Possessions.....	1	1	2	3	11	86
Germany.....	3,198	47	19	30	955	1,162
German East Africa.....	1	—	—	—	—	—
German South-West Africa.....	4	*	*	*	*	*
Greece.....	20	14	2	4	9	6
Holland.....	678	444	365	201	764	605
Dutch East India Islands.....	106	241	313	496	629	756
Italy.....	235	242	131	105	383	273
Norway.....	274	240	261	279	580	324
Poland.....	—	—	—	—	13	7
Portugal.....	30	56	68	54	110	25
Madeira.....	5	3	2	6	18	14
Portuguese East Africa.....	136	206	264	203	310	450
Portuguese West Africa.....	—	12	15	6	6	11
Russia.....	68	35	25	3	12	18
Spain.....	45	70	92	54	118	55
Canary Islands.....	3	1	1	—	1	1
Sweden.....	665	795	976	870	2,098	1,111
Switzerland.....	181	373	498	340	999	470
Turkish Empire.....	51	20	12	22	79	40
China.....	46	95	103	75	272	311
Japan.....	100	1,040	2,665	1,805	1,437	743
Persia.....	3	3	6	9	17	12
Siam.....	33	48	10	67	70	32
Egypt.....	5	1	*	*	*	*
Morocco.....	1	5	5	1	2	2
United States of America.....	3,156	5,972	6,915	12,073	18,408	8,327
Philippine Islands.....	3	1	1	1	3	2
Argentine Republic.....	76	349	333	160	1,614	76
Brazil.....	585	683	787	635	1,098	505
Chile.....	220	220	165	294	172	328
Costa Rica.....	17	8	—	1	2	3
Cuba.....	25	25	29	35	73	20
Mexico.....	1	4	3	4	7	4
Peru.....	4	—	—	—	2	—
San Salvador.....	2	—	—	—	—	1
Uruguay.....	11	7	15	3	23	1
Venezuela.....	2	1	—	—	—	—
Other Foreign Countries.....	2	2	3	1	8	9
<b>TOTAL.....£1,000</b>	<b>11,338</b>	<b>11,809</b>	<b>15,215</b>	<b>18,617</b>	<b>32,032</b>	<b>17,503</b>

\* See table (v).

† Austria-Hungary.

## (viii) ANNUAL VALUE OF EXPORTS FROM THE UNION INTO VARIOUS FOREIGN COUNTRIES FROM 1910 (EXCLUDING SPECIE).

COUNTRY OF DESTINATION.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.
Austria.....	3†	—†	—†	—†	—	—
Belgium.....	594	—	—	1,220	1,778	1,077
Belgian Congo.....	14	65	137	110	149	118
France.....	151	146	230	975	512	1,027
Madagascar.....	1	38	72	28	33	29
Other French Possessions....	5	30	39	73	171	56
Germany.....	1,730	—	—	—	515	2,416
German East-Africa.....	2	—	—	—	—	—
German South-West Africa..	93	*	*	*	*	*
Holland.....	30	2	—	257	308	365
Dutch East India Islands...	3	5	15	11	4	5
Italy.....	32	21	74	12	200	87
Japan.....	—	1,418	2,816	3,732	5,982	467
Portugal.....	—	5	0	—	9	33
Madeira.....	2	1	1	1	—	19
Portuguese East Africa.....	114	240	460	323	310	289
Portuguese West Africa.....	7	21	20	38	22	25
Russia.....	7	9	—	—	—	—
United States of America.....	443	4,274	5,993	7,830	3,917	1,498
Argentine Republic.....	—	65	195	184	188	27
Other Foreign Countries.....	21	38	122	55	170	103
TOTAL (S.A. Produce) £1,000	3,258	6,378	10,201	14,878	14,358	7,641
Imported Goods re-exported...	310	682	1,282	1,052	1,155	1,134
TOTAL.....£1,000	3,568	7,060	11,483	15,930	15,513	8,775

\* See table (vi). † Austria-Hungary. ‡ Includes Philippine Islands and Hawaii.

## (ix) ANNUAL VALUE OF MERCHANDISE THE PRODUCE OF THE UNITED KINGDOM, AUSTRALIA, CANADA, AND NEW ZEALAND, IMPORTED INTO THE UNION, AND AMOUNT OF REBATE GRANTED FROM 1910.

Year.	From United Kingdom.		From Australia.		From Canada.		From New Zealand.		Total.	
	Value of Imports.	Amount of Re-bated.	Value of Imports.	Amount of Re-bated.	Value of Imports.	Amount of Re-bated.	Value of Imports.	Amount of Re-bated.	Value of Imports.	Amount of Re-bated.
	£	£	£	£	£	£	£	£	£	£
1910	18,941,257	539,405	1,494,235	38,051	618,334	15,462	49,456	1,379	21,166,282	594,297
1911	19,037,923	538,633	1,477,352	45,918	612,800	16,258	41,382	919	21,169,457	601,126
1912	19,925,258	548,909	1,183,661	35,599	629,549	16,708	88,122	1,762	21,526,590	602,978
1913	19,863,979	554,894	1,842,795	52,433	732,362	20,438	56,179	1,170	22,494,415	628,935
1914	16,709,726	461,998	1,437,467	37,433	742,778	20,466	67,849	1,378	18,957,700	524,275
1915	16,178,341	441,559	559,066	12,155	919,621	21,874	7,327	173	17,664,355	475,701
1916	21,567,838	598,192	1,147,992	22,503	853,235	22,618	7,816	173	23,576,881	643,486
1917	17,449,145	476,586	1,204,759	22,481	910,575	25,959	2,172	47	19,566,651	525,073
1918	23,334,832	655,216	917,948	16,415	905,784	26,595	209	5	25,158,773	698,231
1919	20,981,129	580,198	1,438,694	25,591	1,711,900	59,340	2,925	42	24,134,648	662,141
1920	47,000,875	1,314,356	3,790,547	32,327	2,624,539	59,338	10,711	110	53,426,672	1,406,131
1921	27,105,021	751,218	1,288,343	20,135	1,398,153	39,500	7,813	50	29,799,330	810,903

6. Analysis of Trade with other Countries.—The following tables contain an analysis of the trade of the Union with those countries from which are derived the principal imports into the Union, and to which is exported the bulk of the products. The tables also show in the cases of contiguous countries the extent of the entrepôt trade. The first two columns in each table give average values for periods of years, and the last three columns give the annual values for the last three years for which complete figures are available. Each table gives for comparative purposes the total value of the import and export trade with the country concerned. It will be seen that in the cases of some countries the trade is limited either to imports or exports; but in the large majority of cases trade is reciprocal.

These tables have been framed specially as the result of a detailed analysis of the statistical records of the external trade of the Union from the year 1910; and it will be obvious that the information has been presented in a way designed to give ready reference to the principal features of the Union trade with the countries with which it is chiefly concerned. Items of minor value have not been included owing to limitations of space.

### ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES, 1910 TO 1921.

#### (i) UNITED KINGDOM.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	<b>£ 22,366,497</b>	<b>£ 22,344,381</b>	<b>£ 23,814,530</b>	<b>£ 55,708,357</b>	<b>£ 33,820,762</b>
Animals (Living).....	73,964	56,173	72,730	93,603	56,365
Agriculture (Articles for use in)	325,262	256,912	359,226	720,732	605,820
Food and Drink.....	1,720,502	1,185,027	920,702	2,135,342	1,187,060
Raw and Partly Manufactured Materials—					
Iron and Steel.....	777,591	497,825	770,890	2,594,838	1,577,621
Other.....	639,009	622,903	294,917	1,010,603	815,948
Furniture and other Articles for the Interior.....	799,779	568,633	584,844	1,020,798	913,567
Machinery (not Locomotives).....	1,884,111	1,214,517	1,382,752	2,889,913	3,486,801
Metal Manufactures other than Machinery.....	1,596,921	1,028,245	2,104,960	5,049,836	2,222,701
Oilman's Stores.....	582,709	453,701	588,489	1,096,287	630,868
Cotton Manufactures and Piece Goods.....	2,425,861	5,618,103	4,514,897	8,775,471	4,791,980
Woolen Manufactures and Piece Goods.....	744,061	1,040,410	1,050,864	2,015,955	1,524,873
Apparel and Slops.....	2,225,329	2,407,031	2,878,579	7,461,721	2,708,316
Boots and Shoes.....	1,126,597	959,348	483,118	2,168,239	591,176
Textiles (N.O.D.).....	1,597,557	1,533,290	1,717,619	3,390,220	1,758,249
Drugs and Chemicals.....	510,938	926,200	725,075	1,122,928	890,061
Electrical Material and Ma- chinery.....	382,057	255,714	562,324	1,285,070	1,445,624
Railway and Tramway Material (including Locomotives).....	1,416,360	629,168	1,337,392	3,573,700	4,029,079
Stationery and Books.....	651,593	697,626	832,444	1,492,230	1,127,805
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	<b>£ 49,970,053</b>	<b>£ 52,180,246</b>	<b>£ 77,441,642</b>	<b>£ 59,935,518</b>	<b>£ 46,020,720</b>
<b>SOUTH AFRICAN PRODUCE.</b>	<b>40,311,504</b>	<b>51,943,763</b>	<b>77,029,268</b>	<b>59,458,140</b>	<b>46,264,544</b>
Gold (Raw).....	33,156,849	38,246,756	47,671,538	35,546,454	34,453,586
Diamonds.....	8,620,665	5,023,005	11,535,850	11,477,396	1,135,488
Copper.....	526,980	709,910	315,166	90,068	5,934
Tin.....	144,482	33,105	34,287	—	—
Asbestos.....	8,038	43,745	43,788	70,909	55,115
Charcoal.....	—	—	—	7,746	15,571
Wool (in Grease).....	2,362,578	2,650,335	5,263,200	4,303,335	3,168,987
Wool (Scoured).....	120,708	341,740	1,761,629	936,318	420,151
Mohair.....	892,115	645,173	1,340,278	493,227	522,996
Sheep and Goat Skins.....	899,935	950,028	2,260,415	1,968,937	433,685
Hides (Ox and Cow).....	509,859	633,942	983,354	1,084,959	225,370
Other Skins.....	4,627	8,325	13,129	26,768	16,332
Ostrich Feathers.....	1,874,328	228,978	1,154,356	428,850	276,520
Horns.....	11,641	2,323	17,732	29,122	7,797
Wattle Bark and Bark Extract	158,216	197,509	340,104	589,146	162,884
Raw Cotton.....	774	5,570	17,735	44,471	26,315
Blasting Compounds.....	—	232,634	—	—	3
Whale Oil.....	87,930	54,661	52,078	230,713	24,253
Fodder and Forage.....	10,132	30,291	3,003	46,334	24,463
Lucerne Seed.....	—	—	—	—	8,753
Maize Meal.....	832	227,055	1,741,484	355,901	620,979
Maize.....	177,235	994,197	799,337	141,853	1,564,905
Oats.....	8,318	31,373	161,618	101	6,734
Beans and Peas.....	3	46,628	81,046	5,040	—
Sugar and Products.....	20,186	12,688	303,900	404,591	1,840,077
Confectionery.....	348	26,769	180,110	98,142	11,350
Fruit (Fresh).....	46,308	30,111	45,625	155,837	391,741
Currants and Raisins.....	—	28,548	88,555	121,935	151,515
Other Fruit (including Cor- dials, etc.).....	915	2,764	99,880	21,775	40,612
Spirits (not potable).....	90	13,772	21,344	42,355	57,729
Beef and Veal.....	482	131,447	128,128	262,965	45,484
Butter.....	246	88,619	23,019	34,685	238,086
Cheese.....	1	2,032	70,810	11,023	13,800
Eggs.....	832	16,815	50,248	89,936	167,759
Bacon and Ham.....	1	42	75,292	49,861	33,705
Fish.....	35,630	98,149	44,100	27,761	13,331

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*continued.*

## (ii) AUSTRALIA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	<b>£ 1,793,294</b>	<b>£ 1,194,093</b>	<b>£ 1,903,730</b>	<b>£ 4,294,203</b>	<b>£ 1,783,224</b>
Sheep and Lambs.....	27,867	8,977	36,726	108,334	14,147
Wheat.....	621,090	462,493	241,774	688,063	285,966
Flour and Meal (Wheaten)....	372,017	192,142	418,836	1,287,998	385,120
Butter and Substitutes.....	115,547	54,508	30,071	48,654	4,538
Condensed Milk.....	9,121	16,045	231,034	296,501	277,388
Food and Drink (N.O.D.).....	204,126	75,242	138,607	565,898	103,090
Wood (Unmanufactured).....	44,835	18,172	25,032	50,844	76,284
Railway Sleepers.....	187,032	97,977	115,306	303,743	420,245
Tallow and Substitutes.....	74,251	52,831	48,484	245,727	26,958
Boots and Shoes.....	25	102	10,714	180,330	17,425
Leather Manufactures (Other)...	84,755	70,554	120,018	212,508	32,224
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	<b>£ 96,280</b>	<b>£ 253,807</b>	<b>£ 350,338</b>	<b>£ 530,647</b>	<b>£ 220,263</b>
<b>SOUTH AFRICAN PRODUCE.</b>	<b>90,940</b>	<b>230,056</b>	<b>335,945</b>	<b>441,716</b>	<b>207,980</b>
Blasting Compounds.....	21,871	85,775	60,123	216,326	139,963
Goat Skins.....	190	6,587	10,599	83,139	379
Asbestos.....	—	6,287	21,646	33,209	27,260
Maize.....	33,211	66,702	139,325	30,504	735
Wattle Bark.....	18,051	29,801	35,854	23,653	16,482

## (iii) CANADA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	<b>£ 753,532</b>	<b>£ 1,102,250</b>	<b>£ 2,019,566</b>	<b>£ 3,715,075</b>	<b>£ 1,636,842</b>
Flour and Meal (Wheaten)....	239,836	143,151	482	1,483,694	32,079
Milk (Condensed).....	7,196	9,817	15,392	101,598	38,840
Wood and Timber (Manufactured and Unmanufactured)...	75,509	73,475	134,833	307,637	113,287
Iron and Steel.....	2,640	53,108	119,773	78,897	121,388
Ploughs, Harrows, and Parts...	•	•	120,815	163,625	116,318
Hardware and Cutlery.....	3,211	64,417	256,439	145,844	73,194
Motor Vehicles.....	71,252	160,116	282,841	522,759	240,275
Rubber Tyres.....	†	4,610	49,719	117,844	24,132
Paper.....	47,798	96,072	279,436	276,075	379,850
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	<b>£ 15,051</b>	<b>£ 74,069</b>	<b>£ 73,349</b>	<b>£ 181</b>	<b>£ 3,501</b>
<b>SOUTH AFRICAN PRODUCE.</b>	<b>14,860</b>	<b>73,999</b>	<b>71,975</b>	<b>181</b>	<b>3,304</b>
Wool (Scoured).....	128	55,304	63,426	—	1,679
Wool (in Grease).....	56	6,768	8,464	—	1,445

\* Figures shown with N.O.D. prior to 1919.  
† Figures shown with Vehicles prior to 1915.

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—continued.

## (iv) SOUTH-WEST AFRICA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1910.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	<b>£ 4,125</b>	<b>£ 42,966</b>	<b>£ 447,627</b>	<b>£ 428,946</b>	<b>£ 270,571</b>
Oxen.....	—	18	219,072	182,238	191,480
Sheep and Lambs.....	—	—	106,239	128,789	26,191
Hides and Skins.....	3,095	32,075	87,819	87,849	7,816
Butter.....	4	342	4,939	17,030	24,882
Wool.....	25	3,600	17,390	8,321	2,968
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	<b>£ 149,620</b>	<b>£ 867,951</b>	<b>£ 1,135,118</b>	<b>£ 1,789,364</b>	<b>£ 508,752</b>
<b>SOUTH-AFRICAN PRODUCE.</b>	<b>92,564</b>	<b>343,156</b>	<b>449,915</b>	<b>645,084</b>	<b>372,550</b>
Corn, Grain, and Meal.....	41,066	60,908	114,412	105,121	68,682
Sugar.....	156	38,013	43,754	73,732	53,906
Confectionery.....	4,161	12,950	19,753	30,205	17,158
Vegetables (Fresh).....	2,332	16,575	20,758	24,877	12,680
Tobacco.....	2,049	47,156	49,639	65,655	45,404
Spirits (Potable).....	68	26,831	27,400	31,089	21,554
Food and Drink (N.O.D.).....	7,220	68,997	61,181	78,651	47,840
Soap.....	48	10,895	13,254	21,717	11,173
Boots and Shoes.....	541	11,597	13,450	19,538	14,584
All other Leather Manufactures	1,642	5,965	12,064	15,329	7,281
<b>IMPORTS RE-EXPORTED.</b>	<b>£ 57,065</b>	<b>£ 463,575</b>	<b>£ 685,201</b>	<b>£ 1,144,280</b>	<b>£ 508,752</b>
Flour (Wheaten).....	2,372	15,469	584	43,816	8,462
Coffee (Raw and Roasted).....	1,003	21,157	20,448	35,782	22,007
Spirits.....	34	21,220	18,438	25,380	14,965
Food and Drink (N.O.D.).....	21,785	92,605	65,694	102,361	52,775
Furniture.....	914	4,628	5,075	21,196	9,055
Iron and Steel.....	1,003	3,047	7,292	23,505	8,103
Machinery.....	2,993	4,490	9,618	19,497	15,211
Motor Cars and Cycles.....	219	3,214	24,546	60,363	10,660
Hardware.....	2,287	18,226	23,725	51,395	19,715
Oils.....	1,675	24,310	38,354	62,854	41,620
Cotton Manufactures (Piece Goods).....	504	69,290	109,291	142,399	62,581
Cotton Manufactures (all others)	711	43,139	73,254	103,234	35,633
Apparel and Slops.....	2,403	44,948	47,370	104,103	39,628
Haberdashery.....	4,905	24,708	24,859	23,651	10,057
Boots and Shoes.....	857	25,266	36,627	42,345	9,629

## (v) RHODESIA, SOUTHERN AND NORTHERN.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	<b>£ 98,041</b>	<b>£ 342,657</b>	<b>£ 701,030</b>	<b>£ 1,275,732</b>	<b>£ 526,656</b>
Cattle.....	168	91,935	256,615	276,156	85,351
Maize.....	5,468	10,354	38,498	238,144	3,244
Maize Meal.....	1,672	5,550	40,310	87,707	9,425
Tobacco (Unmanufactured).....	35,095	45,170	73,722	163,636	213,444
Other Food and Drink.....	2,325	10,444	34,431	103,540	38,060
Hides and Skins.....	15,113	63,609	93,540	136,795	26,062
Binoculars and Films.....	*	48,106	57,286	42,821	41,600

\* Figures shown with Photographs and Accessories prior to 1915.

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*con'tinued.*(v) RHODESIA—*con'tinued.*

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>EXPORTS.</b>					
TOTAL EXPORTS.....	£ 1,375,925	£ 1,035,866	£ 2,178,805	£ 3,610,161	£ 3,043,313
<b>SOUTH AFRICAN PRODUCE</b>	<b>525,985</b>	<b>600,075</b>	<b>870,742</b>	<b>1,294,904</b>	<b>1,109,668</b>
Animals (Living).....	67,450	57,513	72,717	97,987	106,633
Sugar and Products.....	32,006	44,582	66,011	141,028	55,716
Confectionery.....	10,570	20,768	33,627	40,649	36,646
Flour (Wheaten).....	28,241	43,457	43,400	73,687	78,633
Other Corn, Grain and Meal.....	37,919	15,820	25,363	31,040	17,086
Cigarettes.....	39,703	54,368	76,154	107,853	103,832
Spirits and Wines.....	18,530	24,500	60,805	65,457	40,041
Food and Drink (N.O.D.).....	108,114	91,301	121,341	146,453	135,258
Soap.....	13,816	28,494	30,206	75,067	41,821
Candles.....	20,851	36,000	19,348	44,592	36,058
Furniture.....	11,152	15,534	25,051	48,044	47,630
Vehicles.....	24,691	12,275	17,957	28,555	43,395
Blasting Compounds.....	18,240	88,610	59,532	90,470	92,381
Boots and Shoes.....	575	7,067	21,178	32,567	23,929
Stationery.....	4,716	9,287	17,799	22,926	24,375
<b>IMPORTS RE-EXPORTED ...</b>	<b>£ 849,914</b>	<b>£ 960,817</b>	<b>£ 1,309,003</b>	<b>£ 2,315,257</b>	<b>£ 1,894,921</b>
Spirits.....	21,724	15,787	18,341	36,431	29,320
Other Food and Drink.....	110,176	75,404	75,494	146,429	112,834
Iron and Steel.....	9,893	14,598	22,037	39,188	32,559
Motor Cars and Cycles.....	21,968	20,888	56,773	137,194	91,933
Hardware and Cutlery.....	38,724	29,838	52,055	98,147	77,977
Implements and Tools.....	13,821	15,998	50,142	72,140	56,041
Machinery.....	52,479	56,423	52,213	69,830	136,583
Electrical Material.....	6,433	9,650	20,694	30,199	51,390
Arms and Ammunition.....	15,448	10,292	18,055	28,789	17,985
Rubber.....	611	20,411	23,210	35,292	29,051
Drugs and Chemicals.....	16,770	19,949	29,441	32,304	29,013
Cotton Manufactures:—					
Piece Goods.....	55,765	127,991	147,073	315,673	298,017
All other.....	69,513	119,533	145,292	250,644	227,901
Apparel and Slips.....	103,708	95,531	120,818	286,834	182,735
Haberdashery and Millinery.....	46,209	42,476	52,177	72,436	67,822
Hats and Caps.....	10,019	6,410	11,232	34,060	16,247
Boots and Shoes.....	29,922	30,378	47,534	70,819	39,674
Bags (Coal, Grain, and Wool).....	4,943	7,809	8,095	56,079	7,380
Stationery.....	29,989	23,368	29,618	48,137	45,277
Bioscopes and Films.....	—	37,146	47,594	45,633	37,152

## (vi) KENYA COLONY (BRITISH EAST AFRICA).

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
TOTAL IMPORTS.....	£ 5,566	£ 50,014	£ 94,907	£ 143,295	£ 65,358
Coffee (Raw).....	415	31,414	62,626	66,515	41,560
Beans and Peas.....	3,196	609	805	15,493	22
Malze.....	51	—	—	24,900	—
Copra.....	—	64,70	502	20,654	18,094
<b>EXPORTS.</b>					
TOTAL EXPORTS.....	£ 14,400	£ 148,224	£ 234,109	£ 219,131	£ 136,962
<b>SOUTH AFRICAN PRODUCE</b>	<b>11,250</b>	<b>85,837</b>	<b>102,006</b>	<b>126,552</b>	<b>81,914</b>
Animals (Living).....	2,629	670	6,248	11,156	1,564
Sugar.....	5	402	31,034	15,545	29,287
Ale, Beer, and Stout.....	461	11,904	12,493	7,707	6,622
Coal (Cargo).....	2,465	15,827	20,944	42,413	17,441
Carriages and Carts.....	3,218	1,129	554	11,988	2,424

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—continued.

## (vii) PORTUGUESE EAST AFRICA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
<b>TOTAL IMPORTS.....</b>	£ 136,026	£ 205,514	£ 203,036	£ 310,300	£ 450,034
Sugar.....	87,433	108,242	34,486	10	386,099
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	£ 195,190	£ 523,934	£ 635,255	£ 404,199	£ 606,193
<b>SOUTH AFRICAN PRODUCE</b>	115,015	240,120	322,817	309,942	288,569
Cattle (for Slaughter).....	—	11,837	7,905	13,682	16,351
All other Animals (Living)....	9,848	16,758	25,191	20,102	17,323
Coal (Cargo).....	40,843	16,792	17,887	27,609	32,404
Maize and Maize Meal.....	24,299	48,776	70,611	16,961	45,741
Potatoes.....	4,261	13,718	12,206	14,371	12,554
Tobacco (Unmanufactured)....	424	5,090	13,378	19,491	7,330
Cigarettes.....	1,195	7,167	6,051	10,629	8,764
Cigars and other Tobacco.....	828	2,303	5,502	8,905	3,616
Other Food and Drink (S.O.D.)	14,784	60,662	81,221	77,546	66,605
Soap.....	869	2,926	3,172	14,737	5,057
Candles.....	3,204	3,973	3,504	6,121	3,485
Furniture and Cabinet Ware...	965	1,758	3,151	6,493	5,704
Leather and Leatherware.....	299	3,438	6,106	6,088	3,855
<b>IMPORTS RE-EXPORTED...</b>	81,164	283,814	312,438	404,199	317,624
Flour (Wheaten).....	520	16,689	9,539	24,718	14,154
Machinery.....	9,748	29,417	40,117	53,181	35,473
Motor Cars and Cycles.....	2,575	15,424	16,820	29,569	17,669
Electrical Fittings.....	2,832	7,242	12,507	21,246	14,812
Iron and Steel Manufactures...	3,083	15,958	13,596	20,462	22,824
Implement.....	1,770	5,089	13,263	16,977	10,322
Hardware.....	6,739	12,263	17,841	25,971	22,978
Cotton Manufactures.....	1,128	22,425	27,450	32,938	21,484
Bags (not leather).....	1,577	8,195	18,694	17,330	2,410
Rubber.....	161	11,485	7,683	11,235	9,441

## (viii) BELGIAN CONGO.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>EXPORTS.</b>					
<b>TOTAL EXPORTS.....</b>	£ 129,008	£ 307,278	£ 406,235	£ 626,093	£ 552,253
<b>SOUTH AFRICAN PRODUCE</b>	13,758	65,392	118,954	149,018	117,669
Cigarettes.....	136	6,960	17,313	15,553	15,382
Wines and Spirits.....	1,530	6,706	6,733	12,208	10,471
Blasting Compounds.....	50	3,944	6,982	8,621	10,861
<b>IMPORTS RE-EXPORTED...</b>	115,310	241,885	287,281	477,075	434,584
Spirits and Wines.....	9,099	15,796	12,524	29,073	26,618
Cotton Manufactures.....	12,157	40,290	39,056	58,351	83,560
Apparel and Slops.....	9,619	10,667	8,083	21,475	26,681
Iron and Steel.....	2,582	8,361	27,124	30,730	18,816
Machinery.....	4,891	13,954	22,493	32,063	21,814
Hardware.....	6,480	10,271	20,150	28,540	23,528

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*continued.*

## (ix) MAURITIUS.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
EXPORTS.					
TOTAL EXPORTS.....	£ 42,750	£ 142,499	£ 352,544	£ 458,273	£ 294,175
SOUTH AFRICAN PRODUCE	32,503	123,586	252,093	317,708	234,264
Fish (Dried and Cured).....	14,805	22,973	25,786	38,125	30,995
Wines.....	941	15,100	37,066	92,463	57,246
Coal (Cargo).....	2,792	30,890	32,977	96,468	49,754
Manures and Fertilizers.....	1,223	20,688	79,257	42,800	30,176

## (x) EGYPT.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
EXPORTS.					
TOTAL EXPORTS.....	£ 3,710	£ 366,862	£ 909,070	£ 355,827	£ 340,309
SOUTH AFRICAN PRODUCE	3,273	361,879	908,582	349,711	203,912
Coal (Cargo).....	1,922	47,304	82,124	343,816	288,654
Beef and Veal.....	—	273,576	789,898	—	—

## (xi) BELGIUM.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 554,629	£ 18,276	£ 21,438	£ 853,250	£ 586,177
Cotton Manufactures.....	74,175	777	498	222,124	140,092
Glass and Glassware (mostly Window).....	35,333	6,803	4,985	237,602	78,201
Fencing Standards.....	79,834	1,430	3,812	99,366	16,508
EXPORTS.					
TOTAL EXPORTS.....	£ 507,941	£ —	£ 1,221,438	£ 1,793,197	£ 1,078,741
SOUTH AFRICAN PRODUCE	594,035	—	1,219,898	1,778,429	1,076,846
Wool (in Grease).....	378,167	—	650,205	1,275,016	698,047
Wool (Scoured).....	36,009	—	378,600	258,032	122,061
Hides and Skins (Ox, Cow, and Sheep).....	8,030	—	138,948	139,814	16,760
Maize.....	100,628	—	25,890	13,988	101,995
Diamonds.....	53,637	—	—	7,878	168,730



ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—continued.

## (xii) FRANCE.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 560,624	£ 477,631	£ 614,042	£ 1,298,042	£ 796,427
Wines.....	42,272	32,040	48,531	119,235	24,034
Brandy.....	61,214	57,165	20,748	66,834	63,982
Cotton.....	44,592	55,313	76,790	124,936	77,846
Haberdashery and Millinery...	89,479	90,672	92,414	194,152	71,496
Silk Manufactures.....	12,358	20,729	48,461	145,463	69,867
Rubber Tyres.....	*	19,596	82,330	145,096	81,104
Glycerine for Manufacturing Purposes.....	22,148	17,432	14,660	27,774	51,847
Perfumery.....	10,095	10,364	30,992	38,186	42,681
EXPORTS.					
TOTAL EXPORTS.....	£ 151,433	£ 145,703	£ 984,634	£ 513,985	£ 1,037,027
SOUTH AFRICAN PRODUCE	150,553	145,697	975,538	511,716	1,026,871
Fish (Preserved).....	12,355	30,006	150,536	224,341	170,943
Wool (Scoured and in Grease)...	98,751	5,914	649,476	91,534	605,223
Sheep and Goat Skins.....	21,257	4,397	2,374	42,815	219,038

\* Figures shown with Vehicles, prior to 1915.

## (xiii) GERMANY.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 3,198,248	£ 46,948	£ 20,896	£ 955,426	£ 1,162,045
Cotton Manufactures.....	307,488	4,619	1,618	10,762	73,643
Haberdashery and Millinery...	218,895	3,032	235	15,242	15,437
Agricultural Implements.....	39,324	1,348	270	54,544	45,068
Manufacturing and Mining Machinery.....	127,807	1,653	317	25,247	78,016
Fencing Material.....	86,721	3,454	—	44,746	64,599
Railway Material.....	140,107	5,304	4	68,000	7,460
Electrical Machinery.....	291,619	1,027	—	—	5,240
Electrical Material.....	152,148	860	75	2,325	20,793
Zinc and Zinc Manufactures...	93,953	458	25	12	1,940
Iron Pipes and Piping.....	94,786	4,901	—	55	31,086
Hardware and Cutlery.....	224,145	5,324	1,389	90,735	74,119
Enamelware.....	42,283	369	168	50,070	42,485
Earthenware and Chinaware...	32,556	347	32	29,148	40,662
Glass.....	46,177	1,123	56	41,144	43,621
Cyanide of Sodium.....	219,113	2,268	5,633	51,567	609
Musical Instruments.....	101,119	1,541	1,896	210,020	139,059
Toys and Fancy Goods.....	54,065	767	898	33,436	55,536
EXPORTS.					
TOTAL EXPORTS.....	£ 1,747,284	£ —	£ —	£ 518,429	£ 2,416,564
SOUTH AFRICAN PRODUCE	1,735,868	—	—	514,998	2,427,588
Wool (in Grease).....	1,328,871	—	—	320,460	1,527,920
Wool (Scoured).....	123,978	—	—	32,568	198,735
Maize.....	63,040	—	—	105,527	394,717
Feathers (Ostrich).....	46,889	—	—	954	2,709
Hides and Skins.....	17,959	—	—	23,179	131,453
Bark (Wattle) and Extract....	85,882	—	—	23,160	227,481

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*continued.*

## (xiv) HOLLAND.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
TOTAL IMPORTS.....	£ 677,820	£ 444,437	£ 200,875	£ 763,365	£ 604,705
Cheese.....	121,395	38,067	9	33,180	990
Grn.....	17,483	16,506	12,543	29,872	15,142
Food and Drink (N.O.D.).....	153,127	89,106	45,217	148,159	104,764
Cotton Manufactures.....	12,051	141,040	17,430	126,380	95,761
Electrical Material.....	2,078	38,821	28,660	29,010	43,074
Stationery and Books.....	16,656	25,754	30,688	68,125	55,525
Manures and Fertilizers.....	50,473	2,263	19,506	63,517	105,577
<b>EXPORTS.</b>					
TOTAL EXPORTS.....	£ 32,209	£ 1,757	£ 288,086	£ 411,188	£ 371,265
SOUTH AFRICAN PRODUCE	30,413	1,743	257,007	398,016	364,603
Diamonds.....	13,577	1,722	9,343	110,729	100,107
Wool (in Grease).....	7,023	—	27,554	94,827	107,467
Wool (Scoured).....	—	—	28,872	14,316	8,021
Malze.....	472	—	82,204	41,088	110,645
Hides and Skins.....	3,313	—	59,972	26,111	10,389
Asbestos.....	—	—	2,569	10,386	789

## (xv) NORWAY.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
TOTAL IMPORTS.....	£ 273,857	£ 249,376	£ 279,095	£ 580,148	£ 323,615
Fish (Preserved).....	46,984	38,591	43,748	214,316	31,489
Wood (Unmanufactured).....	135,230	92,547	94,757	139,280	146,506
Paper (Manufactured, not Stationery).....	283	25	6,729	2,730	1,762
Paper (Printing).....	4,130	29,068	62,468	102,928	62,190
Paper (Wrapping).....	9,676	28,094	48,750	17,656	13,738

## (xvi) SWEDEN.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
<b>IMPORTS.</b>					
TOTAL IMPORTS.....	£ 664,525	£ 794,589	£ 869,750	£ 2,098,045	£ 1,110,655
Wood (Unmanufactured).....	420,353	309,939	492,762	1,268,207	479,027
Wood (Manufactured).....	82,626	134,411	73,611	284,170	181,627
Paper (All).....	33,737	143,510	105,003	166,655	132,388
Telegraph and Telephone Material.....	27,491	10,200	10,382	11,602	84,474

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—continued.

## (xvii) SWITZERLAND.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 180,840	£ 373,130	£ 345,478	£ 908,918	£ 470,460
Cotton Manufactures.....	21,080	37,842	22,699	81,425	68,783
Haberdashery and Millinery...	82,198	103,273	133,392	281,736	75,469
Boots and Shoes.....	11,195	54,303	66,719	266,298	77,176
Clocks and Watches.....	18,061	41,116	45,710	94,519	48,139
Instruments.....	113	1,400	422	1,701	43,469

## (xviii) UNITED STATES OF AMERICA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 3,156,210	£ 5,972,432	£ 12,073,455	£ 18,408,408	£ 8,327,123
Wheat.....	7,059	152,997	—	507,465	6,355
Food and Drink (N.O.D.).....	271,671	441,087	515,932	1,029,492	280,146
Cotton Manufactures.....	22,025	228,145	545,646	629,374	233,134
Apparel and Slops.....	31,735	47,743	131,122	292,945	49,416
Boots and Shoes.....	46,076	248,401	866,226	698,162	48,093
Wood (Unmanufactured—Pine and Oak).....	122,193	103,683	164,213	502,194	171,017
Iron and Steel.....	88,904	413,680	660,492	527,377	311,242
Machinery (including Electrical Machinery).....	512,181	590,996	1,190,809	1,247,597	1,323,851
Electrical Materials and Ma- chinery.....	21,461	48,294	314,726	324,302	435,555
Railway Material.....	39,330	115,992	598,721	1,159,415	119,190
Motor-Cars.....	160,854	364,318	880,227	2,351,193	303,315
Other Vehicles (including Lorries)	58,045	147,301	458,587	830,519	333,099
Implements (including Agricul- tural) and Tools.....	220,853	298,573	602,898	954,088	593,461
Hardware.....	261,049	241,565	779,734	884,412	394,651
All Mineral Oils.....	473,213	707,244	1,132,587	2,027,386	1,912,741
Paraffin Wax.....	110,700	141,651	68,060	572,712	124,195
Rubber Tyres.....	*	115,291	147,137	521,129	46,771
EXPORTS.					
TOTAL EXPORTS.....	£ 451,744	£ 4,313,961	£ 7,961,115	£ 3,989,821	£ 1,793,370
SOUTH AFRICAN PRODUCE	443,005	4,272,331	7,830,379	3,917,158	1,497,794
Wool (in Grease).....	9,830	2,092,282	3,200,927	1,550,945	629,564
Wool (Scoured and Washed)...	614	1,079,760	2,104,144	1,015,365	350,191
Hides and Skins.....	79,974	614,077	1,514,764	810,435	162,490
Bark (Wattle and Extract)...	211	21,598	123,115	184,939	54,920
Feathers (Ostrich).....	330,617	136,594	459,880	93,442	176,508
Buchu Leaves.....	9,734	12,442	28,559	42,877	13,398
Mohair.....	624	280,901	302,216	22,404	59,156

\* Figures shown with Vehicles prior to 1915.

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*continued.*

## (xix) BRAZIL.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 585,162	£ 582,565	£ 634,792	£ 1,097,779	£ 564,913
Coffee (Raw).....	573,634	572,516	615,736	1,074,017	553,973

## (xx) CHILE.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 220,742	£ 228,483	£ 293,548	£ 172,317	£ 328,492
Nitrates for Manufacturing Purposes.....	217,287	226,960	293,488	171,311	328,368

## (xxi) INDIA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 1,007,331	£ 2,090,209	£ 2,679,845	£ 2,652,483	£ 1,797,180
Rice (including Paddy).....	280,806	333,465	298,991	620,665	132,716
Tea.....	42,366	155,171	180,802	215,822	213,728
Food and Drink (N.O.D.).....	81,538	176,042	126,959	168,505	139,817
Wood (Unmanufactured—Teak)	64,317	41,642	153,390	182,211	142,960
Cotton Manufactures.....	8,091	159,110	125,725	233,029	115,023
Apparel and Slips.....	15,949	29,938	55,746	67,974	130,613
Bags (Coal, Grain, Sugar, and Wool).....	350,733	797,134	1,239,011	774,474	667,965
Wax (Paraffin).....	33,818	157,065	193,183	111,412	45,988

## EXPORTS.

	£	£	£	£	£
TOTAL EXPORTS.....	60,924	62,009	100,170	160,049	1,000,534
SOUTH AFRICAN PRODUCE					
Coal (Cargo).....	55,804	25,497	39,082	19,569	868,497
Wattle Bark.....	—	9,983	16,654	10,425	6,500
Sugar.....	—	—	—	—	94,093

## (xxii) CEYLON.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 192,383	£ 215,763	£ 255,214	£ 333,215	£ 242,141
Tea.....	144,000	189,849	227,561	275,388	215,567

ANALYSIS OF TRADE BETWEEN THE UNION AND OTHER COUNTRIES,  
1910 TO 1921—*continued.*

## (xxiii) STRAITS SETTLEMENTS.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
EXPORTS.					
TOTAL EXPORTS.....	£ 170,757	£ 273,010	£ 245,190	£ 364,937	£ 195,448
SOUTH AFRICAN PRODUCE	107,714	265,430	203,693	331,507	171,911
Tin Ore.....	156,116	250,289	140,491	297,160	152,179
Coal (Cargo).....	11,520	10,534	47,771	5,645	18,052

## (xxiv) CHINA.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 46,308	£ 95,023	£ 75,402	£ 271,541	£ 311,286
Rice (including Paddy).....	11,894	18,562	11,088	131,220	225,913
Silk Manufactures (Piece Goods)	4,295	24,609	13,882	44,105	41,850

## (xxv) JAPAN.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 99,678	£ 1,039,636	£ 1,804,804	£ 1,436,816	£ 747,678
Silk Manufactures.....	27,238	117,475	228,035	398,099	353,637
Cotton Manufactures.....	24,114	491,003	798,342	315,556	174,859
Glass and Glassware.....	70	29,638	46,713	127,881	19,869
Toys and Fancy Goods.....	5,816	37,180	62,345	76,993	23,044
EXPORTS.					
TOTAL EXPORTS.....	£ 1,041	£ 1,426,936	£ 3,779,613	£ 5,984,798	£ 470,150
SOUTH AFRICAN PRODUCE	48	1,418,376	3,752,213	5,981,640	467,139
Wool (in Grease).....	—	1,276,390	3,174,756	5,193,095	396,639
Wool (Scoured).....	—	73,191	531,664	711,619	1,636
Bark (Wattle).....	—	10,760	35,347	44,467	60,914

## (xxvi) DUTCH EAST INDIA ISLANDS.

CLASSIFICATION.	Average 1910-14.	Average 1915-18.	1919.	1920.	1921.
IMPORTS.					
TOTAL IMPORTS.....	£ 105,440	£ 241,084	£ 496,365	£ 628,999	£ 756,465
Motor Spirits.....	46,025	192,223	408,097	523,028	665,902
Other Mineral Oils.....	6,045	4,389	6,786	30,213	47,915
Wax (Paraffin).....	69	21,599	55,413	26,598	20,177

7. **Trade Routes through Union Ports.**—The following tables give particulars as to the value of overseas trade passing through the various ports of the Union and the percentage in each case of the total value of imports and exports passing through the ports since 1910:—

(i) **VALUE OF IMPORTS INTO THE UNION THROUGH VARIOUS PORTS AND ROUTES FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).**

PORT OR ROUTE.	Average 1910-11.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Cape Town.....	7,151,024	9,110,189	11,887,808	11,648,900	25,632,406	12,337,571
(Parcel Post)	696,770	973,216	1,528,765	1,722,755	2,876,887	1,948,481
Port Elizabeth.....	8,856,621	8,248,239	9,067,644	9,255,508	21,965,118	10,696,858
East London.....	4,261,466	3,660,513	3,833,912	4,789,501	10,106,085	6,233,236
Durban.....	11,354,719	14,520,523	20,023,547	19,239,887	33,399,751	20,273,906
Mossel Bay.....	461,388	190,720	238,611	218,109	571,475	233,336
Port Nolloth.....	58,294	41,329	1,639	4,477	764	440
Simonstown.....	5,742	10,148	10,532	4,775	10,128	18,212
Knyana.....	33,989	17,182	8,963	7,867	32,230	19,126
Port St. Johns.....	4	—	—	—	—	—
Other Ports.....	21,871	71,596	127,808	456,668	709,112	381,538
From Southern Rhodesia	90,444	304,745	388,698	638,772	1,191,460	477,825
From Northern Rhodesia	8,112	38,046	60,691	62,268	84,190	48,831
Via British Ports..	33,000,444	37,186,446	47,178,758	48,049,867	96,679,536	52,669,360
Via Delagoa Bay..	4,934,660	2,357,071	2,308,410	2,741,338	5,247,568	5,130,956
TOTAL..... £	37,935,104	39,543,517	49,487,168	50,791,205	101,927,104	57,800,316

(ii) **VALUE OF EXPORTS FROM THE UNION THROUGH VARIOUS PORTS AND ROUTES FROM 1910 (INCLUDING SHIPS' STORES, BUT EXCLUDING SPECIE).**

PORT OR ROUTE.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Cape Town.....	42,064,806	46,557,010	46,574,879	65,464,034	52,201,098	39,428,478
Port Elizabeth.....	3,670,766	4,360,152	5,879,121	11,306,957	7,636,119	4,600,885
East London.....	2,067,275	3,149,261	3,641,020	7,193,816	6,492,979	3,427,562
Durban.....	4,603,832	5,625,148	7,843,760	10,384,886	9,960,261	9,120,368
Mossel Bay.....	1,100,600	224,926	23,158	848,342	286,592	217,237
Port Nolloth.....	377,773	326,110	87,594	13,095	193,266	3,879
Simonstown.....	8,964	4,842	—	256	—	30,100
Knyana.....	12,235	5,970	—	—	80,971	2,378
Port St. Johns.....	—	—	—	—	—	—
Other Routes.....	130,082	792,050	1,359,178	1,287,479	1,874,070	1,174,706
To Southern Rhodesia.	1,298,393	1,533,310	2,050,142	2,025,973	3,345,001	2,737,063
To Northern Rhodesia.	77,524	97,556	120,395	152,832	265,160	267,643
Ships' Stores.....	*	1,963,595	2,453,159	2,492,462	3,763,787	3,258,175
Via British Ports..	55,421,259	64,640,830	69,532,406	101,170,132	86,049,204	64,268,476
Via Delagoa Bay..	600,848	1,036,451	1,100,518	1,343,514	1,548,312	1,381,685
TOTAL..... £	56,022,107	65,677,281	70,632,924	102,513,646	87,667,516	65,650,161†

\* Prior to 1916 Ships' Stores were included with other exports. From 1916 Ships' Stores cannot be allocated to the various ports.

† Excluding articles through the post (£168,978) not allocated.

## (iii) PERCENTAGE VALUE OF IMPORTS INTO THE UNION VIA VARIOUS PORTS AND ROUTES FROM 1910 (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).

PORT OR ROUTE.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Cape Town.....	18.85	23.04	24.02	22.93	25.17	21.35
(Parcel Post).....	1.84	2.40	3.09	3.89	2.83	3.37
Port Elizabeth.....	23.35	20.85	18.33	18.22	21.57	18.51
East London.....	11.23	9.20	7.73	9.43	9.93	10.78
Durban.....	29.93	36.72	40.46	37.88	32.80	35.08
Mossel Bay.....	1.22	0.48	0.48	0.43	0.56	0.40
Port Nolloth.....	0.15	0.11	—	0.01	—	—
Simonstown.....	0.02	0.03	0.02	0.01	0.01	0.03
Knysna.....	0.09	0.04	0.02	0.02	0.03	0.03
Port St. Johns.....	—	—	—	—	—	—
Other Ports.....	0.05	0.18	0.26	0.90	0.70	0.66
From Southern Rhodesia.....	0.24	0.77	0.79	1.26	1.17	0.83
From Northern Rhodesia.....	0.02	0.10	0.13	0.12	0.08	0.08
Via British Ports.....	86.99	94.04	95.33	94.60	94.85	91.12
Via Delagoa Bay.....	13.01	5.96	4.67	5.40	5.15	8.88
TOTAL.....	100.00	100.00	100.00	100.00	100.00	100.00

## (iv) PERCENTAGE VALUE OF EXPORTS FROM THE UNION THROUGH VARIOUS PORTS FROM 1910 (INCLUDING SHIPS' STORES, BUT EXCLUDING SPECIE).

PORT OR ROUTE.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
Cape Town.....	75.09	70.89	85.94	63.86	59.54	60.06
Port Elizabeth.....	6.57	6.54	8.32	11.03	8.71	7.01
East London.....	3.69	4.79	5.15	7.01	7.41	5.22
Durban.....	8.22	8.56	10.40	10.13	11.37	13.89
Mossel Bay.....	1.06	0.34	0.03	0.83	0.33	0.33
Port Nolloth.....	0.67	0.50	0.13	0.01	0.21	0.01
Simonstown.....	0.02	0.01	—	—	—	0.05
Knysna.....	0.02	0.01	—	—	0.09	—
Port St. Johns.....	—	—	—	—	—	—
Other Routes.....	0.23	1.21	1.93	1.25	2.14	1.79
To Southern Rhodesia.....	2.32	2.33	2.90	1.98	3.82	4.17
To Northern Rhodesia.....	0.14	0.15	0.17	0.06	0.30	0.41
Ships' Stores.....	*	2.99	3.47	2.43	4.29	4.96
Via British Ports.....	98.93	98.42	98.44	98.69	98.21	97.90
Via Delagoa Bay.....	1.07	1.58	1.56	1.31	1.79	2.10
TOTAL.....	100.00	100.00	100.00	100.00	100.00	100.00†

\* Prior to 1916 Ships' Stores were included with other exports. From 1916 Ships' Stores cannot be allocated to the various ports.

† Excluding articles through the post not allocated.

8. **Movements of Specie.**—The subjoined tables give particulars as to the imports and exports of specie into and from the Union during a series of years:—

(i) **VALUE OF IMPORTS OF SPECIE INTO THE UNION FROM VARIOUS COUNTRIES, 1916 TO 1921.**

COUNTRY.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
United Kingdom.....	80,539	903,242	326,335	1,657,825	4,038,521	326,303
Australia.....	10,588	500,000	1,500,000	500,000	64	—
Nyasaland Protectorate....	—	20,000	—	—	58,200	—
Rhodesia, Northern.....	—	—	—	—	1,587	—
Rhodesia, Southern.....	42,960	197	848	751	299	3,300
Kenya Colony (late B.E.A.)	1,500	13	—	—	—	20
St. Helena.....	—	—	—	—	50	—
South-West Africa.....	15,550	7,850	16,774	2,850	1,293	1,000
Belgium.....	—	—	—	11,164	—	70,401
Portuguese East Africa.....	633,899	458,040	215,520	154,817	—	—
<b>TOTAL.....£</b>	<b>785,036</b>	<b>1,880,342</b>	<b>2,059,477</b>	<b>2,327,407</b>	<b>4,100,003</b>	<b>401,021</b>

(ii) **VALUE OF IMPORTS OF CLASSES OF COIN INTO THE UNION FROM VARIOUS COUNTRIES FROM 1912.**

COUNTRY.	Gold.	Silver.	Copper.	Total.
	£	£	£	£
Total, 1912.....	858,625	143,765	3,860	1,006,250
Total, 1913.....	890,550	70,636	1,000	968,236
Total, 1914.....	970,123	66,067	700	1,036,890
Total, 1915.....	2,006,016	15,179	1,630	2,022,825
Total, 1916.....	706,972	75,330	2,734	785,036
Total, 1917.....	1,476,714	406,755	5,873	1,889,342
Total, 1918.....	1,722,854	329,769	6,854	2,059,477
Total, 1919.....	1,967,085	353,697	6,625	2,327,407
Total, 1920.....	3,541,141	548,282	10,580	4,100,003
1921—				
United Kingdom.....	—	320,500	5,800	326,300
Kenya Colony (late B.E.A.).....	—	20	—	20
Rhodesia—Southern.....	—	3,300	—	3,300
South-West Africa.....	1,000	—	—	1,000
Belgium.....	—	70,401	—	70,401
<b>TOTAL, 1921.....</b>	<b>1,000</b>	<b>394,221</b>	<b>5,800</b>	<b>401,021</b>



## (iii) VALUE OF EXPORTS OF SPECIE FROM THE UNION TO VARIOUS COUNTRIES, 1916 TO 1921.

COUNTRY.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
United Kingdom.....	—	111	—	61	45	—
Australia.....	4,100	8,600	1,700	—	—	—
Ascension Island.....	18	—	—	370	120	85
Kenya Colony (late B.E.A.)	—	4,331	7,810	1,698	—	20
India.....	36,568	488	500	82	—	—
Mauritius.....	21,101	400	—	—	—	—
Rhodesia, Northern.....	20,480	43,170	63,000	2,160	4,000	3,525
Rhodesia, Southern.....	101,360	86,081	60,578	36,420	57,575	35,080
South-West Africa.....	516	8,043	3,765	3,910	9,380	235
St. Helena.....	—	2,000	—	—	500	—
Nyasaland Protectorate.....	—	—	85,000	20	160	—
British West Africa.....	—	—	—	4	—	—
Strait Settlements.....	869	—	—	—	—	—
Belgian Congo.....	—	—	—	—	—	70,401
Portuguese East Africa.....	80	—	—	3,515	28,000	6,000
United States of America.....	—	—	—	—	123	500
Madagascar.....	2,000	—	—	—	—	—
China.....	—	81	—	—	—	—
<b>TOTAL.....£</b>	<b>187,092</b>	<b>153,305</b>	<b>222,953</b>	<b>48,216</b>	<b>100,603</b>	<b>115,846</b>

## (iv) VALUE OF EXPORTS OF CLASSES OF COIN FROM THE UNION TO VARIOUS COUNTRIES FROM 1912.

COUNTRY.	Gold.	Silver.	Copper.	Total.
	£	£	£	£
Total, 1912.....	267,389	31,135	—	298,524
Total, 1913.....	85,078	5,098	12	90,188
Total, 1914.....	257,508	32,161	2	289,671
Total, 1915.....	174,115	20,250	8	194,382
Total, 1916.....	144,153	42,889	50	187,092
Total, 1917.....	92,599	60,086	20	152,705
Total, 1918.....	81,468	141,425	60	222,953
Total, 1919.....	18,253	29,930	63	48,246
Total, 1920.....	33,344	67,284	175	100,803
1921—				
Ascension Island.....	—	80	5	85
Kenya Colony (late B.E.A.).....	—	20	—	20
Rhodesia—Southern.....	—	3,525	—	3,525
Rhodesia—Northern.....	—	35,080	—	35,080
South-West Africa.....	—	235	—	235
Belgian Congo.....	—	70,401	—	70,401
Portuguese East Africa.....	—	6,000	—	6,000
United States of America.....	—	500	—	500
<b>TOTAL, 1921.....£</b>	<b>—</b>	<b>115,841</b>	<b>5</b>	<b>115,846</b>

## § 5. General Features of the External Trade of the Union.

1. **General Conditions of Trade.**—The general fall of prices which began in 1920 and continued throughout 1921 was severely felt in South Africa. Although in volume the export trade exceeded that of the previous year, the maladjustment between the prices for primary production which provides the bulk of the exports and the prices for manufactured articles which fell more slowly, and in a few cases (such as printing paper, lubricating oils, and certain types of machinery) continued to rise, affected the purchasing power of the community as a whole. Goods at high prices, which were difficult to dispose of, continued to arrive at the beginning of the year. For several months there ensued a period of stagnation in imports, affecting the Customs revenue adversely. As, however, the prices of manufactured articles continued to fall, a certain revival took place toward the end of the year. Altogether the volume of imports was little more than 60 per cent. of the average before the war. A closer analysis of the figures shows some alleviating circumstances. The great fall in the quantities of articles of food and drink, timber and boots and shoes, indicates that the country is supplying its own requirements to a greater extent. While the considerable increase in machinery can be regarded in the light of increased working capital.

2. **Vessels entering at Union Ports.**—There was a further increase during 1921 in the number and total tonnage of vessels entered at Union ports, but a very considerable fall

In the tonnage of cargo landed, though the tonnage of cargo shipped increased. A decrease in the number of American and Portuguese ships and a large increase in the number of German ships were the most noticeable features of the year.

**NUMBER AND TONNAGE OF OVERSEA VESSELS ENTERED AT UNION HARBOURS (SHOWING NATIONALITIES) AND TONNAGE OF CARGO LANDED AND SHIPPED, 1920 AND 1921.**

Nationality.	No. of Vessels.		Tonnage of Vessels.		Cargo Landed.		Cargo Shipped.*	
	1920.	1921.	1920.	1921.	1920.	1921.	1920.	1921.
British.....	936	957	Tons. 3,360,063	Tons. 3,443,597	Tons. 1,593,730	Tons. 1,023,620	Tons. 2,232,247	Tons. 2,908,011
American.....	35	20	87,199	66,574	83,106	46,790	53,574	40,071
Brazilian.....	1	—	4,965	—	64	—	6,281	—
Danish.....	3	6	11,275	16,688	22,609	11,447	17,107	27,350
Dutch.....	32	43	112,777	143,081	46,825	32,381	91,663	157,267
Finnish.....	6	3	9,937	5,402	17,156	14,299	9,551	4,805
French.....	9	14	22,595	31,001	10,072	638	29,735	33,311
German.....	1	23	2,900	83,347	1,000	20,145	751	37,144
Greek.....	4	2	9,438	5,938	6,294	—	13,150	17,807
Italian.....	9	12	22,327	35,107	1,745	2,307	10,124	28,022
Japanese.....	42	38	158,035	128,133	59,913	62,010	156,931	99,468
Norwegian.....	42	36	75,040	92,254	97,071	42,264	65,786	74,009
Peruvian.....	4	1	17,348	4,337	16,182	1,692	10,873	2,247
Portuguese.....	37	25	101,880	50,031	11,791	335	17,344	15,050
Russian.....	2	—	4,788	—	1,300	—	2,694	—
Spanish.....	2	—	4,723	—	7,728	—	4,832	—
Swedish.....	35	37	83,658	92,292	96,801	59,477	40,741	72,134
<b>TOTAL.....</b>	<b>1,200</b>	<b>1,217</b>	<b>4,084,917</b>	<b>4,198,683</b>	<b>2,073,387</b>	<b>1,317,405</b>	<b>2,763,364</b>	<b>3,576,796</b>
British.....	78.00	78.64	82.26	82.02	76.87	77.70	80.78	82.98
American.....	2.92	1.64	2.13	1.58	4.01	3.55	1.94	1.12
Dutch.....	2.67	3.53	2.76	3.41	2.26	2.46	3.32	4.40
Japanese.....	3.50	3.12	3.75	3.05	2.89	4.71	5.68	2.78
Norwegian.....	3.50	2.90	1.86	2.20	4.68	3.21	2.38	2.07
Portuguese.....	3.08	2.06	2.49	1.21	0.57	0.02	0.63	0.42
Swedish.....	2.92	3.04	2.05	2.20	4.66	4.51	1.47	2.02
Other Foreign...	3.41	5.01	2.70	4.33	4.06	3.84	3.80	4.21

\* Including bunker coal.

NOTE.—In 1913 the figures for the number and tonnage of vessels entered were:—British—number, 1,179; tonnage, 4,338,835. German—number, 839; tonnage, 733,453. All Foreign—number, 428; tonnage 1,114,983. Four Japanese vessels entered, with a tonnage of 13,903; no cargo landed or shipped.

**3. Value of Imports.**—The total value of imports into the Union, classified as ordinary merchandise, public stores, and specie, from the year 1910 is given in the subjoined table. In comparing the figures for the war period with those for the pre-war years, it is necessary to bear in mind that owing to the increased purchase prices of all commodities, it is impossible, without specific information as to quantities and as to the quality and character of the various classes of imports, to judge accurately the significance of the returns in their relation to each other.

**TOTAL IMPORTS OF MERCHANDISE, PUBLIC STORES, AND SPECIE INTO THE UNION, AND RE-EXPORTS AND NET CONSUMPTION OF MERCHANDISE FROM 1910.**

YEAR.	IMPORTS.				IMPORTED GOODS RE-EXPORTED.	NET CONSUMPTION OF MERCHANDISE.
	Merchandise.	Public Stores.	Specie.	Total.		
1910.....	£ 34,007,178	£ 2,720,189	£ 2,213,327	£ 38,940,694	£ 1,380,906	£ 32,454,806
1911.....	34,945,447	1,979,937	1,110,111	38,035,495	1,694,647	33,413,151
1912.....	36,009,811	2,829,119	1,008,250	39,845,210	1,390,108	34,755,003
1913.....	38,524,381	3,302,480	988,236	42,797,077	1,454,730	37,250,214
1914.....	31,322,590	4,052,381	1,036,890	36,391,861	1,432,524	30,162,533
1915.....	29,208,899	2,601,818	2,022,225	33,833,542	1,638,837	28,049,779
1916.....	28,759,282	1,640,893	785,036	31,184,981	2,432,927	26,548,413
1917.....	31,760,782	1,725,458	1,889,342	34,365,582	2,892,690	32,485,903
1918.....	47,397,389	2,089,778	2,059,477	51,546,645	4,274,220	41,048,022
1919.....	46,712,795	4,078,410	2,327,407	53,118,612	4,121,308	45,072,891
1920.....	93,404,982	8,422,142	4,100,003	105,927,107	5,890,400	86,030,245
1921.....	49,878,292	7,922,024	401,021	58,201,337	4,432,406	49,157,740

4. **Decreases in Imports of Various Food-stuffs.**—The following table showing the extent to which certain articles of food were imported during the years before the war, and in subsequent years, gives reason for assuming a corresponding increase in the production of such articles in the Union during the later years:—

**IMPORTS OF VARIOUS ARTICLES OF FOOD FROM 1910.  
(INCLUDING IMPORTS FOR GOVERNMENT AND IMPORTS FROM RHODESIA).**

Year.	Cheese.	Eggs.	Frozen Beef.	Frozen Mutton.	Sugar.	Jams.	Fish.
	1,000 lb.	Value, £.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.	1,000 lb.
1910.....	4,651	49,980	2,989	2,776	59,354	2,244	9,193
1911.....	4,949	57,297	8,234	3,464	72,965	2,331	10,197
1912.....	5,166	69,754	9,024	2,642	38,773	1,789	10,885
1913.....	5,689	77,564	8,950	2,114	58,457	2,214	11,745
1914.....	5,280	59,817	738	782	47,039	1,353	8,759
1915.....	4,315	19,236	17	9	16,843	878	9,217
1916.....	2,271	131	8	6	7,030	709	6,008
1917.....	525	12	10	18	25,287	606	4,563
1918.....	245	26	5	—	42,483	62	1,443
1919.....	35	29	5	173	5,661	269	5,801
1920.....	1,218	143	92	1,074	29	2,036	15,705
1921.....	60	38	20	3	25,291	251	5,918

5. **Export of Staple Commodities in 1921.**—(i) *Coal.*—The exports of cargo coal for 1921 surpassed all previous records chiefly owing to the English coal strike. Later in the year the fall in freight made it difficult for South Africa to compete in the new markets. A reduction in railway rates and in the pit-head price of coal which has taken place may lead to a recovery. There was a distinct falling off in bunkering most noticeable at Cape Town and Lourenço Marques. The decrease in imports left greater cargo space for supplies of coal in vessels leaving England.

(ii) *Diamonds.*—The general deflation throughout the world which took place in 1920, and which was particularly marked in America, led to the complete collapse of the diamond market. It is also alleged that the limited market was flooded by Russian gems. Slight signs of revival were visible by the middle of 1922.

(iii) *Ostrich Feathers.*—Practically the same quantity of feathers was exported as in the previous year, but at a lower price, equal to about half of that obtaining before the war. All luxury articles suffered in the general depression.

(iv) *Mohair.*—A great increase in the exports of mohair took place, though at a price considerably below the average before the war. The destruction of the flocks in Anatolia by the Greek army might have led to a greater demand from South Africa had the chief consumers of Central Europe and Russia been in a position to finance imports.

(v) *Hides and Skins.*—The fall in value was nowhere so marked as in the case of hides and skins. The former fell to two-fifths of the previous year's prices and the latter to less than a third.

(vi) *Maize.*—The exports of maize surpassed all previous records, but the price obtained was the lowest since 1916. In part the considerable volume of the exports was due to a good season and to a carry-over from the previous year. The reduction in freight was also of material assistance.

(vii) *Meat.*—There was a further decline in the export of meat though the average price was higher. The number of cattle in the Union in April, 1921 (Agricultural Census) was larger than at any time previously.

(viii) *Wool.*—The quantity of wool exported exceeded all records. The low price was partly due to the balance of the poorer qualities of wool left over from the previous year. In 1922 prices hardened and there was a strong demand for the better classes of merino wool.

6. **Principal Exports since 1909.**—The succeeding tables give comparisons in respect of some of the principal articles of South African produce, showing in each case the quantity exported, the recorded value, the value assessed at the 1909 price, the value assessed at the previous year's price, showing gain or loss, together with an index number calculated upon the average price for the years 1909 to 1913 (=1000).

**PRINCIPAL EXPORTS OF SOUTH AFRICAN PRODUCE—QUANTITY, VALUE ON DIFFERENT BASES, AND INDEX NUMBERS.**

(Excluding Removals to Rhodesia, and, from 1916, Ships' Stores.)

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (-) Compared with 1909 Price.	Gain or Loss (-) Compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000).
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(i) COAL (CARGO).

	Tons.	£	£	£	£	£	Per ton. s. d.	
1909...	330,941	171,554					10 4-4	1,180
1910...	138,481	56,170	71,778	71,778	- 15,606	- 15,606	8 1-4	884
1911...	82,536	51,276	42,785	33,483	8,491	17,793	12 5-1	1,354
1912...	166,922	106,157	86,529	103,701	19,828	2,456	12 8-6	1,386
1913...	856,031	337,457	443,751	544,408	-106,294	-206,951	7 10-6	859
1914...	651,210	230,008	337,576	256,714	-101,568	-20,706	7 3	790
1915...	506,539	213,608	262,581	183,577	- 48,973	30,031	8 5-5	919
1916...	505,636	322,255	293,216	238,529	29,039	83,728	11 4-7	1,242
1917...	538,679	320,801	279,242	306,897	41,559	13,904	11 10-9	1,298
1918...	1,208,386	1,038,064	626,406	719,833	406,858	313,431	17 1-2	1,868
1919...	1,092,010	928,772	566,079	933,573	362,993	- 4,801	17 0-1	1,854
1920...	1,301,272	1,482,862	674,557	1,106,753	808,305	376,109	22 9-6	2,484
1921...	1,795,093	1,949,014	930,545	2,045,595	1,018,469	- 96,581	21 8-6	2,366

(ii) COAL (BUNKER).

	Tons.	£	£	£	£	£	Per ton. s. d.	
1909...	805,608	644,207					14 5	992
1910...	1,326,709	929,881	954,296	954,296	- 24,415	- 24,415	14 0	967
1911...	1,426,586	1,027,731	1,026,137	999,884	1,594	27,847	14 5	994
1912...	1,413,220	1,067,063	1,016,523	1,018,102	51,140	49,561	15 1	1,042
1913...	1,451,751	1,052,241	1,044,238	1,096,773	8,003	- 44,532	14 6	1,000
1914...	1,343,240	1,000,521	966,180	973,591	34,341	26,930	14 11	1,028
1915...	1,296,891	916,210	932,848	965,998	- 16,638	49,788	14 2	975
1916...	2,164,282	1,988,926	1,556,744	1,528,079	432,182	459,947	18 5	1,298
1917...	2,347,435	2,713,206	1,688,500	1,688,500	2,157,259	1,024,706	23 1	1,595
1918...	1,276,333	1,906,314	1,018,061	1,475,208	988,253	431,106	29 10	2,060
1919...	1,427,380	2,277,733	1,026,708	2,131,916	1,251,025	145,817	31 11	2,201
1920...	1,852,663	3,035,049	1,332,613	2,956,376	2,303,336	679,573	39 8	2,707
1921...	1,636,445	3,201,449	1,177,088	3,211,610	2,024,361	- 10,161	39 2	2,699

(iii) DIAMONDS.

	Carats.	£	£	£	£	£	Per carat. s. d.	
1909...	4,942,568	6,368,711					25 9-3	732
1910...	5,556,625	8,479,346	7,197,111	7,197,111	1,282,235	1,282,235	30 4-3	862
1911...	4,690,889	8,281,967	6,044,401	7,119,803	2,237,506	1,162,104	35 3-7	1,003
1912...	4,442,746	9,153,316	5,724,669	7,843,803	3,428,447	1,399,513	41 2-6	1,170
1913...	5,503,861	12,016,525	7,091,901	11,339,513	4,924,664	677,012	43 8	1,240
1914...	2,880,332	5,512,919	3,711,431	6,288,600	1,801,488	-775,681	38 3-4	1,087
1915...	612,876	1,676,135	789,717	1,173,037	886,421	503,101	54 8-4	1,554
1916...	2,291,056	5,279,976	2,952,124	6,265,747	2,327,852	-985,771	46 1-1	1,309
1917...	2,403,626	6,097,000	3,997,175	5,539,405	2,999,831	557,601	50 8-8	1,441
1918...	2,571,646	7,003,943	3,313,676	6,523,203	3,749,367	539,840	54 11-2	1,560
1919...	2,752,303	11,546,768	3,546,460	7,559,219	8,000,308	3,087,549	83 10-9	2,383
1920...	2,039,554	11,597,451	2,628,053	8,356,563	8,969,398	3,040,888	113 8-7	3,230
1921...	316,702	1,353,487	408,084	1,800,852	947,403	-445,865	83 7-2	2,431

(iv) OSTRICH FEATHERS.

	lb.	£	£	£	£	£	Per lb. s. d.	
1909...	788,262	2,091,280					53 0-7	954
1910...	741,078	2,272,846	1,968,020	1,968,020	306,826	306,826	61 4-1	1103
1911...	826,992	2,253,140	2,194,032	2,536,340	- 59,108	-283,200	54 5-9	980
1912...	909,704	2,609,638	2,652,241	2,723,094	- 42,603	-114,056	52 2-5	939
1913...	1,023,307	2,953,587	2,714,801	2,678,389	238,726	275,198	57 8-7	1038
1914...	755,325	1,342,717	200,389	2,180,106	1,142,328	-837,389	35 6-6	630
1915...	948,945	743,772	2,517,576	1,686,909	-1,773,804	-943,137	15 8-1	282
1916...	452,080	486,362	1,118,884	354,335	-632,522	132,027	21 6-2	387
1917...	219,048	175,019	581,140	235,059	-406,121	- 60,640	15 11-8	287
1918...	108,924	88,628	288,978	87,030	-200,350	-1,598	16 3-3	293
1919...	904,611	1,646,014	2,399,957	736,053	-753,943	909,961	36 4-7	654
1920...	285,144	547,336	756,494	518,843	-209,158	28,493	38 4-7	690
1921...	296,711	461,533	787,182	569,539	-325,649	-108,006	31 1-3	559

PRINCIPAL EXPORTS OF SOUTH AFRICAN PRODUCE—QUANTITY, VALUE ON DIFFERENT BASES, AND INDEX NUMBERS—*continued.*

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (—) Compared with 1909. Price.	Gain or Loss (—) Compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000.)
(v) MOHAIR.								
	lb.	£	£	£	£	£	Per lb. s. d.	
1909...	19,649,053	861,639					0 10 5	963
1910...	17,817,219	903,164	781,310	781,310	121,854	121,854	1 0 2	1118
1911...	21,066,825	917,874	923,810	1,067,888	— 5,936	— 150,014	0 10 5	957
1912...	23,479,729	967,286	1,029,620	1,022,189	— 62,334	— 54,903	0 9 9	904
1913...	17,355,882	876,255	761,080	715,004	115,175	161,251	1 0 1	1103
1914...	18,865,743	834,202	827,290	952,484	— 6,912	— 118,282	0 10 6	971
1915...	16,304,378	687,635	714,070	720,944	— 27,335	— 33,309	0 10 1	926
1916...	17,374,068	1,115,281	701,878	732,749	353,403	382,532	1 3 4	1409
1917...	3,000,828	280,636	161,848	230,923	118,788	43,713	1 6 2	1669
1918...	19,645,684	1,641,889	861,491	1,493,780	780,398	148,109	1 8 1	1835
1919...	16,942,021	1,654,235	742,932	1,415,930	911,303	238,305	1 11 4	2144
1920...	6,289,888	518,073	275,821	614,150	243,152	— 95,177	1 7 8	1811
1921...	17,128,915	583,643	751,127	1,413,291	— 167,484	— 829,648	0 8 2	748

## (vi) HIDES (OX AND COW).

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (—) Compared with 1909. Price.	Gain or Loss (—) Compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000.)
(vi) HIDES (OX AND COW).								
	lb.	£	£	£	£	£	Per lb. s. d.	
1909...	11,770,489	315,150					0 6 4	856
1910...	13,255,332	404,073	354,006	354,006	39,756	39,756	0 7 3	974
1911...	13,211,734	370,348	352,800	402,744	17,748	— 32,190	0 6 7	897
1912...	20,428,461	670,887	545,512	572,955	125,375	97,932	0 7 9	1050
1913...	21,279,840	794,937	568,247	698,847	220,690	96,090	0 9	1194
1914...	14,673,065	544,050	391,823	548,132	152,227	— 4,082	0 8 9	1185
1915...	15,304,911	575,945	408,695	567,478	167,250	8,407	0 9	1203
1916...	19,450,001	811,338	519,384	731,931	291,954	79,407	0 10	1333
1917...	17,304,022	836,505	462,079	721,820	374,426	114,685	0 11 6	1545
1918...	12,506,970	548,051	333,980	604,608	214,071	— 56,557	0 10 5	1401
1919...	19,586,819	1,068,053	523,038	858,288	545,015	209,765	1 1 1	1743
1920...	18,862,413	1,182,317	503,693	1,028,552	678,624	153,765	1 3	2094
1921...	14,295,679	362,269	382,761	896,069	— 20,492	— 533,800	0 6 1	810

## (vii) SHEEP SKINS.

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (—) Compared with 1909. Price.	Gain or Loss (—) Compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000.)
(vii) SHEEP SKINS.								
	lb.	£	£	£	£	£	Per lb. s. d.	
1909...	23,746,655	551,910					0 5 6	329
1910...	24,630,435	603,280	572,450	572,450	30,830	30,830	0 5 9	979
1911...	23,096,066	574,457	557,728	587,764	16,729	— 13,307	0 5 7	957
1912...	29,029,147	724,196	674,634	694,921	49,512	29,275	0 6	967
1913...	32,106,400	889,611	748,296	803,210	141,315	86,401	0 6 6	1104
1914...	30,353,731	753,273	705,409	838,607	47,804	— 85,424	0 6	992
1915...	37,226,422	827,590	895,291	923,820	— 37,611	— 96,230	0 5 3	888
1916...	30,410,380	1,084,042	796,786	676,061	377,256	407,981	0 8 6	1424
1917...	24,941,141	1,431,854	579,672	880,079	852,182	542,775	1 1 8	2294
1918...	25,284,318	1,329,236	587,648	1,451,556	741,588	— 122,320	1 0 6	2101
1919...	39,775,368	2,827,653	924,442	2,091,052	1,902,611	736,001	1 5 1	2840
1920...	24,066,098	2,141,927	559,334	1,710,510	1,581,693	430,517	1 9 4	3555
1921...	27,949,822	713,341	649,598	2,486,539	63,743	— 1,773,198	0 6 1	1020

## (viii) MAIZE.

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (—) Compared with 1909. Price.	Gain or Loss (—) Compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000.)
(viii) MAIZE.								
	lb.	£	£	£	£	£	Per 200 lb. s. d.	
1909...	302,102,606	650,940					8 7 4	1032
1910...	356,303,005	693,413	767,727	767,727	— 74,314	— 74,314	7 9 4	932
1911...	206,554,439	402,680	445,062	401,981	— 42,382	— 699	7 9 6	934
1912...	192,775,746	443,492	415,373	375,818	28,119	67,674	9 2 4	1102
1913...	22,044,714	65,169	49,439	52,785	15,730	12,384	11 4 3	1361
1914...	220,031,205	438,455	474,019	62,494	— 35,564	375,961	7 11 6	955
1915...	298,765,234	631,646	643,749	505,347	— 12,103	36,290	8 5 5	1013
1916...	319,205,982	877,368	752,433	738,287	124,935	139,081	10 0 6	1204
1917...	468,792,325	1,519,860	1,099,912	1,177,519	509,948	342,341	12 11 6	1554
1918...	509,495,794	1,690,137	1,097,809	1,652,140	502,328	— 52,093	12 6 8	1505
1919...	248,295,197	1,145,408	530,619	773,427	614,780	371,981	18 7 3	2228
1920...	69,675,591	344,268	150,130	324,069	194,138	20,199	19 9 2	2367
1921...	777,246,632	2,295,769	1,674,730	3,840,383	621,039	— 1,544,614	11 9 8	1415

PRINCIPAL EXPORTS OF SOUTH AFRICAN PRODUCE—QUANTITY, VALUE ON DIFFERENT BASES, AND INDEX NUMBERS—*continued.*

Year.	Quantity.	Actual Value Recorded.	Assessed Value at 1909 Price.	Assessed Value at Previous Year's Price.	Gain or Loss (-) compared with 1909 Price.	Gain or Loss (-) compared with Previous Year's Price.	Export Unit Value.	Index Number of Export Unit Value. (1909-13 = 1000.)
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(ix) MEATS.

	lb.	£	£	£	£	£	Per lb. s. d.	
1909...	29,580	637					0 5 2	894
1910...	15,762	461	330	339	122	122	0 7	1214
1911...	322,308	7,249	6,939	9,427	310	2,178	0 5 4	934
1912...	502,330	11,533	10,814	11,297	719	236	0 5 5	953
1913...	198,683	5,858	4,277	4,562	1,581	1,296	0 7 1	1224
1914...	640,353	15,104	13,786	18,880	1,818	3,766	0 5 7	979
1915...	6,412,037	118,132	138,040	151,241	19,908	33,109	0 4 4	765
1916...	17,861,042	361,768	384,517	329,062	22,749	32,706	0 4 0	841
1917...	47,350,470	1,049,433	1,019,374	959,064	30,059	90,059	0 5 3	920
1918...	18,818,409	477,418	405,128	417,074	72,290	60,344	0 6 1	1053
1919...	46,018,654	1,170,973	990,701	1,167,480	180,272	3,493	0 6 1	1057
1920...	13,609,039	381,277	292,979	346,290	88,298	34,987	0 6 7	1163
1921...	2,750,620	93,513	50,345	77,231	34,168	10,282	0 8 1	1409

(x) WOOL, SCORED.

	1,000 lb.	£	£	£	£	£	Per lb. s. d.	
1909...	4,103	218,847					1 0 8	879
1910...	4,208	255,658	224,468	224,468	31,190	31,190	1 2 6	1001
1911...	5,284	304,096	281,823	320,982	22,863	18,296	1 1 8	950
1912...	4,164	250,445	222,115	240,134	28,530	10,511	1 2 4	992
1913...	3,658	269,932	195,122	220,185	74,810	49,747	1 5 7	1218
1914...	4,323	328,073	230,589	318,997	97,484	9,076	1 6 2	1250
1915...	8,663	618,903	462,051	657,388	156,852	38,485	1 5 1	1177
1916...	10,297	1,003,696	549,230	735,677	454,466	268,019	1 11 4	1606
1917...	11,936	1,804,447	636,828	1,163,422	1,168,019	64,225	3 0 3	2491
1918...	15,243	2,792,124	813,018	2,304,652	1,079,108	487,472	3 8	3018
1919...	26,477	4,039,543	1,412,209	4,849,922	3,527,334	89,621	3 8 8	3074
1920...	12,988	2,984,959	692,733	2,423,001	2,272,226	541,958	4 6 8	3762
1921...	11,527	1,026,200	614,833	2,631,539	411,367	1,605,339	1 9 4	1467

(xi) WOOL IN THE GREASE.

	1,000 lb.	£	£	£	£	£	Per lb. s. d.	
1909...	126,660	3,502,090					0 6 6	940
1910...	117,445	3,574,521	3,247,320	3,247,320	327,201	327,201	0 7 3	1035
1911...	126,894	3,592,878	3,508,556	3,862,082	34,322	269,204	0 6 8	963
1912...	157,761	4,527,099	4,362,042	4,466,874	165,057	60,225	0 6 9	976
1913...	173,243	5,444,524	4,790,093	4,971,357	654,431	473,167	0 7 5	1069
1914...	129,524	3,900,557	3,581,281	4,070,557	319,276	170,000	0 7 2	1024
1915...	161,253	4,753,202	4,458,585	4,856,074	294,617	102,872	0 7 1	1003
1916...	125,895	5,583,971	3,480,939	3,710,961	2,103,032	1,873,010	0 10 6	1508
1917...	105,710	6,977,065	2,922,336	4,688,688	4,054,226	2,288,377	1 3 8	2245
1918...	100,392	6,897,506	2,775,788	6,626,048	4,121,718	271,458	1 4 5	2337
1919...	158,263	12,946,170	4,375,914	10,873,632	8,570,556	2,072,538	1 7 6	2782
1920...	106,396	12,990,055	2,971,794	8,793,315	10,048,261	4,286,740	2 5 3	4152
1921...	218,893	7,210,485	6,052,310	26,725,134	1,158,175	19,514,649	0 7 9	1120

7. Variation of Export Values.—The following tables show the variation of the values of exports, divided into four categories: (i) living animals, (ii) produce of the land, (iii) produce of the mines (excluding gold), and (iv) other articles. Table (v) is a summary of the preceding four. Table (vi) is similarly a summary of the first four tables with the addition of gold. In this table the exports of gold during the period 1914 to 1919 have been re-arranged in proportion to the output. As the gold during the greater part of this period was sold to the Bank of England as soon as it was lodged with South African banks, this re-arrangement gives a closer approximation to the Union's purchasing power, as far as visible exports are concerned, for individual years than the recorded export figures. The second column in the tables shows the recorded values of exports, the third the values at the average (1909-13) prices. The two last columns show the index numbers (1) of the value of exports, and (2) of the export values. About 98 per cent. of the exports are shown by quantities as well as values in the annual statements of the Customs Department. In the case of the remaining 2 per cent., where values only are recorded, changes of value have been applied proportional to the other articles in their appropriate class.

**VARIATIONS IN VOLUME AND VALUE OF EXPORTS (S.A. PRODUCE) FROM 1909.**

(Including Ships' Stores but excluding Removals to Rhodesia.)

Year.	Recorded Value.	Value at 1909-13 Average.	Effect of Change of Price.		Index No. of Volume of Export (Average 1900-13 = 1000).	Index No. of Export Values (Average 1900-13 = 1000).
			Gain.	Loss.		

**(i) ANIMALS, LIVING.**

	£	£	£	£		
1909.....	43,366	43,982	—	616	1103	982
1910.....	42,362	37,857	4,505	—	949	1115
1911.....	45,338	49,713	—	4,325	1247	909
1912.....	30,988	33,001	—	2,013	828	935
1913.....	38,106	34,800	3,306	—	873	1090
1914.....	33,568	36,646	—	3,078	919	912
1915.....	44,465	56,499	—	12,034	1417	788
1916.....	32,797	42,984	—	10,187	1078	760
1917.....	47,452	55,958	—	8,506	1403	845
1918.....	60,763	66,690	—	5,936	1673	907
1919.....	53,704	54,522	—	818	1367	981
1920.....	68,360	61,090	7,270	—	1532	1114
1921.....	54,142	55,587	—	1,445	1394	970

**(ii) PRODUCE OF THE LAND, AGRICULTURAL AND PASTORAL.**

	£	£	£	£		
1909.....	8,958,090	9,459,440	—	501,350	928	947
1910.....	9,484,687	9,119,891	364,796	—	803	1039
1911.....	9,246,134	9,522,280	—	276,146	932	971
1912.....	11,163,506	11,485,088	—	321,582	1124	972
1913.....	12,239,524	11,492,511	747,013	—	1125	1065
1914.....	9,090,642	9,691,516	—	600,874	949	938
1915.....	9,930,016	11,737,608	—	1,807,592	1149	846
1916.....	12,915,537	10,106,054	2,809,483	—	989	1278
1917.....	16,291,187	9,147,213	7,143,974	—	895	1781
1918.....	18,192,359	9,141,899	9,050,470	—	805	1989
1919.....	33,064,453	15,343,134	17,721,319	—	1502	2154
1920.....	25,623,600	8,295,112	17,328,588	—	812	3089
1921.....	17,899,393	14,780,671	3,118,722	—	1447	1211

**(iii) PRODUCE OF MINES, EXCLUDING GOLD.**

	£	£	£	£		
1909.....	7,858,377	10,218,956	—	2,360,579	953	769
1910.....	10,205,006	11,623,013	—	1,418,007	1084	878
1911.....	10,236,625	10,403,074	—	166,440	970	985
1912.....	11,052,334	9,544,330	1,508,004	—	890	1158
1913.....	14,267,156	11,830,963	2,427,193	—	1104	1205
1914.....	7,931,155	7,475,170	455,985	—	697	1062
1915.....	3,944,213	3,311,682	632,531	—	309	1191
1916.....	8,893,056	6,726,971	2,166,085	—	627	1322
1917.....	10,509,613	6,960,009	3,549,604	—	649	1510
1918.....	10,731,646	6,433,841	4,297,805	—	600	1668
1919.....	15,325,200	6,736,352	8,588,848	—	628	2275
1920.....	17,506,537	6,091,349	11,415,188	—	568	2873
1921.....	6,797,566	2,798,504	3,999,062	—	261	2429

**(iv) OTHER ARTICLES.**

	£	£	£	£		
1909.....	169,720	165,258	4,462	—	530	1025
1910.....	240,589	223,596	16,993	—	717	1074
1911.....	314,772	322,182	—	7,410	1033	975
1912.....	407,227	421,124	—	13,897	1350	965
1913.....	430,354	427,362	2,992	—	1370	1005
1914.....	360,561	356,638	3,923	—	1143	1010
1915.....	562,012	509,069	52,943	—	1632	1102
1916.....	1,108,516	893,330	245,186	—	2768	1281
1917.....	1,267,942	858,458	409,484	—	2752	1474
1918.....	1,309,652	774,484	535,168	—	2483	1687
1919.....	1,406,701	764,096	642,605	—	2450	1837
1920.....	1,736,636	858,022	878,614	—	2751	2020
1921.....	1,072,288	635,302	516,986	—	1780	1928

VARIATIONS IN VOLUME AND VALUE OF EXPORTS (S.A. PRODUCE),  
FROM 1909—continued.

Year.	Recorded Value.	Value at 1909-13 Average.	Effect of Change of Price.		Index No. of Volume of Export (Average 1909-13 = 1000).	Index No. of Export Values (Average 1909-13 = 1000).
			Gain.	Loss.		
(v) SUMMARY OF TABLES (i) TO (iv).						
1909.....	£ 17,029,553	£ 19,887,636	—	2,858,083	934	857
1910.....	19,972,644	21,004,357	—	1,031,713	986	951
1911.....	19,842,919	20,297,249	—	454,330	953	978
1912.....	22,654,055	21,483,543	1,170,512	—	1009	1055
1913.....	26,975,140	23,794,636	3,180,504	—	1117	1134
1914.....	17,415,926	17,559,970	—	144,044	825	992
1915.....	14,480,706	15,614,858	—	1,134,152	738	928
1916.....	22,949,906	17,739,339	5,210,567	—	833	1294
1917.....	28,116,194	17,021,638	11,094,556	—	799	1652
1918.....	30,294,420	16,416,913	13,877,507	—	771	1846
1919.....	49,850,058	22,898,104	26,951,954	—	1075	2178
1920.....	44,935,133	15,305,573	29,629,560	—	719	2935
1921.....	25,823,380	18,190,064	7,633,325	—	854	1420

(vi) SUMMARY OF TABLES (i) TO (iv) INCLUDING GOLD AT STANDARD VALUE AND VALUE OF GOLD PREMIUM.

Year.	£	£	£	£		
1909.....	47,782,366	50,640,449	—	2,858,083	904	944
1910.....	51,783,439	52,795,152	—	1,031,713	943	980
1911.....	54,907,283	55,361,593	—	454,330	989	992
1912.....	60,996,361	59,825,840	1,170,512	—	1068	1020
1913.....	64,564,539	61,384,035	3,180,504	—	1096	1052
1914.....	52,752,893	52,896,937	—	144,044	945	997
1915.....	52,765,144	53,899,296	—	1,134,152	962	979
1916.....	62,078,419	66,887,852	5,210,567	—	1015	1092
1917.....	66,072,254	54,977,698	11,094,556	—	982	1202
1918.....	65,725,201	51,847,694	13,877,507	—	926	1268
1919.....	88,804,808	57,963,873	30,840,935	—	1035	1532
1920.....	91,711,179	50,852,652	40,858,527	—	908	1804
1921.....	68,811,990	52,643,650	16,168,340	—	940	1307

8. Variation of Import Values.—The following tables show the variation of the values of imports divided into three categories: (i) Food and Drink, (ii) Raw Materials, and (iii) Manufactured Articles. Table (iv) is a summary of the preceding three. As far as possible a similar method of calculation was pursued as in the case of exports. (See paragraph 7.) As, however, only one-third of the imported articles have quantities as well as values recorded, investigation of other sources of information was necessary. Details of the exports from the United Kingdom to South Africa in the former's trade returns, which are more detailed as to quantities, were extracted and collated with the variations of wholesale prices. Assistance was given by the British Board of Trade. The final results, tabulated below, though not purporting to be absolutely correct, may be taken as substantially accurate. Confirmation of the limits between which the margin of error might lie is afforded by a comparison of the weight of oversea cargo landed and the index of volume arrived at from the above calculation. The results are indicated hereunder. In the former case the year 1913 (the first for which details are available) is taken as the base equal to 1111, the index of volume for that year [see table (iv) hereunder].

	Overseas Cargo Landed	Index of Volume of Imports.
1913	1111	1111
1914	906	927
1915	740	791
1916	782	880
1917	628	663
1918	520	690
1919	555	570
1920	964	895
1921	612	618

In the first place it must be remembered that during the war, owing to lack of shipping accommodation, there was every incentive to economy of space, with a tendency in consequence to import goods of less bulk. As a result, it was to be expected that throughout the war period the figures in the second column would be somewhat higher than those in the first, and that that difference would tend to disappear when more normal conditions



supervened. The year 1918 shows a very large deviation, but that is chiefly accounted for by the quantities of soft goods imported in that year and the considerable falling off in raw materials machinery, motor cars, etc. In the year 1920, the only one in which the figure in the second column is higher than the first, a completely different state of things was in evidence, large quantities of grain and flour, raw materials, railway material, and motor cars having been imported. It is seen that in the circumstances the figures do in fact show a remarkable degree of correspondence.

**VARIATIONS IN VOLUME AND VALUE OF IMPORTS (INCLUDING IMPORTS OF GOVERNMENT STORES FROM 1910, BUT EXCLUDING IMPORTS FROM RHODESIA).**

Year.	Recorded Value.	Value at 1909-13 Average	Effect of Change of Price.		Index No. of Volume of Imports (Average 1909-13 = 1000).	Index No. of Imports Value (Average 1909-13 = 1000).
			Increase.	Decrease.		
(i) FOOD AND DRINK.						
	£	£	£	£		
1909.....	5,552,217	5,795,634	—	243,417	911	958
1910.....	5,942,062	6,081,947	—	139,885	966	978
1911.....	6,339,523	6,416,521	—	76,998	1009	988
1912.....	6,864,280	6,615,306	348,893	—	948	1058
1913.....	7,587,146	7,489,779	97,367	—	1178	1014
1914.....	5,998,254	5,074,357	23,897	—	939	1005
1915.....	6,192,364	5,593,825	598,539	—	880	1197
1916.....	5,839,629	4,982,119	907,510	—	776	1164
1917.....	5,113,831	4,055,377	1,058,454	—	638	1260
1918.....	4,734,401	3,871,137	863,264	—	609	1223
1919.....	4,852,217	2,750,090	2,101,527	—	433	1762
1920.....	14,070,104	5,481,147	8,588,957	—	802	2507
1921.....	5,398,033	3,247,914	2,150,119	—	511	1661

(ii) RAW MATERIALS.

	£	£	£	£		
1909.....	2,444,134	2,594,822	—	150,488	713	942
1910.....	3,709,753	3,852,288	—	142,535	1058	964
1911.....	3,685,496	3,689,185	—	3,689	1013	1000
1912.....	3,999,283	3,918,193	86,090	—	1075	1022
1913.....	4,353,810	4,154,405	199,411	—	1141	1049
1914.....	3,240,394	3,071,464	168,930	—	844	1056
1915.....	2,917,274	2,406,992	510,282	—	661	1213
1916.....	3,837,554	2,482,247	1,355,307	—	682	1547
1917.....	3,693,944	2,028,525	1,665,419	—	557	1822
1918.....	4,124,724	1,730,896	2,393,828	—	475	2387
1919.....	4,520,371	1,805,775	2,660,596	—	512	2430
1920.....	9,188,686	2,931,936	6,256,750	—	805	3137
1921.....	4,740,070	1,890,028	2,844,042	—	521	2501

(iii) MANUFACTURED ARTICLES.

	£	£	£	£		
1909.....	18,103,802	18,833,684	—	729,882	728	962
1910.....	20,873,831	27,130,378	—	256,547	1049	990
1911.....	26,632,007	26,676,884	—	244,787	1039	991
1912.....	28,225,741	28,315,946	—	90,205	1095	996
1913.....	29,494,898	28,191,037	1,303,771	—	1080	1046
1914.....	25,841,098	24,206,346	1,634,752	—	936	1067
1915.....	22,482,451	20,388,183	2,094,268	—	788	1103
1916.....	30,316,249	24,138,247	6,178,002	—	933	1256
1917.....	27,176,908	17,707,534	9,469,374	—	684	1537
1918.....	40,096,457	10,135,386	20,961,071	—	740	2095
1919.....	40,276,127	15,838,680	24,437,447	—	612	2544
1920.....	76,775,001	23,692,047	53,082,954	—	916	3240
1921.....	46,836,148	17,012,496	29,823,652	—	658	2752

(iv) SUMMARY OF TABLES (i) TO (iii).

	£	£	£	£		
1909.....	26,109,153	27,223,940	—	1,123,787	759	959
1910.....	36,525,646	37,064,613	—	538,967	1033	986
1911.....	36,657,116	36,982,590	—	325,474	1031	991
1912.....	38,589,313	38,244,535	344,778	—	1066	1009
1913.....	41,435,770	39,835,221	1,600,549	—	1111	1040
1914.....	35,079,746	33,252,167	1,827,579	—	927	1055
1915.....	31,592,089	28,389,000	3,203,089	—	791	1114
1916.....	39,993,432	31,552,013	8,440,819	—	880	1267
1917.....	35,084,683	24,791,436	12,193,247	—	663	1513
1918.....	48,955,582	24,737,419	24,218,163	—	690	1978
1919.....	49,654,715	20,455,145	29,199,570	—	570	2430
1920.....	100,033,791	32,105,130	67,928,661	—	895	3116
1921.....	56,974,251	22,156,438	34,817,813	—	618	2571

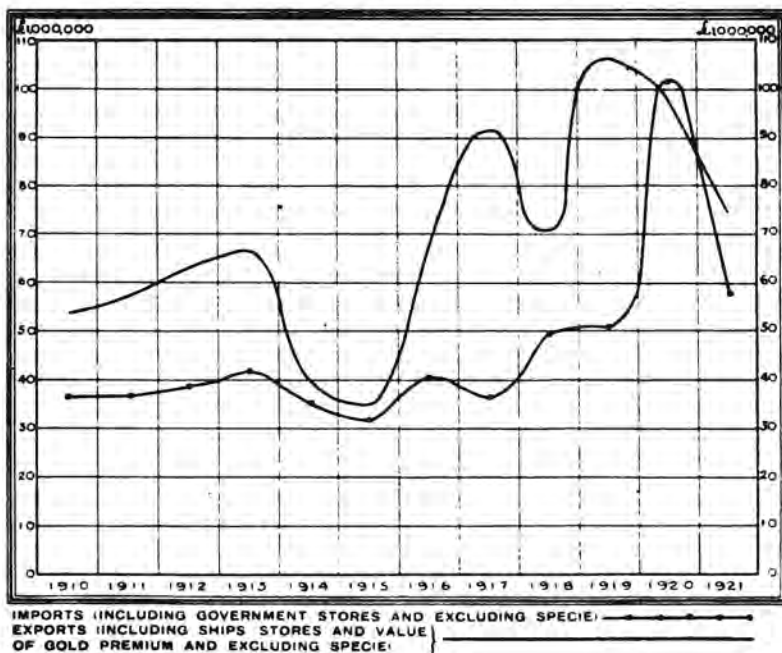
9. **Exports and Imports per Head of European Population.**—The following table shows the exports of South African produce and imports at the 1909-13 average values and the value per head of the European population.

**EXPORTS AND IMPORTS PER HEAD OF EUROPEAN POPULATION AT 1909-13 VALUES FROM 1909.**

Year.	South African Exports.		Imports.	
	Value at 1909-13 Average.	Average per Head of European Population.	Value at 1909-13 Averages.	Average per Head of European Population.
1909.....	£ 50,640,449	£ s. d. 41 0 7	£ 27,223,940	£ s. d. 22 1 1
1910.....	52,795,152	42 1 0	37,064,613	29 10 5
1911.....	55,361,593	43 4 9	36,982,590	28 17 8
1912.....	59,825,848	45 16 9	38,244,535	29 6 0
1913.....	61,384,033	46 3 0	39,835,221	29 19 0
1914.....	52,896,937	39 0 10	33,232,167	24 10 10
1915.....	53,899,296	39 1 4	28,389,090	20 11 6
1916.....	56,867,852	40 9 9	31,552,613	22 9 3
1917.....	54,977,693	38 9 3	23,791,436	16 12 11
1918.....	51,847,694	35 13 1	24,737,419	17 0 3
1919.....	57,963,873	39 5 2	20,455,145	13 17 1
1920.....	50,852,652	33 18 1	32,105,130	21 8 1
1921.....	52,643,650	34 11 2	22,156,438	14 10 11

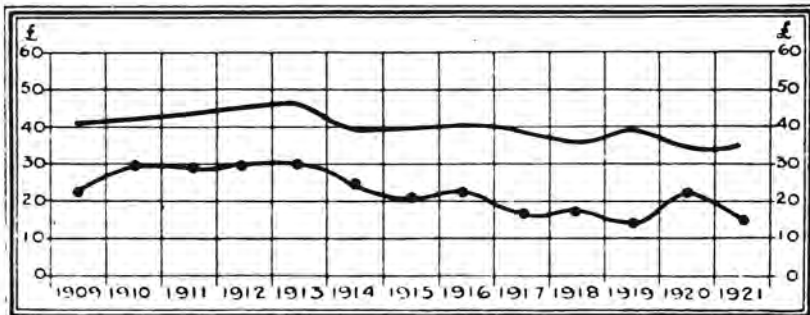
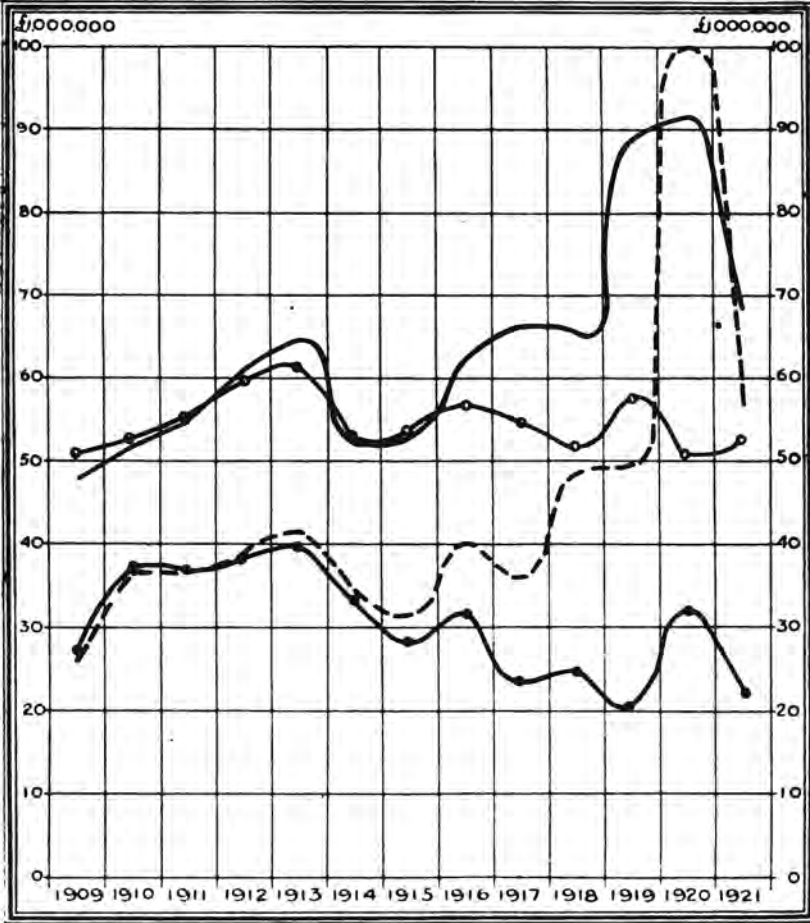
Graphs for the purpose of illustrating the above as well as the tables in the two preceding paragraphs are given on the next page.

IMPORTS AND EXPORTS, 1910-21.



IMPORTS AND EXPORTS, 1909-1921.

IMPORTS AT RECORDED VALUES ————  
 IMPORTS AT 1909-1913 VALUES —●—●—●—●—●—●—●—●—●—●—  
 EXPORTS (INCLUDING GOLD AT RECORDED VALUES) ————  
 EXPORTS (INCLUDING GOLD AT 1909-1913 VALUES) —○—○—○—○—○—○—○—○—○—○—



IMPORTS AT 1909-1913 VALUES PER HEAD OF EUROPEAN POPULATION —●—●—●—●—●—●—●—●—●—●—  
 EXPORTS AT 1909-1913 VALUES PER HEAD OF EUROPEAN POPULATION ————

10. Trade with Neighbouring Countries.—The value of the trade of the Union with certain neighbouring countries for a period of years is indicated in the following tables:—

**VALUE OF UNION TRADE WITH CERTAIN NEIGHBOURING COUNTRIES, FROM 1910.**

(a) IMPORTS FROM NEIGHBOURING COUNTRIES (INCLUDING GOVERNMENT STORES, BUT EXCLUDING SPECIE).

Country.	Average 1910-14.	Average 1915-18.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Belgian Congo.....	253	14,510	4,950	14,610	5,204	605
Kenya Colony, (B.E.A.).....	5,566	50,914	139,037	94,997	148,283	65,358
Nyasaland.....	982	4,442	13,272	2,471	1,204	178
Zanzibar.....	2,297	117,038	295,685	139,362	86,318	21,787
Madagascar.....	10,330	50,668	128,149	55,513	132,245	18,150
Mauritius.....	194,910	60,487	173,012	21,514	27,197	13,350
Portuguese East Africa.....	136,026	205,039	263,829	203,036	310,300	450,034
Southern Rhodesia.....	91,292	304,745	388,698	638,772	1,191,450	477,825
Northern Rhodesia.....	5,803	38,046	60,691	62,258	84,190	48,831
South-West Africa.....	4,125	42,966	46,606	447,627	428,940	270,571

(b) EXPORTS TO NEIGHBOURING COUNTRIES (EXCLUDING SPECIE).

	£	£	£	£	£	£
Belgian Congo.....	129,068	307,278	512,811	406,235	626,093	552,253
Kenya Colony, (B.E.A.).....	14,460	148,224	396,629	234,109	219,131	136,962
Nyasaland.....	470	11,133	12,117	1,919	2,206	573
Zanzibar.....	4,226	42,113	95,482	74,403	30,519	62,283
Madagascar.....	10,261	78,151	151,783	120,659	108,466	43,906
Mauritius.....	42,750	142,499	254,369	352,544	458,273	294,175
Portuguese East Africa.....	195,100	523,934	987,537	635,255	714,141	600,193
Southern Rhodesia.....	1,298,393	1,533,311	2,030,142	2,025,973	3,345,001	2,737,063
Northern Rhodesia.....	77,524	97,556	120,395	152,832	265,100	267,645
South-West Africa.....	149,629	867,951	1,031,534	1,135,116	1,789,364	881,302

A trade mission, representative of various Government departments concerned, was dispatched by the Union Government to Kenya Colony in October, 1922, with the object of investigating the possibility of extending the trade relations between the Union and that territory.

11. Supplies for Ships.—The following figures give the quantity and value of coal bunkered, and of beef and other articles, the produce of the Union, supplied for the use of vessels, for a series of years:—

**COAL, BEEF, AND OTHER ARTICLES OF UNION PRODUCE SUPPLIED TO VESSELS FROM 1910.**

YEARS.	COAL BUNKERED.		BEEF SUPPLIED.		VALUE OF OTHER ARTICLES SUPPLIED.	TOTAL VALUE OF ALL UNION PRODUCE SUPPLIED.
	Quantity.	Value.	Quantity.	Value.		
	Tons.	£	lb.	£		
1910	1,326,709	620,881	—	—	637	930,518
1911	1,426,586	1,027,731	219,703	4,658	23,659	1,056,048
1912	1,413,220	1,087,663	283,915	6,261	37,377	1,111,301
1913	1,451,751	1,052,241	112,321	2,818	43,930	1,098,989
1914	1,343,240	1,000,521	336,841	7,630	62,110	1,070,261
1915	1,296,891	916,210	874,869	19,057	62,582	997,849
1916	2,164,262	1,938,926	1,574,491	38,491	110,240	2,137,657
1917	2,347,435	2,713,206	2,744,415	68,100	198,009	2,979,375
1918	1,276,333	1,906,314	2,479,309	74,917	233,595	2,214,826
1919	1,427,380	2,277,733	1,954,319	64,836	241,247	2,583,816
1920	1,852,663	3,635,949	1,773,612	63,500	272,397	3,971,846
1921	1,636,445	3,201,449	1,282,198	46,004	179,036	3,426,480

### § 6. Excise Duties.

1. **Excise Duties Imposed in the Union.**—Particulars of excise legislation both before and since the establishment of the Union will be found in previous issues of the Official Year Book. Details as to revenue collections of excise are given in Chapter XXIII.

(i) *Spirits and Beer.*—The following table shows the duties and the rebates allowed under Act No. 35 of 1921.

#### TARIFF OF EXCISE DUTY ON SPIRITS AND BEERS MANUFACTURED IN THE UNION (ACT No. 35 OF 1921).

##### ARTICLE.

Spirits.	Rate of Duty.
	£ s. d.
• Wine brandy, viz., spirits distilled from wine or must produced solely by the alcoholic fermentation of the juice of fresh grapes, per imperial proof gallon.....	0 12 0
Grape brandy, viz., the distillate resulting from the distillation solely of grape juice together with the husks, per imperial proof gallon.....	0 17 6
Dop brandy and spirits distilled from materials other than the produce of the vine, per imperial proof gallon.....	1 2 0
Beer.	Rate of Duty.
	£ s. d.
Beer brewed from worts of the specific gravity of not less than one thousand and twenty degrees, and not more than one thousand and thirty-nine degrees, per 36 imperial gallons.....	0 15 0
Beer brewed from worts of the specific gravity below one thousand and twenty degrees, and above one thousand and thirty-nine degrees, per 36 standard gallons..... (With a proportionate increase or decrease for any difference in gravity.)	1 10 0
Lager beer produced from worts of the specific gravity of less than one thousand and forty degrees shall be charged at the higher rate of duty.	
Rebates of Excise Duties on Spirits.	Extent of Rebates.
(a) Spirits of a strength of 50 per cent. overproof and upwards when methylated in the manner prescribed by regulation	The whole duty.
(b) Plain spirits used in the manufacture of medicinal preparations, flavouring essences, and perfumed spirits; subject to the approval of, and to conditions imposed by, the Commissioner of Excise	The whole duty, less seven shillings and six pence per imperial proof gallon.
(c) Plain spirits used for industrial purposes, and rendered unpotable to the satisfaction of the Commissioner of Excise	The whole duty.
(d) Plain spirits used by a scientific or teaching institution for burning, preserving or experimental purposes, and plain spirits used in, and essential for, the working of X-ray and similar apparatus, under such safeguards as the Commissioner of Excise may impose	The whole duty.
(e) Wine brandy and grape brandy, used in the fortification or preservation of pure wine, subject to compliance with the provisions of any Act relating to excise duties, or any regulations issued thereunder	The whole duty.
Rebates of Excise Duties on Spirits.	Extent of Rebates.
(f) Rectified spirit used in the manufacture of ether, or other substance, by a process which causes the ethyl alcohol to undergo chemical change, and provided that not more than 2 per cent. by volume of ethyl alcohol remains in the resulting ether or other product	The whole duty.
(g) Spirits exported for consumption outside the limits of the Union.....	The whole duty.
(h) Spirits lost through evaporation, leakage, or other unavoidable cause when such loss is proved to the satisfaction of the Commissioner of Excise	The whole duty.
(i) Spirits distilled in Natal from the products or by-products of the sugar-cane, when duty paid for consumption in Natal	Five shillings per imperial proof gallon.
(j) Plain spirits used in the manufacture of vinegar and acetic acid; subject to the approval of, and to conditions imposed by, the Commissioner of Excise	The whole duty, less two shillings per imperial proof gallon.
(k) Brandy distilled in a pot still, under excise supervision, wholly from pure wine or must the produce of pure grapes, approved of by the Government Brandy Board, at a strength not exceeding 30 per cent. over proof, matured by storage in an approved warehouse in approved wood for a period of three years and certified by the said Board to be pure wine brandy.	Three shillings per imperial proof gallon.

NOTE.—Brandy which has been matured by storage in an approved warehouse for a period of two years may, at any time in 1923, if approved by the Government Brandy Board, be removed for consumption, and a rebate of two shillings per imperial proof gallon may be allowed thereon.

(ii) *Cigarette's Excise Surtax.*—The *Cigarette Excise and Surtax Act, 1911*, repealed the Cape Act of 1909, and re-enacted the tax throughout the Union. Instead, however, of the tax being collected by means of stamps affixed to each container at the time of their retail sale, the tax is now collected from the manufacturer by means of stamps affixed to the container before cigarettes leave the factory, or from an importer at the time of first importation or delivery from a bonded warehouse. Manufacturers overseas are allowed to purchase the necessary stamps and affix them to the containers of cigarettes at the time of manufacture. The schedule of the Act imposing these duties, as amended by Act No. 35 of 1922, reads as follows:—

- (a) On all cigarettes manufactured in the Union, whether made from tobacco grown or produced therein, or from tobacco imported therein, or from a mixture of Union grown and imported tobaccos, an excise duty for every one-half ounce net weight or fraction thereof 1d.
- (b) On all cigarettes imported into the Union and delivered for consumption therein, a surtax (in addition to the duty payable under the Customs laws) for every one half-ounce net weight or fraction thereof..... 1d.

(iii) *Tobacco.*—Act No. 35 of 1922 imposed the following excise duties on tobacco manufactured in the Union, with similar customs duties on tobacco manufactured in a territory the Government of which has entered into a customs agreement with the Government of the Union on importation into the Union, and on tobacco manufactured in the Province of Mozambique when imported into the Transvaal for consumption therein:—

	Excise duty. s. d.
(a) ready for smoking in a tobacco pipe, including cake, plug, and stick tobacco, per pound weight.....	0 3.
(b) ready for use in the making of cigarettes, per pound weight.....	0 6
(c) in the form of cigarettes, per pound weight.....	0 6
(d) in the form of cigars or cigarillos, per pound weight.....	1 0
(e) in the form of roll tobacco, per pound weight.....	0 3½

(iv) *Sugar.*—The *Customs Amendment and Excise Duties Extension Act, No. 22 of 1915*, imposed a duty on Union sugar of 1s. per 100 lb. Act No. 37 of 1916 reimposed the duty until the 30th June, 1917; Act No. 36 of 1917 until 30th June, 1918; Act No. 20 of 1918 until 30th June, 1919; Act No. 32 of 1919 until 30th June, 1920; and the duty was made permanent by Act No. 44 of 1920.

(v) *Matches.*—The *Matches Duty Act, No. 13 of 1914*, imposed a duty on Union matches of 6d. per gross of boxes containing not more than 100 matches, 1s. per gross of boxes containing not more than 200 matches, and so on in proportion for any increase in size of boxes.

(vi) *Playing-Cards.*—The *Customs Amendment and Excise Duties Extension Act, No. 22 of 1915*, imposed a duty on Union playing-cards at the rate of 3d. per pack (not exceeding fifty-three cards). Act No. 37 of 1916 reimposed the duty until the 30th June, 1917; Act No. 36 of 1917 until 30th June, 1918; Act No. 20 of 1918 until 30th June, 1919; Act No. 32 of 1919 until 30th June, 1920; and the duty was made permanent by Act No. 44 of 1920.

(vii) *Acetic and Pyroligneous Acids, etc.*—The *Excise and Customs Tariff Amendment Act, No. 37 of 1913*, imposed a duty on Union acetic and pyroligneous acids, extracts and essences of vinegar, as follows:—

- If of a strength not exceeding the strength of proof per gallon or fraction of a gallon..... 1s.
- And in addition for each degree of strength in excess of the strength of proof per degree..... 4d.
- Proof held to be equal to 6 per cent. of absolute acid.

## § 7. Patents, Designs, Trade Marks, and Copyright.

1. **General.**—Act No. 9 of 1916, which was brought into force on the 1st January, 1917, repealed all previous legislation embraced in no fewer than *thirty-two* Acts and Proclamations of the various Provinces, and made consolidated and comprehensive provision in respect of patents, designs, trade marks, and copyright in the Union. The administration of the Act is vested in the Minister of Justice, and the office concerned with each of the four subjects of the Act is expressly fixed at Pretoria, under a Registrar. Seals of office are provided for. Impressions of such seals are to be admitted in evidence, and judicially noted. The Registrar may in any proceedings before him—

- (a) receive evidence on affidavit or *viva voce* upon oath;
- (b) summon witnesses and issue commissions *de bene esse*;
- (c) order discovery or inspection, and require the production of documents;
- (d) award costs against any party to proceedings before him.

The registers kept under the Act are open to public inspection on payment of the prescribed fee. Penalties are provided for offences against the Act, including the making

of false entries and of false statements. Officers of the patent office are forbidden to traffic in patents. Special penalty is enforceable in the case of the unauthorized use of the Royal Arms or the Arms of the Union upon any article.

**2. Patents.**—The following persons, whether British subjects or not, may make application for a patent:—

- (a) The inventor, either alone or jointly with one or more other persons; or
- (b) the inventor jointly with the assignee of a part interest in the invention; or
- (c) the assignee of the inventor, either alone or jointly with one or more other persons.

An application for a patent must be made in a prescribed form, and must contain a declaration as to the facts relied upon to support the application. A provisional or complete specification in quadruplicate must be supplied.

The Registrar may accept or refuse the application or may return the specification or drawing for amendment; but in the case of refusal the applicant is permitted to appeal to the law officer. If the application and specification have been accepted, the Registrar gives written notice of that fact to the applicant, and in the case of a complete specification transmits one of the specifications to the Attorney-General at Cape Town, Pietermaritzburg, and Bloemfontein. The acceptance, if of a complete specification, must be advertised not later than one month from the date of such acceptance, and within two months after the last advertisement, or such further time as the Registrar may allow, any person may give notice to oppose such patent on any of the following grounds, but no other:—

- (a) That the applicant has obtained the invention from the person giving such notice (hereinafter referred to as the objector), or from a person of whom the objector is the legal representative or assignee;
- (b) that the invention has been fraudulently obtained to the prejudice of another's rights;
- (c) that the complete specification describes or claims an invention other than that described in the provisional specification, and that such other invention forms the subject of an application made by the objector in the interval between the leaving of the provisional specification and the leaving of the complete specification;
- (d) that the invention is not novel, or is not capable of being patented in terms of the definition of invention in section six of the Act;
- (e) that the person represented as being the inventor is not such;
- (f) that the invention or the application of the same is contrary to law, public order, or good morals;
- (g) that the complete specification does not sufficiently disclose or explain the invention or the manner in which it is to be performed.

Opposed applications are heard and determined by a judge. If there is no opposition or if an opposed application is determined in favour of the patent, a patent is granted on payment of the prescribed fee, and the patent is sealed. The term limit of a patent is fourteen years from its date, subject to extensions, which must be applied for under prescribed procedure. The effect of a patent is to grant to the patentee, subject to the Act and the conditions of the patent, full power, sole privilege, and authority, by himself, his agents and licensee during the term of the patent, to make, use, exercise, and vend the invention within the Union, so that he shall have the sole profit and advantage thereof.

Provision is also made for patents of addition, the restoration of lapsed patents, the revocation of patents, and the issue of a single patent for cognate inventions. Certain provisions are made as to procedure in respect of actions for infringements of patents. A patent may be acquired by the Government by agreement with the patentee or by arbitration. The inventor of any improvement in instruments or munitions of war may assign the patent to the Government.

Any person resident in the Union on passing the prescribed examination, and on paying to the registrar a fee of £5, may be registered as a *patent agent*. Attorneys are entitled to practise as *patent agents* without passing an examination.

**Fees.**—The following fees are payable in respect of a patent:—

On filing application for patent.....	£1.
On filing complete specification.....	£3.
On sealing patent.....	£1.

#### Renewal Fees.

1. Before the expiration of the third year from the date of the patent.... £4.
2. Before the expiration of the seventh year from the date of the patent.... £0.
3. Before the expiration of the tenth year from the date of the patent.... £10.

NOTE.—Any or all of the payments for renewals may be made in one sum.

**3. Designs.**—The Registrar may, on the application (made in the prescribed form and manner) of any person claiming to be the proprietor of any new or original design not previously used in the Union, and not described in any printed publication, nor registered or patented in the Union or in any other country, register the design under the Act. A certificate of registration is then given. The effect of registration is to give the proprietor copyright for a period of five years. Extension of the period may be authorized on application and payment of the prescribed fee.

**4. Trade Marks.**—A registrable trade mark must contain or consist of at least one of the following essential particulars:—

- (a) The name of a company, individual, or firm represented in a special or particular manner; or
- (b) the signature of the applicant for registration or of some predecessor in his business; or
- (c) an invented word or invented words; or
- (d) a distinctive word or words not reasonably required for use in the trade; or
- (e) any other distinctive mark.

The Registrar may refuse to register a trade mark which contains—

- (a) a representation of the King, the Queen, or any member of the Royal Family, or of the Royal Crown; or
- (b) the word "Royal" or any word, letter, or device indicating Royal or Government patronage; or
- (c) a representation of the Royal Arms, or of a national flag of the United Kingdom, or of the national arms of the United Kingdom, or of the Arms or Seal of the Union; or
- (d) a representation of any living person without his written consent.

Any person claiming to be the proprietor of a trade mark may apply for its registration in accordance with prescribed procedure. The Registrar's refusal to register may be appealed against. Opposition to registration may be noted. The registration of a trade mark is for fourteen years, but may be renewed from time to time upon payment of the prescribed fee. A trade mark may be removed from the register if the conditions as to use and renewal are not complied with.

**5. Copyright.**—The British *Copyright Act, 1911*, has been given effect in the Union, subject to certain modifications, the Governor-General exercising the powers of the Board of Trade, and any other reference to the Board of Trade being construed as a reference to the Minister. The Governor-General may by proclamation direct the extension of the British Copyright Act and the Union Act to literary, musical, dramatic, and artistic works first produced or published in any part of the British dominions to which the British Act does not extend in like manner as if such works had first been produced or published in the Union. Copyrights are registered by the Registrar.

**6. Return of Applications and Registrations of Patents, etc.**—The subjoined tables give for a period of years particulars as to the number of applications and registrations in respect of patents, trade marks, and copyright in the Union:—

**PATENTS, TRADE MARKS, AND COPYRIGHT.—PARTICULARS AS TO NUMBER OF APPLICATIONS AND REGISTRATIONS IN THE UNION, 1916 TO 1921.**

HEADING.	1916.	1917.	1918.	1919.	1920.	1921.
<i>Patents</i> —						
Applications.....	594	876	811	1,105	1,449	1,230
Patents Granted.....	400	347	605	661	1,005	1,190
Assignments and Licences Registered.....	90	3	70	16	133	200
<i>Trade Marks</i> —						
Applications.....	476	2,002	1,100	1,585	1,736	1,215
Registrations.....	489	521	1,343	1,213	1,234	1,550
Assignments Registered.....	19	—	306	233	421	444
<i>Copyrights</i> —						
Registrations.....	43	90	73	72	147	81



## § 8. Trading Licences.

1. **Scale of Licences.**—The following is the scale of licences in operation in the several Provinces of the Union:—

## CAPE OF GOOD HOPE.

## Annual Licences.\*

£ s. d.		£ s. d.	
Advertising agent or contractor—minimum.....	5 0 0	Agent of a foreign firm, half-year.....	25 0 0
In addition, 6d. per £ on all amounts received—maximum £300.		*To sell aerated waters.....	2 0 0
Boarding and lodging-house.....	5 0 0	To sell aerated waters (temp. licence) ..	0 2 6
In addition 1 per cent. on gross receipts exceeding £1,500—maximum £300.		*Brewer.....	1 0 0
Canvasser for sale of shares and land.....	50 0 0	*Flowers, ferns and shrubs (whole year from date of issue).....	0 5 0
Laundry, ordinary.....	5 0 0	Excise licences—	
Laundry, steam.....	10 0 0	Compounder or rectifier of spirits ..	10 0 0
Medical practitioner, to compound and dispense.....	2 10 0	Distiller (other than agricultural distiller) who distils pure wine or must.....	5 0 0
Speculator in futures.....	25 0 0	Distiller (agricultural) who distils pure wine or must.....	0 2 6
In addition £1 per £1,000 of turnover up to £5,000 and £2 per £1,000 on turnover, exceeding £5,000—maximum £300.		Distiller (other than agricultural distiller) who distils produce of vines other than pure wine or must.....	5 0 0
Speculator in livestock and produce... In addition £1 per £1,000 of turnover up to £10,000 and £2 per £1,000 on turnover exceeding £10,000—maximum £300.	10 0 0	Distiller (agricultural) who distils produce of vines other than pure wine or must.....	0 2 6
*Baker.....	5 0 0	Distiller, from material other than produce of vines of Cape Province.	10 0 0
*Butcher, to sell imported or South African grown meat.....	10 0 0	Stillmaker.....	1 0 0
*Butcher, to sell South African meat only.....	5 0 0	Stillkeeper, not being a licensed distiller, rectifier, or compounder.....	1 0 0
*Billiard table.....	12 0 0	Vinegar maker.....	1 0 0
*Bagatelle table.....	4 0 0	*Game (to kill on one season).....	1 0 0
*Hawker (to trade within a municipality or village management board area), one vehicle.....	2 0 0	*Game, to hunt, Royal game (by person domiciled in the Cape Province).....	3 0 0
*Hawker (to trade without a municipality or village management board area), one vehicle.....	3 0 0	*Game, to hunt, Royal game (person not domiciled).....	25 0 0
*Hawker, for each extra vehicle.....	1 0 0	*Game, to sell.....	4 0 0
*Hawker, to sell or expose for sale fruit, fish, vegetables, eggs, poultry, honey, or dairy produce, in each area.....	0 5 0	*Medical practitioner (to dispense medicines).....	2 10 0
*Dealer.....	0 10 0	*Oysters (to collect, whole season).....	0 6 0
If a hawker's or dealer's licence is issued after 30th June in any one year, the fee payable is half the amount of the licence.		*Oysters (to collect, per month).....	0 1 0
"Dealer" is defined as any person, not being a general dealer, who sells fruit, vegetables, non-alcoholic drinks, tobacco, fish, eggs, poultry, honey, cakes, and sweets (of South African manufacture) or dairy produce only in a shop or other premises of a similar nature.		*General dealer, to sell patent or proprietary medicines (not including Dutch medicines)—	
*Auctioneer.....	15 0 0	Yearly licence.....	1 0 0
B.-nded or bonding warehouse.....	20 0 0	Half-yearly licence.....	0 10 0
*Apothecary, chemist, and druggist.....	8 0 0	*Removal of business licences, each.....	0 1 0
*Apothecary, chemist, and druggist, half-year.....	4 0 0	*Tobacco (selling by retail).....	3 0 0
*Broker.....	10 0 0	Banker—every individual or firm, per £100 of capital employed, per annum.....	0 1 0
*Pawnbroker.....	10 0 0	Boat, wharf dinghy.....	0 10 0
General dealer, half-year.....	5 0 0	Boat, of 10 tons and under.....	1 0 0
General dealer, year—£7. 10s. where turnover does not exceed £1,000; £10 where turnover exceeds £1,000. In addition £1 on every £1,000 or part of £1,000 of turnover exceeding £1,000 up to £5,000, and £2 where turnover exceeds £5,000—maximum addition £200.		Boat, above 10 tons.....	1 10 0
Agent of a foreign firm.....	50 0 0	Building societies and mutual assurance companies, per £100 of accumulated funds, per annum.....	0 1 0
In addition to £5 per annum for each additional firm represented—maximum.....	50 0 0	Cigarette manufacturer.....	1 0 0
If resident for not less than three years in British South Africa, half the above rates.		Diamond broker.....	15 0 0
		Diamond cutter.....	10 0 0
		Diamond dealer.....	30 0 0
		Diamond dealer, endorsement on licence (for one month).....	0 5 0
		Ferry (Griqualand West).....	10 0 0
		Certificate to sell arsenic and strychnine (general dealer).....	1 0 0
		Gunpowder.....	5 0 0
		Hulk (not in process of breaking up).....	20 0 0
		Hulk or condemned vessel (in process of breaking up)—	
		First six months.....	25 0 0
		Second six months.....	30 0 0
		Third six months.....	35 0 0
		Motor-cars—	
		1,500 lb. or under, per annum.....	1 10 0
		2,500 lb. or under, per annum.....	2 0 0
		4,000 lb. or under, per annum.....	3 0 0
		6,000 lb. or under, per annum.....	5 0 0
		Over 6,000 lb., per annum.....	10 0 0
		Motor-cycle, per annum.....	0 10 0
		Side-car.....	0 10 0

\* These licences are sold at all money order offices, with the exception of such offices in the Transkei. Applications for other licences are referred to the District Receiver of Revenue. Except in a few cases, licences are issued for the year 1st January to 31st December, and half-year from 1st July to 31st December, and half fees are charged in the latter case. Special part payments can be made for specified periods in the case of certain licences, and all information can be obtained from the office of the Receiver of Revenue. Additional licence duty in respect of turnover payable by apothecaries, chemists and druggists, bakers, butchers, and dealers is at the same rate as that for general dealers.

CAPE OF GOOD HOPE.—ANNUAL LICENCES—continued.

	£	s.	d.		£	s.	d.
<b>Fishing boats—</b>				<b>Prospecting, base minerals, per month.</b>	0	1	0
50 tons and over.....	5	0	0	<b>Servants' registry, from date of issue to 30th September, free.</b>			
20 tons and over.....	2	10	0	<b>Steam launch.....</b>	2	0	0
Under 20 tons.....	1	0	0	<b>Steam tug.....</b>	10	0	0
Under 20 tons (motor).....	1	0	0	<b>Trader, beyond colonial boundary....</b>	3	0	0
<b>Whale fishing, per vessel.....</b>	50	0	0	<b>Liquor—</b>			
<b>Trawling vessel, to operate trawl nets to a number to be specified on licence—each trawl net.....</b>	5	0	0	<b>Bottle licence.....</b>	30	0	0
<b>Trout and other non-indigenous fish—to fish for, per full season.....</b>	1	0	0	<b>In addition £5 for every £1,000 or part thereof of gross receipts exceeding £1,500; maximum licence £150.</b>			
<b>to sell, per calendar year.....</b>	5	0	0	<b>Club.....</b>	40	0	0
<b>Buchu buyer per annum.....</b>	1	0	0	<b>In addition £5 for every £1,000 or part thereof of gross receipts exceeding £1,000 up to £2,500 and £10 for every £1,000 or part thereof of gross receipts exceeding £2,500; maximum licence, £150.</b>			
<b>Entertainments—</b>				<b>Colonial light wine, retail.....</b>	1	0	0
<b>Duty on paymen's for admision where the payment excluding the duty—</b>				<b>Removal of a licence to other premises</b>	4	0	0
<b>Exceeds Does not exceed</b>				<b>Retail—</b>			
— 0s. 6d. ....	0	0	1	<b>Within municipality.....</b>	40	0	0
0s. 6d. .... 1s. 6d. ....	0	0	2	<b>Outside municipality.....</b>	30	0	0
1s. 6d. .... 3s. 0d. ....	0	0	3	<b>In addition £5 for every £1,000 or part thereof of gross receipts exceeding £2,000 up to £3,000 and £10 for every £1,000 or part thereof of gross receipts exceeding £3,000; maximum licence, £150.</b>			
3s. 0d. .... 5s. 0d. ....	0	0	6	<b>Retail licences midnigh privileges, in addition to above amounts.....</b>	10	0	0
5s. 0d. .... 7s. 6d. ....	0	0	9	<b>Temporary, per diem.....</b>	1	0	0
7s. 6d. .... 10s. 0d. ....	0	1	0	<b>Theatre refreshment room.....</b>	25	0	0
10s. 0d. .... 1s for every succeeding 10s. or part of 10.				<b>In addition £5 for every £1,000 or part thereof of gross receipts exceeding £1,500 up to £2,500, and £10 for every £1,000 or part thereof of gross receipts exceeding £2,500; maximum licence £150.</b>			
<b>Importer, upon value of goods imported in the year—</b>				<b>Transfer of a licence to a person other than licensee.....</b>	4	0	0
<b>Exceeding £1,200, Minimum.....</b>	10	0	0	<b>Wholesale.....</b>	40	0	0
<b>In addition on £1 for every £100 or part thereof above £1,200; maximum, £300</b>				<b>In addition £2. 10s. for every £1,000 or part thereof of gross receipts exceeding £10,000 up to £30,000, and £5 for every £1,000 or part thereof of gross receipts exceeding £30,000; maximum licence, £250.</b>			
<b>Inebriates' retreats: 10s. for any period not exceeding two years, and £1 for every patient above ten.</b>							
<b>Insurance company: £30 first year, 6d. per £1 of premiums for second and subsequent years. Minimum, £30; maximum, £500.</b>							
<b>Joint-stock company, per £100 of subscribed capital.....</b>	0	2	0				
<b>Joint-stock company carrying on no other business than registration of share transfers.....</b>	5	0	0				
<b>Native location on private property—</b>							
<b>For each labour tenant.....</b>	0	10	0				
<b>For each ordinary tenant.....</b>	2	0	0				
<b>Ostrich leather buyer.....</b>	10	0	0				
<b>Ostrich (wild), to kill, catch, or hunt, for one year from date of issue.....</b>	20	0	0				
<b>Prospecting, precious stones or minerals, per month.....</b>	0	2	6				
<b>Prospecting, dredging for precious minerals, for one year from date of issue.....</b>	15	0	0				

Native Territories.

With the following exceptions, the tariff in force in the Cape Province applies also to the Native Territories:—

	£	s.	d.	<b>Other Fees:—</b>	£	s.	d.
<b>Hawker, with one vehicle, per month.....</b>	1	0	0	<b>Admission to practise as—</b>			
<b>Hawker for each additional vehicle, per month.....</b>	1	0	0	<b>Advocate.....</b>	20	0	0
<b>Wine and spirit—</b>				<b>Attorney.....</b>	20	0	0
<b>Bottle store.....</b>	15	0	0	<b>Notary.....</b>	12	10	0
<b>Club.....</b>	15	0	0	<b>Conveyancer.....</b>	12	10	0
<b>Hotel (ordinary).....</b>	15	0	0	<b>Translator.....</b>	2	10	0
<b>Hotel (retail).....</b>	10	0	0	<b>Medical practitioner.....</b>	5	0	0
<b>Regimental canteen.....</b>	Free.			<b>Land Surveyor.....</b>	5	0	0
<b>Temporary, per diem.....</b>	0	10	0	<b>Apothecary, chemist, and druggist....</b>	2	10	0
				<b>Dentist.....</b>	2	10	0

Commercial Travellers' Licences.

Travelling licences, £5 for each Division.

Importers' Licences.

From and after the 1st January, 1921, for the purpose of calculating the amount of licence duty payable by an importer account is not taken of—

- (a) the value of goods imported into the Province in transit to any place beyond the borders of the Province;
- (b) the value of goods which, being the growth, produce, or manufacture of the Union of South Africa, are imported into the Province from any other Province of the Union;
- (c) the value of goods which, not being the growth, produce, or manufacture of the Union of South Africa, are imported into the Province from any other Province of the Union, provided that the said goods have been purchased by the importer from a person resident in that other Province.

For the purpose of calculating the said licence duty the value of goods is the value as ascertained for Customs purposes, and every importer pays the licence duty immediately the value of his importations reaches any of the tariff amounts prescribed in Ordinance No. 16 of 1920.

## NATAL.

## Annual Licences.

	£	s.	d.		£	s.	d.
Advocate or attorney.....	5	0	0	Hawker of raw meat.....	1	0	0
Agent (not being a commercial traveller), whether law agent, practising in any magistrate's court, forwarding agent, broker, land and estate agent, or other agent.....	5	0	0	Hawker, for each person employed in con- nection with the business of a hawker as servant, carrier, driver, or in any other capacity than that of a partner or agent for selling.....	1	10	0
Ammunition dealer.....	5	0	0	Hawker, for each pack-horse or other animal used in the business of a hawker.....	1	0	0
Apothecary, chemist, or druggist.....	5	0	0	Hawker, for each vehicle used in the busi- ness of a hawker and propelled by any other means than by hand— Two wheels or less, or without wheels.....	1	10	0
Appraiser or valuer— (a) carrying on business in Pieter- maritzburg or Durban.....	5	0	0	More than two wheels.....	3	0	0
(b) carrying on business elsewhere...	3	0	0	Exception: Hawkers of unmanufactured South African produce.			
Architect or other person who prepares designs and specifications for buildings or supervises the execution or erection of the buildings or who performs work usually done by an architect.....	5	0	0	Insurance and assurance company, society, and association, carrying on its business or any part thereof, or having any place or office of business within the Province— Where premiums received for the full year do not exceed £1,000.....	25	0	0
Auctioneer— (a) carrying on business in Pieter- maritzburg or Durban.....	15	0	0	Where premiums received for the full year exceed £1,000.....	50	0	0
(b) carrying on business elsewhere...	5	0	0	Interpreter or translator.....	2	10	0
Baker.....	3	0	0	Joint-stock company, being any com- pany, syndicate, or association of per- sons having its capital divided into shares for the transfer of which the express consent of all the members is necessary, and carrying on its business or any part thereof, or having any office or place of business within the Province— (a) For each £1,000 or fraction of £1,000 of paid-up capital.....	1	0	0
Billiard table.....	7	10	0	Not, however, in any case ex- ceeding £50, or being less than..	1	0	0
Bonded warehouse.....	20	0	0	(b) Joint-stock banking companies with a paid-up capital exceeding £100,000.....	100	0	0
Brewer.....	1	0	0	(c) Where the total receipts for the full year preceding have not ex- ceeded £1,000.....	10	0	0
To keep an unused still.....	1	0	0	(d) Where the total receipts for the full year preceding have not ex- ceeded £2,000.....	20	0	0
To distil spirits, for each still.....	5	0	0	(e) Where the company's head offices are situate in Natal, and whose business in Natal consists merely in the registration of transfers of shares.....	5	0	0
To rectify or compound spirits, for every still used.....	5	0	0	Land surveyor.....	5	0	0
To make stills.....	1	0	0	Liquor licences outside boroughs or town- ships— Country hotel.....	8	0	0
To retail methylated spirits— (1) in Durban or Pietermaritzburg.....	2	0	0	Colonial beer.....	5	0	0
(2) in any other part of the Province.....	1	0	0	Temporary licence (for each day)..	1	0	0
To make wine.....	1	0	0	Wholesale.....	10	0	0
Butcher— (a) carrying on business in any borough or statutory township....	5	0	0	Club.....	20	0	0
(b) carrying on business elsewhere...	3	0	0	Bottle.....	10	0	0
Commercial traveller, being the agent or representative who, in Natal, solicits orders for the purchase of goods or things of any person, firm, or com- pany, which does not itself carry on a licensed business and also have a place in Natal.....	10	0	0	Native beer licence.....	5	0	0
Conveyancer, being any person who pre- pares deeds of transfer or hypotheca- tion, or who, for reward, draws or prepares wills or any other documents for another person.....	5	0	0	Liquor licences issued in boroughs or townships. Borough.....			
Dealer in old metal.....	5	0	0	Township.....			
Dentist.....	5	0	0	Hotel, bar, or bottle (1st year).....	£	s.	d.
Dog licence.....	0	10	0	Hotel, bar, or bottle (succeeding year)....	50	0	0
Eating-house (Indian).....	5	0	0	Hotel and bar (1st year)	100	0	0
Eating-house (native).....	5	0	0	Hotel and bar (succeed- ing year).....	60	0	0
Engineer, civil, mining, electrical, marine, or other.....	5	0	0	Colonial beer.....	20	0	0
Explosives factory— Original.....	50	0	0	Native beer.....	6	0	0
Amending.....	5	0	0	Wholesale.....	30	0	0
Continuing certificate.....	5	0	0	Club.....	30	0	0
Fire-arms, dealer in.....	5	0	0	Temporary (for each day).....	1	0	0
Fisheries— By net, according to size of net, from £1 to £10. To angle.....	1	0	0	Malt, dealer in.....	5	0	0
For every crabpot.....	0	10	0	Market building.....	10	0	0
For every fish factory.....	1	0	0	*Market stall.....	5	0	0
For every fishing boat not mechanically propelled.....	0	10	0	Medical practitioner.....	5	0	0
For every fishing boat mechanically propelled.....	1	0	0	Medical practitioner (native).....	3	0	0
For every fish kraal.....	7	10	0				
For taking oysters (for trade).....	5	0	0				
For taking oysters (visitors), per day.....	0	1	0				
For taking mussels.....	0	10	0				
For each additional mussel licence (up to four).....	0	5	0				
Game shooting— Specially protected game, from 2s. 6s. to £20 for each head. Ordinary game, per season.....	1	0	0				
Hawker or itinerant trader, and each person engaged in the business of a hawker, as partner or as an agent for selling.....	5	0	0				

\* Monthly licences may be granted on payment of a fee of ten shillings.

NATAL.—ANNUAL LICENCES—continued.

	£	s.	d.		£	s.	d.
Miller—				a year, the licence is reduced to.....	0	10	0
(a) carrying on business in Pietermaritzburg or Durban.....	5	0	0	Exemptions: (a) Manufacturers of foodstuffs made from agricultural or pastoral products of South Africa;			
(b) carrying on business elsewhere...	3	0	0	(b) articles manufactured by pupils attending manual training schools or other scholastic institutions;			
Native labour licences (see elsewhere in this list).				(c) articles of native workmanship (not including lethal weapons), when sold or supplied to natives only and not for purposes of general trade; (d) the manufacture of any article mentioned in section 15 of the <i>Financial Relations Act, 1913.</i>			
Newspaper publishers—				Motor garage, where vehicles are received and stabled for payment.....	3	0	0
(a) For every daily newspaper published in the Province in conformity with Law No. 9 of 1858...	10	0	0	These licences, which do not come within the operation of Act No. 18, 1897, are subject to special terms in connection with descriptions of manufacturers' business, and requirements of the licensing officer. So far as motor garages are concerned this licence does not exempt the holder from taking out a dealer's licence if he sells fittings and other accessories, except reasonable quantities of petrol. A garage or shop where such items mentioned are sold does not come within the operation of the <i>Shop Hours Act, No. 36 of 1905.</i> No person is deemed a wholesale or retail dealer under Act No. 18, 1897, or under Act No. 43, 1898, merely because he sells or disposes of any articles manufactured, grown, or extracted from his land, milk from his animals, or the meat or any part of the carcase of his animals, or sells animals in the ordinary course of his farming, dairy, or stock-breeding business.			
(b) For all other newspapers under the same Law, issued at intervals not exceeding seven days.....	5	0	0				
Notary public.....	5	0	0				
Passengers' conveyance.....	1	0	0				
Pawnbroker.....	5	0	0				
* Refreshment room.....	3	0	0				
Retail dealer.....	5	0	0				
Retail liquor dealer for the sale of tobacco	3	0	0				
Stationers, booksellers, and the like....	3	0	0				
Stock and share broker.....	10	0	0				
Theatre.....	3	0	0				
Tobacconist's shop.....	3	0	0				
Wholesale dealer.....	10	0	0				
Manufacturer who, not being the holder of a wholesale or retail dealer's or other licence, in respect of the premises, makes, prepares, fashions, or constructs articles of any sort for sale, barter, or trade.....	3	0	0				
Provided that if the capital invested does not exceed £250, also that if the business is a new one or if not new that the gross sales of the previous year did not exceed the rate of £250							

TRANSVAAL.

Liquor Licences.

	£	s.	d.		£	s.	d.
Wholesale.....	50	0	0	Temporary, per diem.....	1	0	0
Hotel.....	25	0	0	Railway employees, per month.....	2	0	0
Hotel (village or roadside).....	15	0	0	Canteen.....	No charge		
Restaurant or café.....	25	0	0	Midnight privileges (half-year)—			
Malt.....	25	0	0	Restaurant liquor licence.....	5	5	0
Bottle.....	50	0	0	General retail liquor licence.....	25	0	0
General retail (in municipalities of not more than 400 white male persons over the age of sixteen years).....	50	0	0	General (village) liquor licence.....	12	10	0
General retail.....	100	0	0	NOTE.—The holder of a general retail licence may hold an hotel or café liquor licence for the same period without the payment of any sum in addition to the amount paid by him in respect of his general retail liquor licence.			
Club.....	50	0	0				
Theatre.....	50	0	0				

General Trading Licences.

Per Annum.	£	s.	d.	Per Annum.	£	s.	d.
Accountant, registered.....	5	0	0	Jeweller.....	1	0	0
Advocate.....	5	0	0	Kaffir eating-house, outside municipal limits only.....	2	0	0
Agent or broker.....	5	0	0	Public billiard table keeper, outside municipal limits only.....	10	0	0
Architect.....	5	0	0	Public bagatelle table keeper, outside municipal limits only.....	2	0	0
Attorney.....	5	0	0	Pawnbroker, outside municipal limits only.....	40	0	0
Auctioneer.....	5	0	0	Hawker, outside municipal limits only..	2	0	0
Dentist.....	5	0	0	Pedlar, outside municipal limits only....	1	0	0
Government land surveyor.....	5	0	0	Dealer in arms and ammunition.....	10	0	0
Medical practitioner.....	5	0	0	Diamond dealer.....	20	0	0
Bank, if paid-up capital does not exceed £500,000.....	250	0	0	Diamond cutter.....	5	0	0
And in addition to every £1,000 or part thereof in excess of £500,000.....	0	10	0	Diamond broker.....	10	0	0
Board of Executors.....	50	0	0	Game dealer, by every licensed market master or butcher selling game.....	3	0	0
Boiler, for each boiler.....	0	10	0	Insurance company, by every company carrying on business of fire, accident, or life assurance.....	20	0	0
Representative or agent of any foreign manufacturing or trading concern.....	10	0	0				
General dealer.....	1	0	0				
Additional £1 per £1,000 on turnover not exceeding £5,000 and £2 per £1,000 on turnover exceeding £5,000							

\* Annual refreshment-room licences may be granted free of payment in certain circumstances, but the exemption may be withdrawn at any time. Day-to-day licences may be issued on payment of a fee not exceeding £1.

## TRANSVAAL—continued.

## Other Licences.

	£	s.	d.		£	s.	d.
Bonded warehouse.....	20	0	0	Fishing (for using net), per sea-on.....	0	5	0
Game, shooting for season (open species)	1	10	0	Recovery works licence (dealer in unwrought gold).....	25	0	0
Game, shooting for month (open species)	0	13	0	Native Labour Regulations (Act No. 15 of 1911) applicable throughout the Union are as follows:—			
Game, small (protected species), for persons duly authorized by owner according to number of head per permit of apecilied species.....	0	5	0	(a) For a district labour agent's licence.....	6	0	0
Game, big, for registered owner, lessee, including manager and overseer of farms.....	0	10	0	(b) For a Provincial labour agent's licence.....	25	0	0
For persons duly authorized by owner, according to number of head per permit of open species—	0	10	0	(c) For a Union labour agent's licence.....	50	0	0
from.....	5	0	0	(d) For a compound manager's licence.....	1	0	0
Arms, rifles, permanent.....	0	10	0	(e) For a conductor's licence.....	1	0	0
Arms, fire-arms other than rifles.....	0	5	0	(f) For an employer's recruiting licence applicable to any one district.....	1	0	0
				Distiller's licence, per still.....	1	0	0
				White labour registry.....	5	0	0

## Power Fees.

Part I.				Part II.			
	£	s.	d.		£	s.	d.
If the total amount of power proposed to be supplied under the licence or an additional amount to be proposed to be supplied under an amending licence—				For every objection to the grant of licence (other than an objection by a Government Department or the council of a municipality).....	5	0	0
exceed 20,000,000 but not 30,000,000 units annually.....	25	0	0	Part III.			
exceed 30,000,000 but not 50,000,000 units annually.....	35	0	0	On every application for permission under section 27 of the Act to supply power—			
exceed 50,000,000 but not 100,000,000 units annually.....	50	0	0	If the total amount of power proposed to be supplied does not exceed 1,000,000 units annually.....	5	0	0
exceed 100,000,000 but not 200,000,000 units annually.....	100	0	0	If it exceed 1,000,000 but not 5,000,000 units annually.....	7	10	0
exceed 200,000,000 but not 300,000,000 units annually.....	150	0	0	If it exceed 5,000,000 but not 10,000,000 units annually.....	10	0	0
exceed 300,000,000 but not 400,000,000 units annually.....	200	0	0	If it exceed 10,000,000 but not 20,000,000 units annually.....	20	0	0
exceed 400,000,000.....	250	0	0	For every objection to the grant of such a permission (other than an objection by a Government Department or the council of a municipality).....	2	0	0
For an application for an amendment or alteration of a licence otherwise than as to the amount of the power supplied.	5	0	0				

## ORANGE FREE STATE.

## Annual Licences.

	£	s.	d.		£	s.	d.
Accountant or auditor.....	10	0	0	part thereof of gross receipts exceeding £5,000; maximum addition, £300.....	10	0	0
Admitted law agent.....	7	10	0	Broker.....	5	0	0
Advocate.....	15	0	0	Butcher, for every shop or house.....	5	0	0
Aerated or mineral waters, for the manufacture and supply, wholesale.....	5	0	0	Butcher, for vending meat at dwelling-houses.....	2	10	0
Aerated, supply by retail.....	3	0	0	Canvasser for sale of shares and land.....	50	0	0
Aerated, supply by wholesale.....	3	0	0	Conveyancer.....	2	10	0
Aerated supply by retail, temporary licence (for one day).....	0	2	6	Dealer in arms and ammunition.....	20	0	0
Agent of a foreign firm or firms, for every three months.....	5	0	0	Dealer, general—			
Agent of a foreign firm or firms, taking orders for liquor, for every three months.....	20	0	0	Half-year.....	5	0	0
Agent, Commission.....	10	0	0	Year.....	7	10	0
Apothecary, chemist, druggist.....	10	0	0	(Where turnover does not exceed £1,000.)			
Architect.....	10	0	0	Where turnover exceeds £1,000.....	10	0	0
Attorney.....	10	0	0	In addition £1 on every £1,000 or part of £1,000 of turnover up to £5,000; £2 on every £1,000 or part of £1,000 exceeding £5,000 up to £153,000. From £153,000 to £233,000, 5s. per £1,000; exceeding £233,000, 2s. 6d. per £1,000 of turnover, with a maximum of £350.			
Auctioneer—				Dealer, vending meat at dwelling-houses by persons who are not butchers, provided that what they sell is not their own produce.....	5	0	0
For Province.....	30	0	0	Dealer in live stock.....	15	0	0
For district or sub-district.....	10	0	0	In addition 10s. on every £1,000 or part of £1,000 of turnover; maximum addition, £150.			
Additional for other districts (for whole or part of the year).....	15	0	0	Dentist.....	15	0	0
Each district for sale of new goods (for whole or part of the year).....	7	10	0	Diamond broker or factor.....	10	0	0
For sale of wool, Province.....	100	0	0	Diamond cutter.....	10	0	0
District or sub-district.....	10	0	0	Diamond dealer.....	25	0	0
Bozatelli, public, for each table.....	5	0	0	Dox licence.....	0	10	0
Baker.....	5	0	0	Engineer (consulting).....	10	0	0
Banks—				Explosives.....	20	0	0
(a) For one office.....	150	0	0	Fireworks.....	0	10	0
(b) For every other office.....	75	0	0	Fresh produce dealer.....	3	0	0
Billiards, for each table.....	15	0	0				
Board of executors, trust, or agency company—							
For head office.....	75	0	0				
For each branch office.....	50	0	0				
Boarding and lodging houses.....	5	0	0				
In addition £1 on every £1,000 or part of £1,000 of gross receipts up to £5,000, and £2 on every £1,000 or							

ORANGE FREE STATE—continued.

Entertainment Licences.

The following licences are now payable for a theatre, concert hall, music hall, bioscope, skating rink, circus, travelling show, or other like entertainment:—

WHERE THE PRICE CHARGED FOR ADMISSION :	IF SEATING ACCOMMODATION DOES NOT EXCEED 500.				IF SEATING ACCOMMODATION EXCEEDS 500.			
	Per Performance.	Per Month.	Per Three Months.	Per Six Months.	Per Performance.	Per Month.	Per Three Months.	Per Six Months.
Does not exceed 1s.....	12s. 6d.	£12	£18	£24	15s. 0d.	£15	£22	£30
" " 2s.....	15s. 0d.	15	22	30	17s. 6d.	18	26	36
" " 5s.....	17s. 6d.	18	26	36	£1	21	30	42
Exceeds 5s.....	£1. 5s.	21	30	42	£1. 10s.	24	34	48

	£	s.	d.		£	s.	d.
Game licence, to kill for one season.....	1	10	0	Notary.....	2	10	0
Game licence, to kill for two weeks.....	0	10	0	Native Labour licences (see elsewhere on this list).....			
Game licence, to sell for any open season.....	0	5	0	Pawnbroker.....	15	0	0
Gun licence, rifle, final payment.....	0	10	0	Removal licence.....	0	1	0
Gun licence, any other fire-arm, final payment.....	0	5	0	Restaurant and similar establishments.....	3	0	0
Hawker, for each district, for one vehicle.....	12	0	0	Surveyor (land).....	10	0	0
Hawker, for each district, additional vehicle.....	2	0	0	Quantity surveyor.....	10	0	0
Hawker, for each district, for travelling on horseback or on foot.....	6	0	0	Tobacco, retail.....	3	0	0
Insurance company—				Transfer licence.....	0	5	0
First year, £30; thereafter 6d. for every £ of the premiums received, with a minimum of £30 and a maximum of £500.				Transfer licence where licence of value of less than £1.....	0	1	0
Medical practitioner, with the right to dispense medicines.....	20	0	0	Wholesale produce dealer.....	10	0	0
				In addition 10s. on every £1,000 or part of £1,000 of turnover; maximum addition, £150.			
				For each branch of business being exclusively a buying branch.....	5	0	0

NOTE.—Rate of licence duty chargeable on turnover in respect of apothecaries, chemists and druggists, bakers, butchers, fresh produce dealers, aerated or mineral waters (manufacture and supply by wholesale), and keepers of restaurants is the same as that of a general dealer.

Liquor Licences.

	£	s.	d.		£	s.	d.
Wholesale liquor licence.....	60	0	0	Distiller's liquor licence.....	10	0	0
Bottle liquor licence.....	50	0	0	Brewer's liquor licence.....	20	0	0
Retail liquor licence.....	75	0	0	Temporary liquor licence, per diem.....	1	0	0
Restaurant or café liquor licence.....	40	0	0	Brewer's bottle licence.....	15	0	0
Club liquor licence.....	20	0	0	Distiller's licence (for private use).....	1	0	0
Proprietary club liquor licence.....	40	0	0	Every private still used by persons not licensed distillers.....	1	0	0
Theatre liquor licence.....	40	0	0				

Union.—The annual payment in respect of all railway refreshment cars is one total sum of £500.

The annual payment in respect of each railway refreshment room in which intoxicating liquor is sold is such sum as is payable in respect of a bar licence in the district in which such refreshment room is situated.

The annual payment in respect of each railway refreshment room where intoxicating liquor is not sold is such sum as is payable for similar privileges in the district in which such refreshment room is situated.

The Railways and Harbours Administration and the Departments of Customs and Mines also control the issue of certain licences.

2. Licences Issued.—Particulars are given in the tables below as to (i) the number of licences issued and (ii) the amount paid for licences in each Province for a period of years, distinguishing between licences reserved to the Union Government, licences assigned to Provinces, and licences transferred to Provinces. In tables (iii), (iv), and (v) are given for the financial year (1st April to 31st March) particulars as to the number of licences issued and the amount of revenue obtained in each Province in respect of each description of licence.

## (i) NUMBER OF LICENCES ISSUED IN THE SEVERAL PROVINCES DURING THE YEARS 1915-16 TO 1921-22.

PROVINCE ETC.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	No.	No.	No.	No.	No.	No.	No.
<b>LICENCES RESERVED TO UNION GOVERNMENT—</b>							
Cape of Good Hope..	6,457	6,217	6,980	4,510	5,030	5,304	5,716
Natal.....	2,412	1,537	2,882	1,037	1,219	1,389	1,234
Transvaal.....	7,111	7,409	7,392	6,810	9,386	10,567	8,820
Orange Free State....	3,132	4,212	3,894	3,072	5,332	5,496	4,002
<b>TOTAL.....</b>	<b>19,112</b>	<b>19,375</b>	<b>21,148</b>	<b>15,429</b>	<b>20,967</b>	<b>22,756</b>	<b>19,772</b>
<b>LICENCES ASSIGNED TO PROVINCES—</b>							
Cape of Good Hope..	1,599	1,447	1,574	1,534	1,744	1,746	1,896
Natal.....	247	740	529	699	680	625	639
Transvaal.....	2,032	1,868	2,251	2,447	2,298	2,052	1,925
Orange Free State....	427	406	866	790	914	912	460
<b>TOTAL.....</b>	<b>4,305</b>	<b>4,470</b>	<b>5,220</b>	<b>5,470</b>	<b>5,645</b>	<b>5,335</b>	<b>4,920</b>
<b>LICENCES TRANSFERRED TO PROVINCES—</b>							
Cape of Good Hope..	54,253	67,637	56,048	57,532	75,853	80,718	70,932
Natal.....	90,925	103,280	109,781	127,632	100,769	120,929	123,344
Transvaal.....	45,783	40,033	54,614	52,045	47,148	60,481	66,739
Orange Free State....	15,373	39,223	38,303	32,389	30,313	32,009	31,958
<b>TOTAL.....</b>	<b>206,334</b>	<b>250,182</b>	<b>258,746</b>	<b>269,598</b>	<b>254,083</b>	<b>300,137</b>	<b>301,973</b>
<b>ALL LICENCES—</b>							
Cape of Good Hope..	62,309	75,301	64,002	63,576	82,627	87,768	87,544
Natal.....	93,584	105,575	113,192	129,368	102,677	122,943	125,217
Transvaal.....	54,026	49,310	64,257	61,302	58,832	79,100	36,420
Orange Free State....	18,032	43,841	43,063	36,251	36,559	38,417	77,484
<b>TOTAL.....</b>	<b>229,751</b>	<b>274,027</b>	<b>285,114</b>	<b>290,497</b>	<b>280,695</b>	<b>328,228</b>	<b>326,665</b>

## (ii) REVENUE FROM LICENCES ISSUED IN THE SEVERAL PROVINCES DURING THE YEARS 1915-16 TO 1921-22.

PROVINCE, ETC.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£	£
<b>LICENCES RESERVED TO UNION GOVERNMENT—</b>							
Cape of Good Hope..	60,034	61,130	60,082	55,731	67,165	68,595	72,922
Natal.....	15,577	14,725	15,344	16,076	17,978	20,597	21,087
Transvaal.....	17,723	16,985	17,014	17,202	18,616	21,366	20,271
Orange Free State....	15,777	17,023	17,248	16,850	22,671	23,411	21,538
<b>TOTAL.....£</b>	<b>109,111</b>	<b>109,863</b>	<b>109,688</b>	<b>105,859</b>	<b>126,430</b>	<b>133,969</b>	<b>135,818</b>
<b>LICENCES ASSIGNED TO PROVINCES—</b>							
Cape of Good Hope..	49,568	49,091	49,801	48,615	47,657	47,458	48,382
Natal.....	2,298	10,824	10,836	10,699	10,504	10,028	10,102
Transvaal.....	66,424	62,159	65,713	64,356	67,329	64,426	63,897
Orange Free State....	10,956	11,776	11,746	11,375	11,608	11,358	12,114
<b>TOTAL.....£</b>	<b>129,246</b>	<b>133,850</b>	<b>138,096</b>	<b>135,045</b>	<b>137,248</b>	<b>134,170</b>	<b>134,555</b>

(ii) REVENUE FROM LICENCES ISSUED IN THE SEVERAL PROVINCES  
DURING THE YEARS 1915-16 TO 1921-22—*continued.*

PROVINCE, ETC.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£	£
<b>LICENCES TRANSFERRED TO PROVINCES—</b>							
Cape of Good Hope..	146,816	150,711	148,893	147,305	211,467	358,192	428,158
Natal.....	40,425	58,969	65,129	68,864	70,978	81,199	87,788
Transvaal.....	84,705	100,548	47,363	41,085	182,634	203,708	179,172
Orange Free State....	33,037	42,769	44,604	40,718	46,957	47,395	80,128
<b>TOTAL.....£</b>	<b>254,983</b>	<b>352,997</b>	<b>303,389</b>	<b>298,062</b>	<b>512,036</b>	<b>690,494</b>	<b>775,246</b>
<b>ALL LICENCES—</b>							
Cape of Good Hope..	256,418	260,932	256,776	251,741	326,229	474,245	549,462
Natal.....	58,300	84,518	91,309	95,639	99,520	112,724	119,037
Transvaal.....	118,852	179,692	130,090	122,643	268,579	289,500	263,340
Orange Free State....	59,870	71,568	72,998	68,943	81,326	82,164	113,760
<b>TOTAL.....£</b>	<b>493,440</b>	<b>596,710</b>	<b>551,173</b>	<b>538,966</b>	<b>775,714</b>	<b>958,633</b>	<b>1,045,619</b>

(iii) (a) NUMBER OF LICENCES (RESERVED TO THE UNION GOVERNMENT)  
1916-17 TO 1921-22.

Description of Licence.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	No.	No.	No.	No.	No.	No.
Agents of foreign firms.....	1,533	1,464	1,393	1,961	1,976	2,017
Arms, rifles.....	} 6,267	} 6,043	} 4,523	} 8,934	} 2,593	} 2,461
Arms, other.....						
Banks.....	170	176	166	248	236	231
Beer (Native).....	1,197	1,179	960	1,121	1,144	1,052
Boilers.....	835	1,099	1,113	988	1,013	883
Brewer.....	13	4	4	4	4	4
Building Society.....	—	5	6	11	11	8
Commercial Travellers.....	465	433	422	536	610	591
Compounder.....	11	12	12	15	13	24
Dealers in Gunpowder.....	307	289	280	350	330	401
Dealers in Arms and Ammunition.....	165	153	159	227	252	263
Dealers in Fireworks.....	72	44	40	63	80	87
Dealers in unwrought gold.....	—	—	—	—	—	—
Diamond Brokers.....	} 186	} 158	} 179	} 264	} 118	} 141
Diamond Cutters.....						
Diamond Dealers.....	} 2,290	} 2,305	} 2,276	} 2,193	} 2,434	} 2,783
Distiller.....						
Transfers.....	—	—	—	—	6	6
Electric power.....	5	2	2	2	3	2
Employers' licence.....	} 1,757	} 1,531	} 1,473	} 1,393	} 775	} 507
Conductor.....						
Labour agent.....	} 250	} —	} 329	} 371	} 453	} 263
Labour runner.....						
Endorsement orders.....	—	—	—	—	—	—
Excise.....	—	—	—	—	—	—
Indian.....	—	—	—	—	—	—
Insurance companies.....	184	191	199	194	185	216
Jewellers' permits.....	40	119	52	61	54	6
Joint-Stock companies.....	1,265	2,269	1,480	1,665	1,790	1,877
Native Christian marriages.....	574	1,880	—	—	—	—
Native compound overseers.....	278	291	281	294	236	270
Newspapers.....	19	22	19	22	24	21
Private location.....	1,459	1,364	—	—	—	—
Private registry.....	—	—	—	—	—	—
Recovery works.....	18	26	43	23	41	64
Still maker.....	15	89	18	15	15	19
Vinegar maker.....	—	—	—	12	11	10
Native Runners.....	—	—	—	—	719	473
<b>TOTAL.....</b>	<b>10,375</b>	<b>21,148</b>	<b>15,429</b>	<b>20,967</b>	<b>22,756</b>	<b>19,772</b>



(iii) (b) REVENUE FROM LICENCES (RESERVED TO THE UNION GOVERNMENT),  
1916-17 TO 1921-22.

Description of Licence.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
Agents of foreign firms.....	£ 18,056	£ 17,021	£ 18,106	£ 24,349	£ 24,923	£ 26,835
Arms, rifles.....	} 1,934	} 1,740	} 1,338	} 2,666	} 1,815	} 1,224
Arms, other.....						
Banks.....	9,561	9,024	9,657	12,526	13,507	13,005
Beer (native).....	1,197	1,179	990	1,220	1,424	1,119
Bollers.....	1,495	1,451	1,534	1,497	1,660	1,525
Brewer.....	12	4	4	4	4	4
Building society.....	—	97	113	215	255	208
Commercial travellers.....	8,379	8,200	8,226	4,760	4,676	4,703
Compounder.....	110	120	120	145	130	205
Dealers in gunpowder.....	1,410	1,340	1,329	1,669	1,742	1,783
Dealers in arms and ammunition.....	1,759	1,662	1,668	2,034	2,804	2,569
Dealers in fireworks.....	20	12	11	22	24	28
Dealers in unwrought gold.....	—	—	—	—	—	—
Diamond brokers.....	} 2,135	} 1,921	} 2,308	} 2,962	} 469	} 110
Diamond dealers.....						
Distiller.....	437	417	436	425	430	557
Electric power.....	25	10	10	18	16	10
Employers' licences.....	} 4,740	} 4,718	} 4,956	} 4,140	} 3,860	} 3,151
Conductor.....						
Labour agent.....	—	—	—	—	—	—
Labour runner.....	—	—	—	—	—	—
Endorsement orders.....	250	—	329	359	407	284
Excise.....	—	—	—	—	—	—
Indian.....	—	—	—	—	—	—
Insurance companies.....	21,729	24,417	24,156	25,313	25,327	28,180
Jewellers' permits.....	34	31	46	62	51	6
Joint stock companies.....	34,019	34,193	36,194	41,167	45,062	45,478
Miscellaneous.....	—	—	—	—	—	—
Native Christian marriages.....	840	857	—	—	—	—
Native compound overseers.....	268	271	263	276	266	255
Newspapers.....	115	123	120	123	130	125
Penalties.....	317	399	206	130	250	266
Private location.....	5,645	4,437	—	—	—	—
Private registry.....	—	—	—	—	—	—
Recovery works.....	352	405	524	849	464	622
Transfers.....	—	—	—	—	2	2
Still maker.....	15	34	32	17	17	10
Warehouse bonded.....	—	—	—	—	—	—
Vinegar maker.....	—	—	—	12	11	10
Native runners.....	—	—	—	—	710	478
<b>TOTAL.....£</b>	<b>109,863</b>	<b>109,688</b>	<b>105,859</b>	<b>126,480</b>	<b>133,969</b>	<b>135,818</b>

(iv) (a) NUMBER OF LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES,  
1916-17 TO 1921-22.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
Accountant.....	No. —	No. —	No. —	No. 124	No. 288	No. 380
Advocate.....	72	105	31	86	67	163
Aerated water dealer.....	1,771	1,753	1,737	1,903	2,025	1,987
Agent.....	1,010	1,407	1,566	1,506	1,435	1,417
Apothecary.....	268	332	274	301	303	448
Appraiser.....	58	57	54	52	48	54
Architect.....	41	34	36	97	128	104
Attorney.....	463	471	127	425	514	1,166
Auctioneer.....	937	942	1,009	1,177	1,028	1,016
Bagatelle and billiard table.....	885	855	822	898	883	823
Baker.....	832	805	778	845	904	1,044
Boarding and lodging house.....	293	338	385	335	785	1,021
Board of Executors.....	17	23	23	27	43	84
Bookmaker.....	—	—	—	—	180	185
Broker.....	—	400	420	1,555	526	554
Buchan.....	45	84	88	47	39	35
Butcher.....	2,114	3,471	1,979	2,159	2,535	3,059
Bulls and wild flowers.....	87	210	199	281	149	320

(iv) (a) NUMBER OF LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES, 1916-17 TO 1921-22—continued.

Description:	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	No.	No.	No.	No.	No.	No.
Café or restaurant.....	352	—	—	—	—	420
Canvasser.....	15	16	17	19	11	7
Circus.....	1	57	2	9	1	32
Conveyancer.....	282	278	95	96	111	289
Dairy.....	292	191	267	202	187	297
Dealer, fresh produce.....	—	4	—	476	855	1,173
Dealer—						
General.....	30,676	31,001	30,981	32,476	34,969	39,072
To sell poisons.....	222	65	60	75	40	38
In old metals.....	4	4	4	12	3	5
Game.....	71	67	61	86	171	90
Retail.....	—	—	—	1,241	1,223	—
Live stock, retail.....	20	13	30	15	—	4
Wholesale.....	296	252	258	290	323	455
Wholesale and retail.....	586	518	552	575	710	566
In meat, butches.....	—	—	—	—	—	3
In meat, not a butcher.....	—	—	—	—	—	27
Dentist.....	65	95	88	141	223	232
Dog.....	139,540	155,751	148,462	133,591	102,538	169,012
Dyer and Cleaner.....	9	11	12	10	12	14
Eating-house (Kaffir).....	197	219	237	255	245	262
Eating-house (Indian).....	14	14	13	40	21	20
Engineer.....	33	24	27	26	40	39
Entertainments.....	1,205	941	989	587	57	72
Ferry.....	11	9	16	10	9	19
Fishing—						
Boat.....	938	1,052	1,204	996	848	894
Trout and other.....	282	472	542	1,236	1,320	436
For using net.....	—	—	—	—	64	83
Game to shoot.....	11,126	12,448	12,711	14,191	15,793	11,301
Garage.....	24	20	22	41	36	46
Greengrocer.....	1,966	1,353	1,602	1,672	1,443	1,158
Hairdresser.....	2	1	—	—	—	—
Hawker.....	5,811	3,927	5,159	5,324	6,423	6,786
Hawker, S.A. fruit and vegetables.....	1,686	1,433	1,179	1,176	1,236	2,088
Herballist.....	—	—	—	8	—	—
Importer.....	1,405	1,325	1,312	1,657	2,221	2,203
Interpreter or translator.....	5	6	8	5	3	5
Land surveyor.....	64	58	69	119	153	174
Laundry.....	156	154	152	149	195	201
Law Agent.....	—	—	—	—	45	58
Livery Stables.....	4	5	7	4	7	—
Liquor—						
Bar.....	52	61	52	110	112	53
Beer (native).....	41	17	27	31	29	34
Bottle store.....	597	608	612	631	523	614
Club (ordinary).....	152	235	166	153	152	162
Club (proprietary).....	—	—	—	—	15	—
Club (regimental).....	—	—	—	—	3	4
Colonial light wine.....	1	4	2	2	3	1
Hotel (including village).....	688	630	680	1,144	740	344
Hotel (ordinary).....	—	—	—	—	—	34
Hotel (retail).....	—	—	—	—	—	48
Malt.....	216	131	187	148	41	37
Midnight privileges.....	—	—	—	—	348	243
Railway restaurant or bar.....	38	26	39	32	25	23
Restaurant or café.....	37	477	496	472	494	23
Retail.....	1,687	1,556	2,178	1,339	1,291	1,595
Retail (outside municipality).....	—	—	—	—	—	293
Temporary.....	819	875	651	1,206	1,183	1,189
Theatre.....	14	230	26	17	15	16
Transfers.....	—	12	18	15	—	2
Wholesale.....	276	369	323	831	293	294
10 per cent. municipal liquor licences.....	—	—	23	14	13	29
Manufacturer.....	385	351	393	378	348	437
Medical practitioners (to dispense)	556	351	588	980	982	955
Medical practitioner (native, to dispense).....	1,769	1,066	1,587	1,621	2,132	1,956
Milk vendor.....	32	110	84	52	84	128
Miller.....	130	128	118	121	117	117
Mineral oil store.....	31	43	48	46	66	70
Miscellaneous.....	4	—	—	13	—	—
Motor car, etc.....	34,122	25,290	44,125	40,159	42,082	34,092
Notary.....	293	272	54	47	38	214
Ostrich feather buyer.....	292	1,149	754	1,319	741	238
Oysters (to collect).....	584	447	530	584	409	686
Paraffin oil store.....	1	—	11	9	8	9
Passenger conveyancer.....	97	79	69	120	112	120

(iv) (a) NUMBER OF LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES,  
1916-17 TO 1921-22—continued.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
Patent and proprietary medicines.....	No. 2,825	No. 2,817	No. 2,900	No. 3,003	No. 3,184	No. 3,095
Pawnbroker.....	20	17	18	15	18	14
Pedlar.....	250	210	180	247	225	419
Photographer.....	40	48	42	42	43	42
Plumber.....	—	3	—	3	—	—
Penalties.....	—	—	—	—	—	—
Private Registry.....	49	—	37	48	—	—
Quantity surveyor.....	—	—	—	—	6	1
Licensees (other than liquor).....	888	920	505	973	720	682
Saddlers.....	1	—	—	—	690	436
Speculator.....	—	—	—	—	—	—
Skating rink.....	1	1	—	1	—	—
Stationer.....	2	1	2	2	3	2
Stock and share broker.....	21	9	19	42	22	17
Tailor.....	—	7	—	5	—	—
Theatrical, musical, etc.....	14	29	—	16	683	680
Tea and refreshment rooms.....	217	226	295	247	277	327
Tobacco (retail).....	758	485	478	620	659	756
Trading (Zululand).....	544	600	785	1,395	1,410	44
Transfers.....	130	114	154	150	246	294
Warehouse.....	32	51	48	47	75	54
Whaling.....	12	1	5	5	6	—
White labour registry.....	—	—	—	—	35	26
Woolwashing.....	1	—	—	—	—	—
Turnover tax.....	—	—	—	—	1,299	2,901
<b>TOTAL.....</b>	<b>254,652</b>	<b>263,066</b>	<b>275,068</b>	<b>266,728</b>	<b>305,472</b>	<b>306,893</b>

NOTE.—The above figures include, in respect to Natal, certain municipal trading and liquor licences *vide* section 14 of the *Financial Relations Act*, 1913.

(iv) (b) REVENUE FROM LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES,  
1916-17 TO 1921-22.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£
Accountant.....	—	—	—	620	2,300	2,019
Advocate.....	408	496	158	419	402	948
Aerated water dealer.....	2,287	2,281	2,274	2,480	3,298	3,684
Agent.....	3,699	2,566	2,596	6,148	7,043	6,543
Apothecary.....	1,833	1,973	1,903	2,003	3,453	4,033
Appraiser.....	222	212	208	204	185	205
Architect.....	155	122	147	446	867	928
Attorney.....	3,038	3,017	548	2,052	4,146	8,184
Auctioneer.....	7,046	7,179	7,855	8,808	9,574	9,403
Bagatelle or billiard table.....	7,432	7,714	7,608	7,856	8,711	9,254
Baker.....	3,227	3,178	3,107	3,306	4,001	5,982
Boarding and lodging house.....	240	216	381	337	4,001	8,296
Board of executors.....	800	1,028	1,010	1,185	1,076	4,557
Bookmaker.....	—	—	—	—	944	923
Broker.....	—	1,820	1,840	2,419	4,204	4,979
Buchur.....	45	34	38	47	48	35
Butcher.....	8,760	8,434	8,471	9,008	10,450	14,780
Balls and wild flowers.....	21	53	42	76	37	79
Café or restaurant.....	448	—	—	—	—	1,128
Canvasser.....	68	95	75	95	324	145
Circus.....	4	14	4	4	5	8
Conveyancer.....	545	562	258	248	368	686
Dairy.....	42	24	47	44	41	30
Dealer—						
Fresh produce.....	—	10	—	330	675	1,127
General.....	155,100	101,201	96,544	252,736	322,336	343,625
To sell poisons.....	191	67	115	97	40	38
In old metals.....	20	20	20	45	15	26
In meat, butcher.....	—	—	—	—	—	150
In meat, not a butcher.....	—	—	—	—	—	59
Game.....	182	143	178	156	212	184
Retail.....	74	—	—	5,839	5,647	—
Live stock.....	74	64	112	65	—	—
Wholesale.....	1,517	1,807	2,334	2,830	2,906	4,088
Wholesale and retail.....	3,586	3,677	4,955	5,132	6,699	6,286

## (iv) (b) REVENUE FROM LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES, 1916-17 TO 1921-22—continued.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£
Dentist.....	325	342	361	716	1,988	2,011
Dog.....	47,666	50,116	48,050	49,454	54,268	63,950
Dyer and cleaner.....	9	11	12	10	13	12
Eating-house (Kaffir).....	796	809	892	856	919	978
Eating-house (Indian).....	42	42	36	102	74	70
Engineer.....	120	108	118	116	243	179
Entertainments.....	3,000	2,923	2,392	1,060	252	206
Ferry.....	105	90	93	90	90	133
Fishing—						
Boat.....	20	1,401	1,428	113	305	405
Trout and other.....	136	264	266	1,457	1,560	379
For using net.....	—	—	—	—	69	37
Game to shoot.....	10,195	11,075	12,452	18,060	17,109	14,707
Garage.....	54	59	61	112	104	126
Greengrocer.....	1,436	1,167	700	772	800	1,270
Hairdresser.....	6	5	—	—	—	—
Hawker.....	6,787	6,338	5,719	6,511	6,052	6,865
Hawker (S.A. fruit and vegetables).....	421	399	595	656	620	906
Herballist.....	—	—	—	24	—	—
Importer.....	26,650	24,870	25,380	42,843	90,109	92,779
Interpreter or Translator.....	11	14	35	12	8	12
Land surveyor.....	288	290	348	599	769	960
Laundry.....	153	148	157	143	436	494
Law Agent.....	—	—	—	—	227	347
Livery stables.....	4	5	6	4	7	—
Liquor—						
Bar.....	1,507	1,858	1,485	3,367	3,339	1,419
Beer (native).....	251	133	142	175	170	195
Bottle Store.....	19,214	19,550	19,693	21,191	19,997	20,389
Club (ordinary).....	5,372	4,977	5,762	4,860	5,391	5,203
Club (proprietary).....	—	—	—	—	558	—
Club (regimental).....	—	—	—	—	54	72
Colonial light wine.....	5	100	10	10	15	5
Hotel (including village).....	8,021	9,232	10,662	23,183	17,711	5,582
Hotel (ordinary).....	—	—	—	—	—	710
Hotel (retail).....	—	—	—	—	—	1,131
Malt.....	1,592	1,517	1,427	1,252	673	663
Midnight privileges.....	—	—	—	—	6,776	5,712
Railway restaurant of bar..	1,627	1,372	2,164	1,404	1,194	1,139
Restaurant or café.....	31	468	530	484	523	76
Retail.....	84,792	87,311	81,525	67,760	65,507	77,785
Retail (outside municipality)	—	—	—	—	—	905
Temporary.....	846	848	630	1,280	1,171	1,101
Theatre.....	437	380	564	520	442	538
Transfers.....	—	138	75	46	—	2
Wholesale.....	8,986	10,231	10,282	11,736	10,552	11,192
10 per cent. municipal liquor licences.....	669	429	597	437	568	736
Manufacturer.....	813	860	1,175	1,215	1,173	1,385
Medical practitioner (to dispense)	2,670	1,130	2,955	4,700	7,152	8,567
Medical practitioner (native, to dispense).....	3,802	5,199	3,528	3,461	4,811	4,640
Milk vendor.....	4	14	10	7	11	15
Miller.....	416	380	391	426	497	483
Mineral oil store.....	32	52	62	48	69	74
Miscellaneous.....	20	—	—	62	—	—
Motor car, etc.....	27,317	29,124	30,290	47,534	55,173	48,010
Notary.....	633	775	118	103	75	473
Ostrich featherbuyer.....	1,792	2,245	2,278	3,916	3,209	1,307
Oysters to collect.....	80	76	34	34	24	37
Paraffin oil store.....	1	—	11	12	8	9
Passenger conveyance.....	144	86	69	120	112	117
Patent and proprietary medicines.....	2,805	2,767	2,931	3,008	3,115	3,038
Pawnbroker.....	185	170	160	150	186	149
Pedlar.....	199	180	166	224	209	346
Photographer.....	99	121	111	122	114	116
Plumber.....	—	2	—	3	—	—
Penalties.....	1,708	787	1,161	453	1,158	499
Private registry.....	74	—	59	60	—	—
Quantity surveyor.....	—	—	—	—	80	15
Renewals (other than liquor)..	54	109	56	138	54	41
Saddlers.....	2	—	—	—	—	—
Speculator.....	—	—	—	—	6,702	4,634
Skating rink.....	10	10	—	5	—	—
Stationer.....	6	3	6	6	7	6
Stock and share broker.....	205	186	185	436	208	184
Tailor.....	—	17	—	13	—	—
Theatrical, musical, etc.....	78	114	—	50	1,281	1,561
Tea and refreshment room.....	655	630	787	670	783	888

## (iv) (b) REVENUE FROM LICENCES ASSIGNED AND TRANSFERRED TO PROVINCES, 1916-17 TO 1921-22—continued.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£
Tobacco (retail).....	1,315	1,395	1,514	1,719	1,872	2,132
Trading (Zakaland).....	7,459	6,930	6,840	7,744	7,892	210
Transfers.....	62	214	81	78	131	112
Turnover tax.....	—	—	—	—	11,240	25,828
Warehouse.....	8	14	12	12	19	14
Whaling.....	1,005	150	600	650	628	—
Woolwashing.....	1	—	—	—	—	—
White labour registry.....	—	—	—	—	60	50
<b>TOTALS.....£</b>	<b>466,847</b>	<b>441,485</b>	<b>433,107</b>	<b>649,284</b>	<b>824,664</b>	<b>809,801</b>

NOTE.—The foregoing figures include, in respect to Natal, certain municipal trading liquor licences, vide section 14 of the *Financial Relations Act, 1918*.

## (v) LICENCES (RESERVED TO THE UNION GOVERNMENT) ISSUED IN THE SEVERAL PROVINCES DURING THE FINANCIAL YEAR 1921-22.

DESCRIPTION OF LICENCE.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		TOTAL.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£		£		£
Agents of foreign firms.....	505	15,042	—	—	588	3,060	924	5,127	2,017	25,835
Arms—										
Rifle.....	—	—	—	—	1,735	860	726	304	2,401	1,224
Other.....	—	—	—	—	4,106	1,018	287	221	4,098	1,239
Banks.....	1	120	4	300	5	3,847	221	8,738	231	13,005
Bollers.....	—	—	—	—	883	1,525	—	—	883	1,525
Brewer.....	4	4	—	—	—	—	—	—	4	4
Building society.....	8	208	—	—	—	—	—	—	8	208
Commercial travellers.....	160	823	423	3,820	4	31	4	20	591	4,703
Compounder.....	24	205	—	—	—	—	—	—	24	205
Dealers in arms and ammunition.....	13	65	30	196	155	1,208	56	1,100	263	2,509
Dealers in gunpowder.....	401	1,783	—	—	—	—	—	—	401	1,783
Dealers in fireworks.....	1	2	—	—	—	—	86	26	87	28
Diamond brokers, or cutters.....	9	110	—	—	—	—	—	—	9	110
Diamond dealers.....	50	1,500	—	—	82	1,323	—	—	141	2,823
Distiller.....	2,782	550	—	—	1	1	—	—	2,783	557
Electric power.....	—	—	—	—	2	10	—	—	2	10
Endorsement orders.....	74	95	—	—	189	189	—	—	263	284
Insurance companies.....	64	10,772	52	2,505	54	1,060	46	4,823	216	28,182
Jewellers' permits.....	—	—	—	—	6	6	—	—	6	6
Joint-stock companies.....	1,280	31,706	597	13,772	—	—	—	—	1,877	45,478
Native beer.....	—	—	—	—	—	—	1,052	1,119	1,052	1,119
Native compound manager.....	—	—	—	—	270	255	—	—	270	255
Native labour agent, conductor, or employer.....	—	—	41	41	556	3,110	—	—	597	3,151
Native runner.....	302	802	51	51	120	120	—	—	473	473
Newspapers.....	—	—	21	125	—	—	—	—	21	125
Penalties.....	—	—	—	268	—	—	—	—	—	268
Recovery works.....	—	—	—	—	64	622	—	—	64	622
Transfers.....	—	—	6	2	—	—	—	—	6	2
Still-keeper, maker or user.....	19	19	—	—	—	—	—	—	19	19
Vinegar maker.....	10	10	—	—	—	—	—	—	10	10
<b>TOTAL.....</b>	<b>5,716</b>	<b>72,022</b>	<b>1,234</b>	<b>21,087</b>	<b>8,830</b>	<b>20,271</b>	<b>4,002</b>	<b>21,598</b>	<b>10,772</b>	<b>135,818</b>

(vi) LICENCES (TRANSFERRED AND) ASSIGNED TO PROVINCES, ISSUED IN THE SEVERAL PROVINCES DURING THE FINANCIAL YEAR 1921-22.

DESCRIPTION OF LICENCE.	CAPE OF GOOD HOPE		NATAL.		TRANSVAAL		ORANGE FREE STATE.		TOTAL.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
Accountant....	85	£ 808	—	£ —	149	£ 744	46	£ 467	280	£ 2,019
Advocate....	8	16	25	125	118	627	12	180	163	948
Aerated water dealer.....	1,758	3,236	—	—	—	—	220	448	1,987	3,684
Agent.....	15	105	588	1,606	1,014	4,832	—	—	1,417	6,547
Apothecary....	375	3,236	7	35	5	29	56	733	448	4,038
Appraiser.....	—	—	54	205	—	—	—	—	54	205
Architect.....	16	165	29	120	94	482	25	161	164	928
Attorney.....	308	2,852	143	617	521	2,802	193	1,913	1,165	8,184
Auctioneer.....	425	6,000	109	917	355	1,436	127	1,050	1,016	9,402
Bagatelle and billiard table	467	5,588	144	1,245	18	166	194	2,255	823	9,254
Baker.....	669	4,464	151	443	—	—	224	1,075	1,044	5,982
Boarding and lodging house	564	7,356	413	587	—	—	44	333	1,021	8,296
Board of executors.....	—	—	—	—	20	1,010	64	3,547	84	4,557
Bookmaker....	68	338	—	—	117	585	—	—	185	923
Broker.....	471	4,441	—	—	2	10	81	528	554	4,079
Bucha.....	35	35	—	—	—	—	—	—	35	35
Bulbs and wild flowers.....	320	70	—	—	—	—	—	—	320	70
Butcher.....	2,112	10,592	466	1,762	30	100	451	2,326	3,059	14,760
Café or Restaurant.....	—	—	—	—	—	—	420	1,128	420	1,128
Canvasser.....	3	125	4	20	—	—	—	—	7	145
Circus.....	—	—	82	8	—	—	—	—	32	8
Conveyancer...	—	—	131	278	—	—	158	408	289	686
Dairy.....	—	—	297	39	—	—	—	—	207	39
Dealer, fresh produce.....	898	545	—	—	—	—	275	582	1,173	1,127
Dealer (general)	16,950	194,350	3,421	15,536	16,285	132,071	3,307	41,698	39,972	383,625
Dealer (to sell poisons)....	38	38	—	—	—	—	—	—	38	38
Dealer (in old metals).....	—	—	5	26	—	—	—	—	5	26
Dealer (in meat, butcher).....	—	—	—	—	—	—	3	150	3	150
Dealer (in meat, not a butcher)	—	—	—	—	—	—	27	59	27	59
Dealer (game)...	16	61	—	—	38	114	36	9	90	184
Dealer (live stock).....	—	—	4	18	—	—	—	—	4	18
Dealer (wholesale).....	—	—	381	3,281	—	—	72	1,707	453	4,988
Dealer (wholesale and retail).....	16	13	559	6,273	—	—	—	—	565	6,286
Dentist.....	32	632	36	176	103	534	62	669	233	2,011
Dog.....	—	—	104,498	32,497	41,136	20,748	23,384	10,793	109,012	63,960
Dyer and cleaner	—	—	14	12	—	—	—	—	14	12
Eating-house (kaffir).....	—	—	189	866	73	112	—	—	262	978
Eating-house (Indian).....	—	—	20	70	—	—	—	—	20	70
Engineer.....	4	40	33	129	—	—	1	10	38	179
Entertainment..	—	—	72	296	—	—	—	—	72	296
Ferry.....	19	133	—	—	—	—	—	—	19	133
Fishing (boat)...	894	405	—	—	—	—	—	—	894	405
Fishing (trout and other)...	350	358	86	21	—	—	—	—	436	379
Fishing (for using net).....	24	22	—	—	40	10	19	5	87	37
Game (to shoot)	5,563	5,693	935	1,015	4,259	7,525	544	474	11,301	14,767
Garage.....	—	—	46	126	—	—	—	—	46	126
Greengrocer....	1,158	1,270	—	—	—	—	—	—	1,158	1,270
Hawker.....	4,532	2,210	562	1,642	1,601	2,571	91	442	6,786	6,866
Hawker (S.A. Fruit and Vegetables)...	—	—	2,088	906	—	—	—	—	2,088	906
Importer.....	2,203	92,770	—	—	—	—	—	—	2,203	92,770
Interpreter or translator....	—	—	5	12	—	—	—	—	5	12
Land surveyor..	38	196	37	156	58	301	41	307	174	960
Laundry.....	59	354	142	140	—	—	—	—	201	494
Law agent.....	36	222	—	—	—	—	22	165	58	387
Liquor—	—	—	—	—	—	—	—	—	—	—
Bar.....	—	—	53	1,419	—	—	—	—	53	1,419
Beer (native)	—	—	34	195	—	—	—	—	34	195

(vi) LICENCES (TRANSFERRED AND ASSIGNED TO PROVINCES) ISSUED IN THE SEVERAL PROVINCES DURING THE FINANCIAL YEAR 1921-22—*contd.*

DESCRIPTION OF LICENCE.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		TOTAL.	
	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.	No.	Amount.
Liquor ( <i>contd.</i> )		£		£		£		£		£
Bottle store...	204	6,082	72	1,212	239	10,470	99	2,625	614	20,389
Club (ordinary)	45	1,703	18	510	56	2,670	24	320	143	5,203
Club, Regimental.....	4	72	—	—	—	—	—	—	4	72
Colonial sugar wine.....	1	5	—	—	—	—	—	—	1	5
Hotel (including village)...	—	—	234	4,395	110	1,187	—	—	344	5,582
Hotel (ordinary).....	34	710	—	—	—	—	—	—	34	710
Hotel (retail).....	48	1,131	—	—	—	—	—	—	48	1,131
Malt.....	—	—	—	—	37	663	—	—	37	663
Midnight privileges.....	81	405	—	—	161	5,306	1	1	243	5,712
Itallway restaurant or bar	4	165	12	174	6	725	1	75	23	1,139
Restaurant or café.....	—	—	—	—	23	76	—	—	23	76
Retail.....	855	33,852	—	—	535	35,612	205	8,321	1,595	77,785
Retail outside municipality	113	815	90	90	—	—	—	—	203	905
Temporary.....	401	287	47	47	625	625	107	142	1,180	1,101
Theatre.....	1	20	—	—	11	428	4	80	16	538
Transfers.....	—	—	2	2	—	—	—	—	2	2
Wholesale.....	105	3,135	48	1,382	122	6,125	19	550	294	11,192
10 per cent. of municipal liquor licences.....	—	—	29	736	—	—	—	—	29	736
Manufacturer.....	—	—	422	1,236	—	—	15	149	437	1,385
Medical practitioner.....	253	2,243	185	891	266	1,897	257	3,536	955	8,567
Medical practitioner (to dispense).....	187	499	1,769	4,141	—	—	—	—	1,956	4,640
Milk vendor.....	—	—	120	15	—	—	—	—	120	15
Miller.....	—	—	113	413	4	70	—	—	117	483
Mineral oil store	—	—	70	74	—	—	—	—	70	74
Motor car, etc.	30,138	30,490	4,229	7,605	—	—	625	915	34,992	48,010
Notary.....	—	—	75	110	—	—	141	363	216	473
Ostrich feather-buyer.....	298	1,307	—	—	—	—	—	—	298	1,307
Oysters (to collect).....	688	37	—	—	—	—	—	—	688	37
Paraffin oil store	—	—	9	9	—	—	—	—	9	9
Passenger conveyances.....	—	—	120	117	—	—	—	—	120	117
Patent and proprietary medicines.....	3,095	3,038	—	—	—	—	—	—	3,095	3,038
Pawnbroker.....	12	120	2	20	—	—	—	—	14	140
Peddler.....	—	—	—	—	419	346	—	—	419	346
Photographer.....	—	—	42	116	—	—	—	—	42	116
Penalties.....	—	403	—	69	—	—	—	30	—	499
Quantity surveyor.....	1	15	—	—	—	—	—	—	1	15
Renewals (other than liquor)...	682	41	—	—	—	—	—	—	682	41
Speculator.....	436	4,654	—	—	—	—	—	—	436	4,654
Stationer.....	—	—	2	6	—	—	—	—	2	6
Stock and share broker.....	—	—	17	184	—	—	—	—	17	184
Theatrical, musical, etc.....	—	—	6	64	—	—	674	1,497	680	1,561
Tea and refreshment rooms.....	—	—	327	888	—	—	—	—	327	888
Tobacco (retail)	612	1,707	106	311	—	—	38	114	756	2,132
Trading (Zulu-land and native territories)	—	—	41	210	—	—	—	—	41	210
Transfers.....	91	19	203	93	—	—	—	—	294	112
Turnover tax.....	2,961	23,828	—	—	—	—	—	—	2,961	23,828
Warehouse.....	—	—	54	14	—	—	—	—	54	14
White labour territory.....	—	—	—	—	26	50	—	—	26	50
TOTAL.....	81,828	476,510	123,983	97,950	63,664	243,069	32,418	92,242	306,893	909,801

NOTE.—The licences in respect of Natal include certain municipal trading and liquor licences, *vide* section 14, *Financial Relations Act, 1913*.

§ 9. Stamp Duties and Fees.

The following is the tariff of stamp duties and fees prescribed by the *Stamp Duties and Fees Act* of 1911, as amended by Act No. 31 of 1913 and Act No. 31 of 1921. The detailed application of the categories enumerated therein is subject to the decision of the Commissioner of Inland Revenue, if there exists any doubt as to the head under which a particular transaction falls for the purposes of the Acts.

Tariff of Stamp Duties :	£ s. d.	Bill of Lading for the carriage or transport of any goods by sea, for every such bill or copy or duplicate thereof.	£ s. d.
<i>Affidavit or Solemn or Attested Declaration</i> —In respect of every deponent or declarant except that an affidavit or declaration made on behalf of a company or partnership, or by persons holding jointly the office of administrator, executor, curator, tutor or trustee, and deposing or declaring only as such, shall be deemed to be made by one deponent or declarant	0 1 0	<i>Bond</i> : (1) Any mortgage bond hypothecating immovable property or interest in such property and any general or special bond passed before a notary public: provided that in the case of any such bond which is executed by way of suretyship only and is collateral to a duly stamped bond for the same debt or obligation executed by the principal debtor or obligor, the duty chargeable shall be one shilling for each £100 or part thereof of the debt secured or to be secured:—	0 0 6
<i>Exemption :</i>		(a) Where the total amount of the debt secured or to be secured does not exceed £500—for every £100 or part thereof.....	0 1 0
Any affidavit or declaration required to be made in connection with any payment to, or refund from, the public revenue, or any payment in respect of pension by the Imperial or any Colonial Government.		(b) Where the total amount of the debt secured, or to be secured, exceeds £500, but does not exceed £1000—for every £100 or part thereof.....	0 1 6
<i>Antenuptial or Postnuptial Contract</i> .....	1 0 0	(c) Where the total amount of the debt secured or to be secured exceeds £2000—for every £100 or part thereof.....	0 2 6
<i>Agreement or Contract</i> in respect of which no other stamp duty is specifically provided—if the matter thereof be of the value of £10 or upwards.....	0 1 0	(d) Where the total amount of the debt secured or to be secured exceeds £2000—for every £100 or part thereof.....	0 5 0
<i>Exemptions :</i>		(2) Any bond mentioned in (1) which is auxiliary or collateral to or substituted for a previously made and duty stamped bond executed by the same person and for the same debt or obligation—a duty at the rates mentioned in (1) but not exceeding....	0 10 0
(a) Contracts or agreements relating to the sale, supply, or delivery of goods, wares, or merchandise (including live stock and agricultural produce);		(3) Cession of any such bond as mentioned in (1):—	
(b) Contracts or agreements for the hire of any domestic servant, labourer, or seaman.		(a) Where the amount remaining due does not exceed £1000—for every £100 or part thereof.....	0 1 0
<i>Arbitration or Award :</i>		(b) Where the amount remaining due exceeds £1000—for every £100 or part thereof.....	0 2 6
Every deed of submission and every award:		(4) Cession of any auxiliary, collateral, or substituted bond as aforesaid... <span style="font-size: small; vertical-align: middle;">The like duty as is chargeable on the bond.</span>	
If the amount or value in dispute do not exceed £50.....	0 2 6	<i>Exemptions :</i>	
If it exceed £50.....	0 5 0	(a) Bond given solely in security for any payment due to the public revenue.	
<i>Authentication Certificate</i> given by any Minister or public officer in his official capacity or under his official seal testifying to the identity of any person or the authenticity of any signature on a document for use outside the Union: Provided that where more than one signature or seal is required to complete the authentication, one payment of duty shall be sufficient.....	0 10 0	(b) Bond given by any public official in respect of the discharge of his official duties.	
<i>Bank Note</i> : In lieu of the duty imposed under "Promissory Note" a composition duty at the rate of ten shillings per cent. of the average monthly circulation within the Union of the Notes of any bank during each half year.		<i>Broker's Note :</i>	
<i>Bill of Exchange or Promissory Note :</i>		Where the consideration exceeds £5 and does not exceed £15.....	0 0 1
(1) Payable on demand.....	0 0 1	Where the consideration exceeds £25, but does not exceed £50.....	0 0 6
(2) Payable otherwise than on demand:		Where the consideration exceeds £50, but does not exceed £100.....	0 1 0
(i) When the amount or value does not exceed £10.....	0 0 1	Where the consideration exceeds £100, for every £100 or part thereof.....	0 1 0
(ii) When the amount or value exceeds £10, but does not exceed £50.....	0 0 6	<i>Exemption :</i>	
(iii) When the amount or value exceeds £50—for every £50 or part thereof.....	0 0 6	(a) Note of sale or purchase on behalf of another broker or agent within the Union who is acting in the same transaction for a principal.	
<i>Exemptions :</i>		(b) Note in respect of the sale or purchase of any stock issued by the Government of the Union.	
(a) Bank notes on which the composition duty aforesaid is payable.		<i>Certificate</i> by any person (other than a Notary) in a public or official capacity of any act or thing having been done or performed or of any document or copy of any document.....	0 1 0
(b) Draft or order by any banker on another banker not available for payment or credit to any third person and used solely for settling or clearing accounts between such bankers.			
(c) Coupon or warrant for interest or dividend attached to or issued with any marketable security.			
(d) Bill or draft by or upon the Union Treasury or any public account.			



<i>Exemptions :</i>	£	s.	d.
Certificates in respect of which any fee or duty be otherwise chargeable by law or regulation.			
<b>Charter Party :</b>			
(1) Of any vessel or ship not exceeding 500 tons burthen.....	0	15	0
(2) Of any vessel or ship exceeding 500 tons burthen but not exceeding 1000 tons.....	1	10	0
(3) Of any vessel or ship exceeding 1000 tons burthen.....	2	10	0
<b>Company Capital Duty :</b>			
Five shillings per cent. on a statement of the amount of nominal capital or increase of nominal capital for registration thereof.			
<b>Customs Documents :</b>			
On each original bill or document of entry or document in lieu thereof..	0	0	6
<b>Exemption :</b>			
Any bill or document of entry coastwise from any port in the Union to any other port in the Union.			
<b>Lease or Agreement of Lease or any instrument intended or operating as a lease or agreement to let (including a sub-lease) provided the lease, agreement, or instrument is not chargeable with Transfer Duty :—</b>			
(1) (a) If the lease, agreement, or instrument be by the month or for any definite period of less than one year; or			
(b) If the lease, agreement, or instrument be for any definite period but terminable by one month's notice or less than one month's notice :—			
If the rent does not exceed the rate of £2. 10s. per month.....	0	0	6
If the rent exceeds the rate of £2. 10s. per month but does not exceed the rate of £5 per month.....	0	1	0
If the rent exceeds the rate of £5 per month but does not exceed the rate of £10 per month.....	0	2	6
If the rent exceeds the rate of £10 per month but does not exceed the rate of £15 per month.....	0	5	0
If the rent exceeds the rate of £15 per month but does not exceed the rate of £20 per month.....	0	10	0
If the rent exceeds the rate of £20 per month but does not exceed the rate of £25 per month.....	0	15	0
If the rent exceeds the rate of £25 per month.....	1	0	0
(2) If the lease, agreement, or instrument be for a definite period of one year or longer, duty shall be payable according to the following scale on a sum equal to the aggregate amount of rent payable during the period of the lease, agreement, or instrument, plus the amount of any other consideration whatsoever due or payable in respect of or by virtue thereof :—			
If the lease, agreement, or instrument be for any period not exceeding five years—for every £100 or part thereof.....	0	5	0
If the lease, agreement, or instrument be for any period exceeding five years but not exceeding ten years—for every £100 or part thereof.....	0	7	6
If the lease, agreement, or instrument be for any period exceeding ten years but not exceeding twenty years—for every £100 or part thereof.....	0	10	0
If the lease, agreement, or instrument be for any period exceeding twenty years—for every £100 part thereof.....	0	15	0
Provided that if in any case it be shown to the satisfaction of the			

	£	s.	d.
Commissioner that the aggregate amount of rent or other consideration on which duty is payable exceeds the full selling value of the property leased, duty shall be payable only on the amount of such full selling value.			
(3) Any lease, agreement, or instrument for an indefinite period not within any of the foregoing classes shall for the purposes of duty be deemed to be for three years; but after the expiration of any period of three years, the lease, agreement, or instrument shall, if indefinitely continued or renewed, be stamped again for another period of three years.			
(4) Lease, agreement, or instrument aforesaid—			
Cession or Assignment.....	0	5	0
Any Cession or Assignment by a lessee or holder provided such cession be not liable for Transfer duty.			
<b>Marketable Security</b> —including any scrip, certificate, warrant, or any other like instrument representing any share, stock, or debenture, or any right of option to acquire any such share, stock, or debenture of any company or other corporate body (excepting a local authority or a building society):—			
(1) In respect of the original issue within the Union of any such shares, stocks, or debentures—			
(a) If transferable only by registration: for every £10 or part thereof of nominal value.....	0	0	6
(b) If made out to bearer or in any manner so as to be transferable by delivery only, for every £10 or part thereof of nominal value	0	2	0
<b>Exemption :</b>			
Where the scrip, certificate, warrant, or like instrument is issued solely in substitution for any instrument or instruments of the same nature of like or equivalent value, withdrawn, cancelled, or lost, which were owned by the person to whom the issue in substitution is made :—			
Provided that this exemption shall only be allowable if the new instrument is endorsed by a director, secretary, or responsible officer as being <i>bona fide</i> a substitution without change of ownership.			
(2) In respect of the registration of the transfer of any such marketable security: for every £100 or part thereof of the amount or value of the consideration given, or where no consideration is given, of the value of the marketable security transferred.....	0	1	0
<b>Notarial Act or Instrument :</b>			
Any notarial act or instrument in respect of which no other stamp duty is specially provided, and any notarial grosse duplicate, original, or copy of any instrument.....	0	2	0
<b>Partnership :</b>			
Agreement of Partnership.....	1	0	0
<b>Policies of Insurance :</b>			
(1) Policy of life insurance:—			
If the sum assured do not exceed £50.....	0	0	1
If the sum assured exceed £50 but do not exceed £500—for every £100 or part thereof.....	0	0	6
If the sum assured exceed £500 but do not exceed £1000—for every £100 or part thereof.....	0	1	0
If the sum assured exceed £1000—for every £100 or part thereof.....	0	1	6

	£	s.	d.
(2) Policy of insurance against accident to a person or in respect of injury, incapacity, sickness, or the like—every policy.....	0	1	0
Every renewal thereof.....	0	1	0
(3) Policy of insurance whereby a sum is payable to cover any compensation or damage due under a law relating to workmen's compensation or employer's liability or the common law, in respect to the death, or illness of, or injury to, an employee, or any third party insurance—every policy.....	0	1	0
Every renewal thereof.....	0	1	0
(4) Policy of insurance or renewal thereof of any other kind, including marine insurance, fidelity insurance, plate glass insurance, insurance against burglary, fire, or any other risk, loss or damage or any combined or other insurance not specified in (1), (2) or (3)—for every £100 or part thereof of the sum insured.....	0	0	1
Subject to a minimum duty of 6d. and a maximum duty of 5s.			
(5) Any policy or renewal thereof where the sum assured is not a specific sum.....	0	1	0
(6) Cession of any policy of insurance Provided that the duty on any cession shall not exceed the duty to which the ceded policy would be liable under the foregoing provisions.	0	2	0
(7) In respect of any tickets, coupons, notices, bills, or other documents purporting to be or to entitle to an insurance in the event of death, injury, sickness, or the like.			
	A duty of two and a half per cent. on the annual receipts from the sale or issue for valuable consideration of any such document.		
Where a renewal under (2), (3), or (4) is for less than a yearly period <i>pro rata</i> duty only shall be payable—for example—			
for a half-yearly renewal, one-half of the duty;			
for a quarter of a year's renewal, one-quarter of the duty.			
(8) Any interim policy of insurance, the currency of which does not exceed four calendar months....	0	1	0
Provided that the duty on any such interim policy shall not exceed that payable upon a final policy covering a like risk			
<i>Exemption:</i>			
Policies solely for the purpose of effecting reinsurance by one insurance company or association in another insurance company or association to cover general risks.			
<i>Power of Attorney or any instrument of like kind:—</i>			
(1) Proxy to vote at any specified meeting or adjournment thereof..	0	0	1
(2) Any special power, or substitution under any power of attorney whatsoever.....	0	1	0
(in respect of each grantor)			
(3) To act generally for the grantor..	0	5	0
(in respect of each grantor)			
(4) Of any kind not comprised in the foregoing.....	0	1	0
(in respect of each grantor)			
Except that a power granted by or on behalf of a company or partnership or by persons holding jointly the offices of adminis-			

	£	s.	d.
trator, executor, curator, tutor, or trustee, and granting the power in any such capacity only shall be deemed to be given by one grantor.			
<i>Receipt:</i>			
(1) If given for or upon the payment of money of the amount of £1 or upwards.....	0	0	1
(2) If given for or in respect of any fixed deposit made with any bank, company, or association whether corporate or unincorporate—for every £100 (or part thereof) and for every period of twelve months (or part thereof) for which the deposit is made.....	0	0	6
<i>Exemptions:</i>			
(a) Receipt or acknowledgment by any Government official for any payment or deposit received by him in his official capacity.			
(b) Receipt or acknowledgment on Postal Orders or Money Orders or Post Office Savings Bank forms.			
(c) Receipt passing between any legally established benefit society, provident society, building society, or savings bank society, and any member thereof.			
(d) Acknowledgment or slip relating to money deposited (other than on fixed deposit) with a bank to the credit or account of any person.			
(e) Acknowledgment by a bank or a notary of the receipt of any bill or note for the purpose of being presented for acceptance or payment.			
(f) Receipt received in the Union but executed outside the Union and relating to the payment made outside the Union.			
(g) Receipt given by a prisoner or discharged prisoner to the prison authorities in respect of money paid to him or on his behalf during imprisonment or on discharge from prison.			
<i>Security or Suretyship:</i>			
Any document of security or pledge or any act of suretyship, indemnity, or guarantee not otherwise chargeable with duty:—			
(1) For any sum not exceeding £10.	0	0	1
For any sum exceeding £10, but not exceeding £50.....	0	0	6
For any sum exceeding £50, but not exceeding £100.....	0	1	0
For any sum exceeding £100—for every £100 or part thereof.....	0	1	0
(2) Where no amount is stated....	0	2	6
(3) Not comprised in the foregoing.	0	2	6
<i>Exemption:</i>			
When given solely in relation to any payment due to the public revenue.			
<i>Survey of a Ship or Vessel:</i>			
Certificate thereof.....	0	2	6
<i>Transfer Deed:</i>			
Relating to immovable property—for every £10 or part thereof of the consideration or value.....	0	0	6
<i>Exemption:</i>			
(1) Partition transfers except in respect of consideration paid by one of the parties thereto to another such party.			
(2) Transfers whereby no change of beneficial interest in the property transferred is effected.			
<i>Duplicates Original:</i>			
Duplicate original of any instrument, the original whereof is chargeable with stamp duty under any law in force within the Union: the like duty to that chargeable upon the original, but not to exceed.....	0	1	0

Exemption :	£ s. d.	£ s. d.
(1) Any duplicate original in respect of which a substantive stamp duty is otherwise chargeable.		thereof, if the duty or fee thereon would be legally payable and borne by the Government of the Union or any department thereof or by the Imperial Government.
(2) Any duplicate original which is required to be filed or record in any public office of the Union.		(b) Any instrument used, or for use, in or in connection with criminal proceedings, or charge laid of a criminal offence, or in connection with bail.
<b>General Exemptions in respect of all Instruments :</b>		(2) Any instrument specially exempted from stamp duty under any law shall not be chargeable with duty by reason of the provisions of this Act.
(1) No stamp duty and no fee payable by means of stamps in any court or public office shall be chargeable in respect of :—		
(a) Any instrument, or the registration, lodgment, issue, or use		

### § 10. Weights and Measures.

An historical review of the weights and measures systems of the four Provinces of the Union, up to the passing of the Union Act which consolidated the existing legislation, was given in the fourth issue of this Year Book. The *Weights and Measures Act*, No. 32 of 1922, established standard weights and measures throughout the Union, and embodied the principle of the optional use of metric and Imperial standards, subject to provisions contained in the Act. The standards adopted are set out in the First Schedule to the Act, and are as follows :—

#### STANDARD MEASURES OF WEIGHT, LENGTH, AND CAPACITY.

##### WEIGHT.

1 pound	=	0.4535924 kilogram.
1 kilogram	=	2.2046225 pounds (avoird).

##### LENGTH.

1 yard	=	0.9143992 metre.
1 metre	=	1.0936143 yard.

##### CAPACITY.

1 gallon	=	4.545963 litres.
1 litre	=	0.219975 gallon.

New standards may be approved from time to time by Proclamation.

The denominations of the weights and measures which may be assized and used in trade are specified in the Second Schedule to the Act, and are given hereunder, multiples and parts being in each case omitted :—

#### WEIGHTS AND MEASURES USED IN TRADE.

##### I. WEIGHTS.

1. *Avoirdupois Weight.*  
Ton = 2,000 pounds.  
Central (cl.) or hundredweight (cwt.) = 100 pounds.  
Pound (lb.).  
Ounce (oz.) (= 437.5 grains = 28.3495 grams.)  
Dram (dr.).
2. *Troy Weights (for Precious Metals).*  
Ounce troy (oz. tr.) = 480 grains = 31.1035 grams.  
Pennyweight (dwt.) = 24 grains (grs.).

3. *Carat Weights (for Precious Stones).*  
Carat (= 200 milligrams).
4. *Apothecaries Weights.*  
Ounce (oz. apoth.) = 480 grains.  
Drachm = 3 scruples.  
Scruple.  
Grain.
5. *Metric Weights.*  
Metric tonne = 1,000 kilograms.  
Kilogram.  
Gram.  
Decigram (0.1 gram).  
Centigram (0.1 decigram).  
Milligram (0.1 centigram).

## II. CAPACITY.

1. *Liquid Measures.*

Gallon (gal.).  
 Quart (qt.) =  $\frac{1}{4}$  gallon.  
 Pint (pt.) =  $\frac{1}{2}$  quart.  
 Gill =  $\frac{1}{4}$  pint.

2. *Apothecaries Measures.*

Pint.  
 Fluid ounce (fl. oz.).  
 Fluid drachm (fl. dr.).  
 Minim (min. or M.).

3. *Metric Measures (Liquid).*

Decalitre (10 litres).  
 Litre (1.0).  
 Decilitre (0.1 litre).  
 Centilitre (0.01 litre).  
 Millilitre (0.001 litre).

## III. LENGTH AND AREA.

1. *Length.*

Customary multiples and parts of the yard, the foot, the inch, the metre, the Cape foot (= 0.3148581 metre) and the Cape rood.

2. *Area.*

The squares of the standard measures of length and

The morgen	=	600 sq. roods.
	=	86,400 sq. Cape feet.
The acre	=	4,840 sq. yards.
	=	43,560 sq. English feet.
The hectare	=	10,000 sq. metres.

Cape measures of length and area may not be used except for measuring land, and then only so far as the survey laws of any portion of the Union admit such use.

Provision is made for the administration of the Act by a superintendent and assizers, and for the appointment of an assize board. Local authorities or combinations of local authorities may be authorized to administer the Act within their areas.

## CHAPTER XX.

### HARBOURS AND SHIPPING.

#### § 1. Harbours.

1. **General.**—The harbours and lighthouses of the Union are under the direct management of and the harbour works and lighthouses are owned by the Government. They are associated under the *South Africa Act* with the railways of the Union for the purposes of control and administration, and financially are upon the same footing as the railways under the provisions of the constitution dealing with the Railway and Harbour Fund. The administration is required to be upon business principles, due regard being had to agricultural and industrial development within the Union.

2. **Harbour Advisory Boards.**—Advisory Boards are in existence at the harbours of Table Bay, Mossel Bay, Port Elizabeth, East London, and Durban. Each Advisory Board consists of seven members. One member is nominated by the Municipal Council of the town at which the harbour is situate, three by the Chamber of Commerce of such town, and the remaining three members are nominated by the Governor-General. In the nomination of the last-mentioned three members, one is selected with a view to the representation of the shipping interest, and one to the representation of the persons paying wharfage or landing, shipping, or transshipping dues at the harbour.

Ordinary meetings of the Boards are held at such intervals, on such days, and at such hours as the Boards may from time to time determine. All questions are determined by a majority of the members present, and every member present at the meeting records his vote except on questions in which he is personally or pecuniarily interested. A member is not prevented from voting upon any question affecting any incorporated company by reason merely of the fact that such member is a director or shareholder in such company.

The General Manager of Railways and Harbours furnishes the Boards with such information and affords them such reasonable facilities as may be necessary for the determination of any matter under consideration, or for the due and proper fulfilment of their duties and functions. It is the duty of the Boards to advise the Administration upon any matter affecting the interest or welfare of the respective harbours; the construction, maintenance, and upkeep of harbour works; the landing, shipping, and transshipping of cargo; the charges upon goods and upon shipping, and the regulations affecting importers, shippers, and the trade of the port generally. The Boards also furnish the Administration with their opinion upon any subject or question referred to them for advice.

3. **New Harbour Project: Northern Zululand.**—The Union Government instituted in 1922 an investigation into the possibilities of developing a new outlet on its eastern sea-board through northern Zululand, a very rich but little-known area of South Africa. The localities examined were Kosi Bay (lat. 26° 53' S., long. 32° 54' E.), 214 miles by sea from Durban and 75 miles from Delagoa Bay, and Sordwana Bay (lat. 27° 33' 20" S., long. 32° 43' E.), 171 miles from Durban and 118 miles from Delagoa Bay. Both projects were investigated by the Union Railway and Harbour authorities and by Sir George Buchanan, the eminent British harbour engineer, whose services were engaged by the Union Government.

The object held in view during these investigations was the discovery of a new outlet for the Transvaal coal trade. An inspection of prospective connecting routes from the Transvaal coalfields to northern Zululand revealed the fact that very economical railways with easy gradients could be constructed to serve a new harbour on the Zululand coast, with the added advantage that more than a million acres of Crown lands, rich in general agricultural prospects and highly suited to the production of cotton and sugar-cane, would be opened up to settlement.

4. **Capital Expenditure on Harbours.**—Particulars are given hereunder from the year 1912 as to the capital expenditure and interest on capital in respect of the harbours of the Union:—

**HARBOURS—CAPITAL EXPENDITURE AND INTEREST ON CAPITAL;  
1912 TO 1921-22.**

Year.	Capital Expenditure.	Interest on Capital.
	£	£
1912.....	11,644,566	379,405
1913.....	11,910,974	384,654
1914.....	12,154,146	387,227
1915.....	12,326,915	395,254
1916.....	10,200,167*	389,420
1917-18.....	10,180,131	327,714
1918-19.....	10,259,180	331,836
1919-20.....	10,354,073	335,525
1920-21.....	10,288,962	345,474
1921-22.....	11,221,521	347,435

\* Decrease is due to the transfer of certain assets from harbours to railways during the year 1916.

5. Revenue and Expenditure of Harbours.—The subjoined tables show (i) the yearly revenue and (ii) the yearly expenditure of harbour administration in the Union from the year 1910 under the main classifications:—

**(i) UNION HARBOURS REVENUE, 1910 TO 1921-22.**

Year.	Dues on Ships.	Dues on Goods and Live Stock.	Water.	Tugs and Lighters.	Landing, Shipping, and Trans-shipment, Charges.	Crane Service.	Other Revenue.	Total.
	£	£	£	£	£	£	£	£
1910.....	65,380	143,648	6,438	26,517	160,708	15,609	45,500	463,800
1911.....	90,989	253,027	13,800	46,062	294,259	23,775	115,719	839,631
1912.....	104,206	280,056	15,886	47,327	355,251	30,050	114,313	947,039
1913.....	112,074	302,854	15,583	45,864	418,258	29,819	115,044	1,039,496
1914.....	120,531	244,572	20,005	41,281	398,391	30,982	117,569	876,331
1915.....	102,232	248,648	20,629	49,723	379,839	32,618	132,736	906,360
1916.....	136,364	363,253	19,815	74,114	282,741	34,151	121,154	1,031,592*
1st Jan. to 31st March, 1917.....	34,315	106,400	6,906	22,539	6,026	10,793	22,709	269,688
1917-18†.....	141,245	475,360	25,284	92,381	5,329	46,717	140,462	926,778
1918-19†.....	103,759	583,133	13,952	76,339	3,175	43,739	115,243	939,340
1919-20†.....	125,542	598,780	19,054	96,785	7,507	49,619	112,956	1,016,243
1920-21†.....	175,246	956,954	18,838	114,232	19,539	62,253	134,534	1,481,596
1921-22†.....	159,161	599,956	16,392	119,098	19,796	56,086	121,528	1,089,087

\* The earnings and expenses in connection with the shore work at the harbours, which were previously included in harbour accounts, have been included in railway accounts as from 1st September, 1916.

† Year ended 31st March.

**(ii) UNION HARBOURS EXPENDITURE, 1910 TO 1921-22.**

Year.	Maintenance and Upkeep.	Traffic Working.	General Charges, etc.	Total Ordinary Working Expenditure.	Depreciation.	Total Working Expenditure.
	£	£	£	£	£	£
1910.....	159,991	114,809	17,798	292,598	103,813	395,911
1911.....	262,671	221,472	57,804	542,040	185,083	727,123
1912.....	269,382	266,818	56,938	593,138	215,383	808,521
1913.....	292,032	332,954	54,341	679,927	220,515	900,442
1914.....	296,614	322,440	52,458	671,512	184,735	856,247
1915.....	251,846	316,866	52,613	621,325	40,564	680,829
1916.....	305,604	249,275	41,060	596,939	57,000	653,939*
1st Jan. to 31st March, 1917.....	76,398	16,661	5,629	98,688	19,000	117,688
1917-18†.....	294,396	39,882	31,818	370,096	86,848	456,945
1918-19†.....	319,013	37,895	37,093	393,971	85,895	479,866
1919-20†.....	406,867	50,087	40,159	497,113	86,396	583,509
1920-21†.....	510,064	60,462	44,525	615,051	83,997	699,048
1921-22†.....	498,825	61,044	44,028	604,797	83,519	688,316

\* The earnings and expenses in connection with the shore work at the harbours, which were previously included in harbour accounts, have been included in railway accounts as from 1st September, 1916.

† Year ended 31st March.

6. **Government-Owned Steamers.**—In 1919 the Union Government acquired three steamers of 15,069 total gross tonnage, which are worked and controlled by the Railways and Harbours Administration. The following table gives the revenue and expenditure relative to this undertaking from the year 1919-20 :—

**STEAMSHIPS—REVENUE AND EXPENDITURE, 1919-20 TO 1921-22.**

Year.	Expenditure.				Revenue.			Net Profit.
	Working Expenditure.	Interest.	Miscellaneous.	Total.	Freight.	Miscellaneous.	Total.	
1919-20	£ 139,143	£ 18,680	£ 18,750	£ 176,573	£ 252,051	£ 10,851	£ 268,902	£ 92,329
1920-21	242,643	27,500	28,194	298,337	351,929	13	351,942	53,605
1921-22	223,510	17,250	14	240,780	250,145	208	230,353	9,573

7. **Staff of Harbour Department.**—The subjoined table gives the number of employees of the Harbour Department at 31st March, 1921, classified according to race and distinguishing salaried, daily paid, and casual employees :—

**HARBOURS—NUMBER \* AND PARTICULARS OF STAFF, 31st MARCH, 1921.**

CLASSIFICATION.	REGULAR STAFF.				CASUAL.					TOTAL.
	White.	Coloured.			White.	Native.	Indian.	Other Coloured.	Convict.	
		Native.	Indian.	Other.						
Salaried.....	274	—	—	—	—	—	—	—	—	274
Daily paid.....	718	1,847	152	74	121	160	—	283	593	3,748
White labourers.....	10	—	—	—	—	—	—	—	—	10
<b>TOTAL.....</b>	<b>1,002</b>	<b>1,847</b>	<b>152</b>	<b>74</b>	<b>121</b>	<b>160</b>	<b>—</b>	<b>283</b>	<b>593</b>	<b>4,032</b>

\* These figures do not include the staff in South-West Africa.

8. **Berthing Facilities.**—The following diagrams give outlines of harbour works in the principal ports of the Union, together with particulars as to berthing facilities, depth of water, and other matters :—

**ALGOA BAY, PORT ELIZABETH, 1922.**

**PARTICULARS.**

JETTY.	Dimensions.	Depth of Water along Working Portion at L.W.O.S.T.	CRANES.		
			No.	Capacity.	Description.
North Jetty.....	Total length, 1,204 ft. Working portion, length 720 ft., breadth 84 ft.	9 ft. at inshore end, 24 ft. at seaward end	1	7 tons	Hydraulic.
			6	2 tons	Hydraulic.
			2	15 cwt.	Hydraulic.
South Jetty.....	Total length, 1,162 ft. Working portion, length 705 ft., breadth 108 ft.	14 ft. at inshore end, 23 ft. at seaward end	1	7 tons	Hydraulic.
			9	3 tons	Hydraulic.
			1	20 tons	Electric.
Dom Pedro Jetty..	Total length, including viaduct, 1,400 ft. Working portion, length 800 ft., breadth 105 ft.	13 ft. at inshore end, 24 ft. at seaward end	4	3 tons	Hydraulic.
			8	2 tons	Hydraulic.

*Shed and Storage Accommodation* (exclusive of Warehouses let to the Public).

Floor space..... 308,400 sq. ft.

Cubic capacity (approximate)..... 3,000,000 cubic ft.

Open roadstead with unlimited depth.

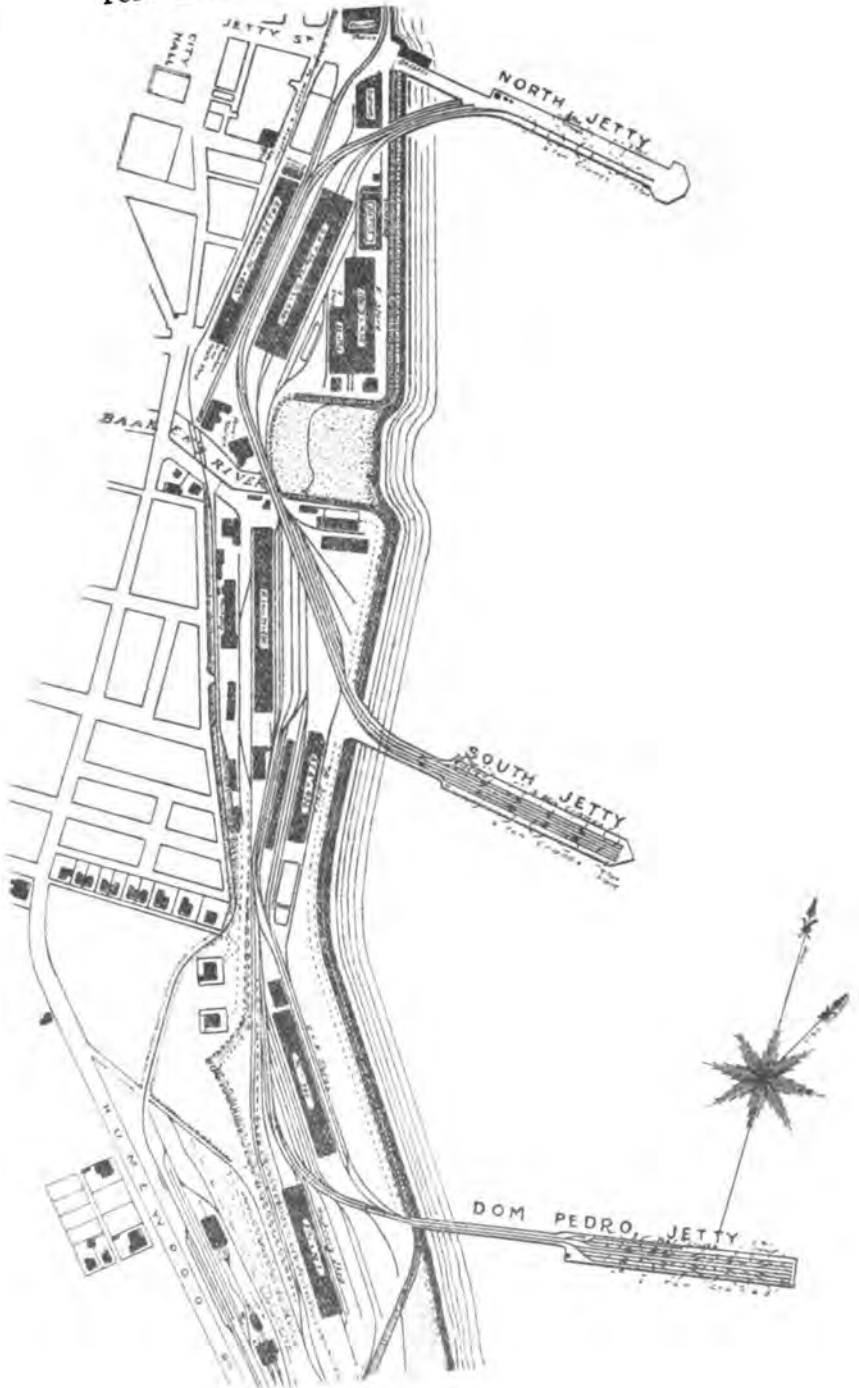
*Lighterage.*—32 lighters; total capacity, about 3,570 tons

*Tugs.*—The port is equipped with three powerful tugs, two of which are fitted with modern salvage and fire appliances.

*Repairing Facilities.*

*Slipway.*—Capacity, 400 tons dead weight.

# HARBOURS. PORT ELIZABETH, ALGOA BAY, 1922.

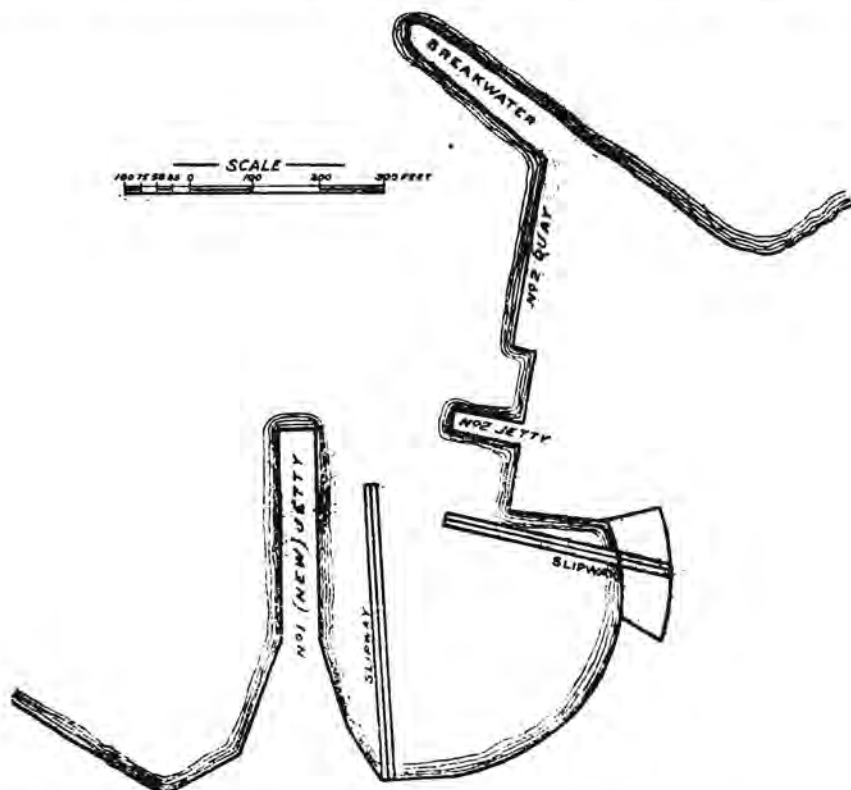




## MOSSÉL BAY HARBOUR, 1922.

## PARTICULARS.

WHARFAGE.	Length.	Depth at L.W.O.S.T.	CRANAGE.	
			No.	Capacity.
No. 1 (new) Jetty..... (Exclusive of pile-work approach from abutment— length, 130 ft.)	350 ft.	10 ft.	2 1	4 tons (steam). 2 tons (hand).
No. 2 Jetty.....	120 ft.	8 ft.	2	3 tons (steam).
No. 2 Quay.....	250 ft.	6 ft.	1 1	10 tons (steam). 3 tons (steam).

**Shed and Storage Accommodation.**

Floor space..... 17,790 sq. ft.  
Cubic capacity..... 200,000 cubic ft.

Open anchorage with unlimited depths.

**Lighters.**—Eight lighters with dead-weight capacity of 670 tons and water-boat; one lighter building, capacity of 10 tons.

**Tugs.**—The port is equipped with two tugs, one of which is fitted with modern fire and salvage appliances.

**Repairing Facilities.**

**Slipway.**—Cradle, 88 ft. long by 20 ft. wide.  
Hauling capacity, 150 tons.  
Draft, H.W.O.S.T.: 4 ft. 0 in. forward, 8 ft. 6 in. aft.

**Slipway.**—Cradle, 100 ft. long by 24 ft. wide.  
Hauling capacity, 200 tons.  
Draft, H.W.O.S.T.: 10 ft. forward, 14 ft. aft.

TABLE BAY HARBOUR, CAPE TOWN, 1922.

PARTICULARS.

QUAY OR JETTY.	Length.	DEPTH AT L.W.O.S.T.		CRANES (ELECTRIC).	
		Max.	Min.	No.	Capacity.
<b>VICTORIA BASIN.</b>					
	Lin. ft.				
No. 1 Jetty.....	520	19 ft. 9 in.	19 ft. 6 in.	—	—
	480	22 ft.	17 ft. 9 in.	—	—
No. 2 Jetty.....	640	37 ft.	35 ft.	4	4 tons.
	610	36 ft. 6 in.	35 ft.	1	7 tons.
				5	3 tons.
No. 3 Jetty *.....	—	—	—	—	—
No. 4 Jetty.....	709	38 ft.	20 ft.	3	4 tons.
	694	30 ft.	24 ft.	4	3 tons.
No. 1 Quay, South Pier.....	1,970	30 ft.	27 ft.	—	—
No. 2 Quay, South Pier Elbow.....	580	32 ft.	30 ft.	—	—
No. 3 Quay, South Pier Elbow (Outer Berth).....	700	32 ft.	32 ft.	—	—
No. 4 Quay.....	240	10 ft.	10 ft.	—	—
No. 5 Quay.....	310	23 ft. 6 in.	14 ft.	—	—
No. 6 Quay.....	603	34 ft.	27 ft.	1	15 tons.
				3	3 tons.
No. 7 Quay †.....	630	38 ft.	38 ft.	1	3 tons.
				2	4 tons.
No. 8 Quay, East Pier.....	786	36 ft.	35 ft.	4	4 tons.
				4	3 tons.
Quay between Nos. 2 and 3 Jetties	140	29 ft.	28 ft. 6 in.	—	—
Barge Wharf.....	450	21 ft.	20 ft.	—	—
<b>ALFRED BASIN.</b>					
No. 1 Quay (West).....	660	24 ft.	22 ft.	2	3 tons.
				4	4 tons.
No. 2 Quay (North).....	440	24 ft.	24 ft.	2	3 tons.
				1	4 tons.
No. 3 Quay.....	200	18 ft.	18 ft.	—	—
No. 4 Quay.....	330	19 ft.	19 ft.	—	—
No. 5 Quay.....	310	24 ft.	21 ft.	—	—
Explosives Wharf.....	300	20 ft.	20 ft.	1	1½ ton.

Storage of Coal.—Sites for 100,000 tons.

Shed and Storage Accommodation.—

Floor space for cargo in sheds..... 454,523 square feet.  
 Cubic capacity of sheds..... 4,592,237 cubic feet.

Chilling Chambers.—The present installation consists of 16 chambers equalling 73,900 cubic feet capacity, providing accommodation for over 900 tons of fruit pre-cooling at one time.

Entrance Depth to Harbour.—At L.W.O.S.T., 40 feet.

Anchorage in roadstead, under shelter of breakwater, for vessels of any draught.

Lighters used for coaling purposes:—16 lighters of aggregate capacity of about 3,505 tons.

Tugs.—The port is equipped with three powerful tugs and two smaller craft. The three large tugs are equipped with modern salvage and fire appliances.

Repairing Facilities:—

Graving Dock.—Length on keel blocks..... 500 ft.  
 Width at coping..... 90 ft.  
 Width at entrance top..... 68 ft.  
 Maximum width at bottom (keel block height) 56½ ft.  
 Depth on sill, H.W.O.S.T..... 25 ft.

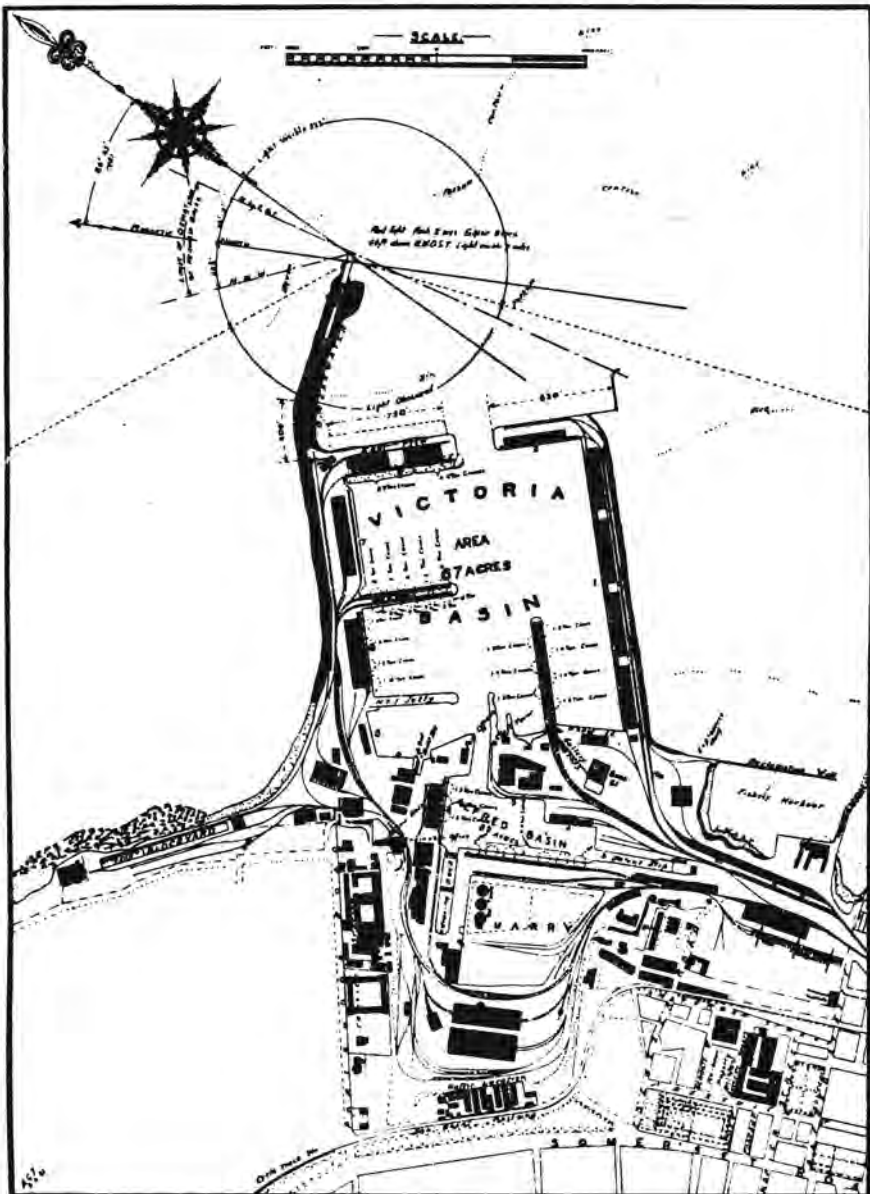
Docks can be emptied in three hours.

Slips.—Patent slip for craft up to 500 tons, with accommodation for two vessels at a time. Also two boat slips for yachts and small craft.

\* Removal in progress.

† Reconstruction in progress.

TABLE BAY HARBOUR, CAPETOWN, 1922.



NOTE.—One 3-ton crane shown in the above diagram has been removed from East Pier to No. 7 Quay. Three cranes have been erected at No. 7 Quay—one 2-ton and two 4-ton.

## DURBAN HARBOUR, PORT NATAL, 1922.

## PARTICULARS.

WHARFAGE.	Length.	DEPTH AT L.W.O.S.T.		CRANES.	
		Maximum.	Minimum.	No.	Capacity.
<b>POINT.</b>					
Quay Wall.....	6,266 ft.	38 ft.	23 ft.	1 1 23 11 2 2	Hydraulic, 50 tons. Hydraulic, 10 tons. Hydraulic, 3 tons. Electric, 3 tons, and 6 electric, 4 tons. Travelling cranes, 10 tons. Travelling cranes, 5 tons.
Repairing Quay.....	600 ft.	22 ft.	22 ft.	17	Hydraulic wharf capstans.
Jetty.....	795 ft.	21 ft.	21 ft.	8	Electric wharf capstans.
Fish Jetty.....	600 ft.	15 ft.	15 ft.	—	—
<b>BLUFF.</b>					
Quay Wall.....	2,365 ft.	35 ft.	30 ft. 6 in.	1	Floating crane, 15 tons.
Timber Wharf.....	100 ft.	25 ft.	25 ft.	—	—
<b>CONGELLA.</b>					
Timber Wharf.....	4,045 ft.	32 ft. 6 in.	25 ft.	—	—

*Shed and Storage Accommodation.*—

Floor space.....	674,370 square feet.
Cubic capacity.....	15,553,700 cubic feet.

*Average Working Depth at Entrance.*—At L.W.O.S.T., average 37 feet outer channel, 32 feet inner channel.

*Lighters.*—Thirty-one lighters and punts of aggregate capacity of about 3,390 tons.

*Tugs.*—The port is equipped with four powerful tugs fitted with modern salvage and fire appliances, and 3 smaller craft.

*Repairing Facilities.*—

Floating dock, 475 feet long by 96 feet broad, with lifting capacity of 6,500 tons.
Floating crane, lifting capacity, 15 tons.
Patent slip capable of lifting craft up to 150 tons.

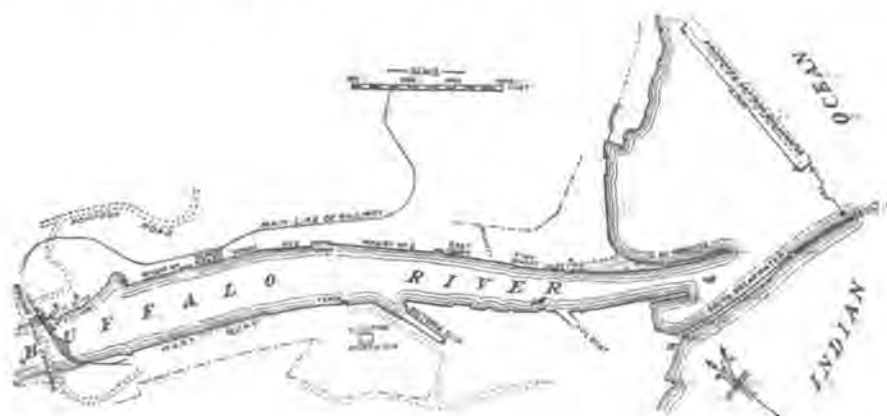
*Coaling Appliances.*—Belt conveyor and bucket transporter coaling appliances are installed at the Bluff. These appliances are electrically driven, and capable of coaling three vessels simultaneously at the rate of 1,000 tons per hour. Coal is automatically weighed whilst loading. Capacity of dumpers, 100 tons and 50 tons respectively. Capacity of storage bins, 10,000 tons. Sites available in vicinity of appliances for stacking 70,000 tons of coal.

## BUFFALO HARBOUR, EAST LONDON, 1922.

## PARTICULARS.

WHARFAGE.	Length.	Depth at L.W.O.S.T.	CRANAGE.	
			No.	Capacity.
<b>EAST BANK—</b>				
No. 1 Wharf.....	650 ft.	10 ft.	—	—
Export Wharf.....	366 ft.	8 ft.	—	—
No. 2 Wharf.....	956 ft.	20 ft.	1	3-ton steam.
No. 3 Wharf.....	1,130 ft.	—	2	3-ton steam.
East Quay (Hely-Hutchinson).....	418 ft.	27 ft. 9 in.	1	50-ton steam.
Timber Extension.....	150 ft.	21 ft.	—	—
No. 1 Deal Jetty.....	50 ft.	18 ft.	—	—
Fish Wharf.....	325 ft.	18 ft.	—	—
No. 4 Jetty.....	50 ft.	18 ft.	—	—
No. 5 Jetty.....	75 ft.	20 ft.	—	—
No. 6 Jetty.....	75 ft.	20 ft.	—	—
<b>WEST BANK—</b>				
West Quay.....	1,500 ft.	27 ft. 9 in.	1	20-ton electric.
			2	5 ton electric.
			10	3-ton electric.
			1	3-ton Temperley transporter.

\* 550 feet of this wharf available for shipping; the remainder is in course of reconstruction in concrete and when completed will have a depth of 32 feet at L.W.O.S.T.

**Shed and Storage Accommodation.—**

Shed floor space (East Bank).....	150,500 square feet.
(West Bank).....	114,000 square feet.
<b>TOTAL.....</b>	<b>264,500 square feet.</b>
Shed capacity (East Bank).....	2,126,110 cubic feet.
(West Bank).....	1,938,000 cubic feet.
<b>TOTAL.....</b>	<b>4,064,110 cubic feet.</b>

Ten acres of open storage ground for rough goods, with one 30-ton electric gantry and one 7-ton travelling steam crane.

**Entrance Depth at L.W.O.S.T.—**22-23 feet.

**Lighterage.—**13 lighters, 1,450 tons capacity.

**Tugs.—**The port is equipped with two powerful tugs and fire and salvage appliances.

**Repairing Facilities.—**

**Slipway.—**Length of cradle, 200 feet.

Capacity, 1,000 tons dead weight.

§ 2. **Lighthouses, etc.**—The following list gives particulars in regard to the lighthouses, fog signals, whistle buoys, life-saving appliances, etc., under the control of the Union Government:—

**LIGHTHOUSES, FOG SIGNALS, WHISTLE BUOYS, LIFE-SAVING APPLIANCES, ETC.**

Locality.	Equipment.	No. of Persons Em- ployed.
1. Walvis Bay.....	Automatic light.....	—
2. Port Nolloth.....	Revolving light, explosive fog signal, and life-saving apparatus	2
3. Dassen Island....	Revolving light, signal station, and wireless apparatus	3
4. Robben Island....	Occulting light and explosive fog signal.....	3
5. Green Point.....	Revolving light, signal station.....	2
6. Breakwater, Table Bay	Automatic light and fog bell.....	—
7. Slangkop.....	Revolving light and life-saving apparatus.....	3
8. Cape Point.....	One revolving light, signal station, and life-saving apparatus, with subsidiary fixed red light	4
9. Roman Rock....	Automatic light and motor-boat.....	—
10. Danger Point....	Revolving light.....	3
11. Cape Agulhas....	Revolving light, signal station, and life-saving apparatus	3
12. Cape St. Blaize, Moasel Bay	Revolving light, explosive fog signal, signal station, also automatic light on jetty	2
13. Cape St. Francis	Revolving light and signal station.....	3
14. Cape Recife....	Revolving light and signal station.....	3
15. Port Elizabeth...	Occulting light, signal station, time ball, and wireless telephone	2
16. Bird Island.....	Revolving light, signal station, and wireless telephone	3
17. Gt. Fish Point...	Revolving light.....	3
18. Hood Point, East London	Revolving light, signal station, automatic light on beach, and automatic light on breakwater	3
19. Cape Hermes, Port St. Johns	Revolving light and signal station.....	2
20. Port Shepstone, Natal	Occulting light and signal station.....	1
21. Green Point, Natal	Revolving light and fixed red light showing over Aliwal shoals	2
22. The Bluff, Natal..	Revolving light and signal station.....	5
23. Durban Harbour Lights	North and south pier lights, and beach scintillating light	1
24. Point Durnford...	Automatic light.....	1
25. Cape St. Lucia, Zululand	Automatic light.....	

§ 2. Shipping.

1. **Vessels Entered at Cape and Natal Ports, 1826 to 1909.**—The subjoined table gives the number and tonnage of vessels entered at Cape ports from 1826 to 1909, and at Natal ports from 1862 to 1909. Information is not available in respect of shipping prior to the dates mentioned. Although the figures are of value as indicating the increase in the trade at the ports, it must be noted that vessels arriving are entered at each port of call and are thus in many cases numbered in the returns for each port. The increase in numbers and in tonnage indicated in the tables is therefore not indicative of the true proportions of such increases. There exists, however, no means at the present time of rectifying the figures, and they are therefore published as the only record available.

**AVERAGE NUMBER AND TONNAGE OF VESSELS ENTERED INWARDS AT CAPE AND NATAL PORTS FROM 1826 TO 1909 (EXCLUDING SHIPS OF WAR AND TRANSPORTS).**

YEAR.	CAPE.		NATAL.		TOTAL.	
	Number	Tonnage.	Number	Tonnage.	Number	Tonnage.
1826-1829.....	189	60,655	—	—	189	60,655
1830-1834.....	296	88,815	—	—	296	88,815
1835-1839.....	548	156,636	—	—	548	156,636
1840-1844.....	627	171,717	—	—	627	171,717
1845-1849.....	810	216,661	—	—	810	216,661
1850-1854.....	934	167,362	—	—	934	167,362
1855-1859.....	1,041	320,729	—	—	1,041	320,729
1860-1864.....	987	328,300	107	25,980	1,094	354,280
1865-1869.....	958	353,473	99	28,693	1,057	382,166
1870-1874.....	1,212	493,234	128	40,662	1,340	533,896
1875-1879.....	1,787	1,415,487	251	114,884	2,038	1,530,371
1880-1884.....	2,162	2,699,495	373	222,246	2,535	2,921,741
1885-1889.....	1,986	3,002,831	402	308,283	2,388	3,311,114
1890-1894.....	2,172	4,245,933	527	588,464	2,699	4,834,397
1895-1899.....	2,326	6,362,617	697	1,153,596	3,023	7,516,213
1900-1904.....	2,899	10,448,261	907	1,852,274	3,806	12,300,535
1905-1909.....	2,536	11,238,636	1,018	2,578,854	3,554	13,817,490

2. **Shipping from 1910.**—The following tables (i) and (ii) give particulars as to the number and tonnage of vessels entered at Union harbours from 1910. These figures represent the gross number of vessels entered and cleared, and not the net number, that is the actual number of separate vessels calling at ports of the Union and enumerated once only. Table (iii) gives the number and tonnage of vessels under the heading of nationality entered during the same period:—

**(i) NUMBER AND TONNAGE OF VESSELS ENTERED AT UNION HARBOURS, 1910-21.**

YEAR.	STEAM-COASTWISE.		STEAM-OVERSEA.		SAILING.		TOTAL.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
1910...	2,399	6,284,238	1,724	5,091,944	101	118,673	4,164	11,494,855
1911...	2,522	7,124,107	1,744	5,339,447	77	89,154	4,343	12,552,708
1912...	2,554	7,155,566	1,479	4,967,140	78	92,592	4,106	12,205,300
1913...	2,738	7,582,547	1,539	5,255,827	72	98,080	4,340	12,939,454
1914...	2,478	6,571,932	1,449	4,955,281	81	97,364	4,008	11,624,577
1915...	2,213	4,809,569	1,032	3,223,573	77	104,159	3,322	7,937,301
1916...	2,557	5,366,350	1,723	5,830,354	77	115,105	4,357	11,314,809
1917...	2,318	4,228,882	1,425	4,899,017	145	129,150	3,888	9,252,049
1918...	1,553	2,476,213	924	2,861,364	339	192,135	2,816	5,529,712
1919...	1,834	3,975,295	998	3,558,729	363	120,400	3,199	7,660,424
1920...	2,319	5,082,123	1,183	4,001,936	280	98,896	3,732	9,782,955
1921...	2,144	6,003,939	1,182	4,157,601	241	48,889	3,567	10,210,429

## (ii) VESSELS ENTERED AT HARBOURS OF THE UNION, 1910-21.

## (a) NUMBER.

Year.	Cape Town.	Mossel Bay.	Port Elizabeth.	East London.	Durban.	Other Ports.	Total.
1910.....	989	243	527	505	1,599	311	4,164
1911.....	1,140	272	549	554	1,560	278	4,343
1912.....	1,311	252	515	510	1,273	245	4,106
1913.....	1,386	248	569	533	1,348	260	4,349
1914.....	1,321	206	505	488	1,255	233	4,008
1915.....	1,210	157	368	381	982	213	3,322
1916.....	1,777	220	329	401	1,389	241	4,857
1917.....	1,956	100	233	258	1,126	216	3,888
1918.....	1,373	55	183	238	858	114	2,816
1919.....	1,400	71	275	327	998	128	3,199
1920.....	1,566	93	385	447	1,084	157	3,732
1921.....	1,341	103	446	465	1,099	113	3,567

## (b) TONNAGE.

1910.....	2,910,625	778,838	1,753,115	1,573,567	4,221,143	257,567	11,494,865
1911.....	3,480,131	885,015	1,973,119	1,788,587	4,231,412	184,444	12,552,708
1912.....	3,993,067	823,715	1,895,151	1,746,238	3,600,422	141,707	12,205,300
1913.....	3,965,079	842,628	2,084,492	1,903,076	4,003,624	157,565	12,939,454
1914.....	2,551,091	699,149	1,852,930	1,697,553	3,750,071	123,183	11,624,577
1915.....	2,438,383	489,552	1,152,050	1,131,766	2,617,412	108,148	7,837,301
1916.....	4,551,200	454,409	1,024,445	1,032,618	4,710,619	135,518	11,314,809
1917.....	4,133,792	315,589	638,230	595,904	3,458,857	169,977	9,252,049
1918.....	2,347,000	103,981	445,750	414,346	2,155,751	57,384	5,629,712
1919.....	2,767,822	149,502	894,069	825,851	2,981,828	61,352	7,660,424
1920.....	3,337,440	279,441	1,441,380	1,402,451	3,244,341	77,402	9,782,955
1921.....	3,100,719	353,376	1,697,641	1,597,097	3,401,892	54,204	10,210,429

## (iii) (a) NUMBER OF VESSELS OF VARIOUS NATIONALITIES ENTERED \* AT UNION HARBOURS FROM OTHER COUNTRIES, 1910-21.

Year.	British.	American.	Scandinavian.	French.	German.	Japanese.	Portuguese.	South American.	Other Nationalities.	Total.
1910.	1,443	5	97	20	201	2	27	—	25	1,820
1911.	1,389	3	127	19	218	1	29	—	19	1,805
1912.	1,121	3	127	23	224	3	33	—	9	1,543
1913.	1,179	3	123	22	230	4	36	—	10	1,607
1914.	1,176	7	127	14	137	3	31	—	18	1,513
1915.	897	7	107	11	—	7	44	—	27	1,100
1916.	1,372	13	112	21	—	100	55	1	115	1,789
1917.	1,163	22	120	10	—	84	41	—	58	1,498
1918.	702	35	102	5	—	94	43	2	53	1,036
1919.	867	26	44	3	—	41	52	2	40	1,075
1920.	936	35	80	9	1	42	37	5	55	1,200
1921.	957	20	73	14	23	38	25	1	66	1,217

## (b) TONNAGE OF VESSELS ENTERED \* AT UNION HARBOURS, 1910-21.

1910.	4,308,525	5,873	153,897	32,399	561,173	5,960	80,365	—	57,906	5,205,988
1911.	4,434,443	3,197	186,283	29,061	637,376	2,837	76,385	—	47,802	5,417,444
1912.	3,988,397	1,530	212,386	41,186	695,445	9,485	80,487	—	15,681	5,044,597
1913.	4,238,925	4,174	217,775	45,247	723,458	13,903	90,378	—	20,034	5,353,794
1914.	4,185,602	10,408	232,398	34,385	450,262	10,305	86,714	—	38,860	5,046,922
1915.	2,898,403	8,903	120,150	18,968	—	19,875	107,431	—	89,488	3,323,215
1916.	4,656,415	32,660	216,232	43,574	—	430,229	147,915	1,638	404,571	5,933,234
1917.	4,058,617	26,173	243,407	18,714	—	309,188	135,679	—	145,592	4,997,370
1918.	2,119,501	41,392	220,613	8,215	—	353,066	112,415	6,450	127,632	2,989,440
1919.	3,061,901	41,244	82,310	4,955	—	155,979	137,347	2,506	151,162	3,647,404
1920.	3,360,063	37,199	170,882	22,595	2,960	163,035	101,880	22,313	163,990	4,084,917
1921.	3,443,597	66,574	184,546	31,001	83,347	128,133	50,931	4,337	200,217	4,198,683

\* First ports of call.



3. **Passengers and Cargo.**—Particulars are given in the following tables of passengers landed and embarked and live stock and cargo handled (i) at all Union harbours from the year 1910, and (ii) at the several ports of the Union for the latest available year:—

(i) **PASSENGERS, LIVE STOCK, AND CARGO DEALT WITH AT UNION HARBOURS, 1910 TO 1921-22.**

YEAR.	PASSENGERS.		LIVE STOCK.		CARGO.			
	Landed.	Em- barked.	Landed.	Shipped.	Landed.	Shipped.	Trans- shipped.	Total.
	No.	No.	No.	No.	Tons.	Tons.	Tons.	Tons.
1910 .....	53,503	44,918	*	*	2,450,424	2,045,514	17,125	5,118,063
1911 .....	62,265	50,344	4,122	3,804	2,492,016	2,669,616	22,954	5,185,488
1912 .....	49,177	45,913	5,212	2,603	2,801,711	2,900,052	31,417	5,883,180
1913 .....	36,502	31,374	14,486	4,231	2,012,299	2,892,337	22,842	5,927,478
1914 .....	39,497	43,718	13,713	10,963	2,498,508	2,087,383	28,726	5,214,677
1915 .....	21,782	28,561	13,994	61,144	2,137,606	2,751,674	37,518	4,926,798
1916 .....	19,853	40,462	5,069	3,508	1,897,289	3,211,427	33,737	5,142,453
1917 (Jan. to March) .....	3,901	2,005	318	357	392,384	772,680	11,540	1,176,604
1917-18 .....	9,814	13,072	1,316	945	1,478,895	3,173,982	28,655	4,681,532
1918-19 .....	7,565	10,560	1,059	2,831	1,384,548	2,597,608	13,967	3,996,213
1919-20 .....	39,300	84,571	1,044	658	1,485,499	2,927,506	6,080	4,419,695
1920-21 .....	70,548	58,072	3,044	1,439	2,236,897	3,050,171	9,090	5,295,658
1921-22 .....	71,792	41,253	1,280	1,172	1,419,412	3,846,542	7,267	5,278,131

\* Not available.

(ii) **PASSENGERS, LIVE STOCK, AND CARGO DEALT WITH AT VARIOUS UNION HARBOURS, 1920-21.**

Heading.	Cape Town.	Mossel Bay.	Port Elizabeth.	East London.	Durban.	Other Union Harbours.	Total.
<b>PASSENGERS—</b>							
Landed..... No.	37,262	91	5,657	6,393	20,290	855	70,548
Embarked.... No.	15,787	48	1,035	6,066	14,202	934	38,072
<b>TOTAL..... No.</b>	<b>53,049</b>	<b>139</b>	<b>6,692</b>	<b>12,459</b>	<b>34,492</b>	<b>1,789</b>	<b>108,620</b>
<b>LIVE STOCK—</b>							
Landed..... No.	863	—	112	58	2,611	—	3,644
Shipped..... No.	703	—	11	1	724	—	1,439
<b>TOTAL..... No.</b>	<b>1,566</b>	<b>—</b>	<b>123</b>	<b>59</b>	<b>3,335</b>	<b>—</b>	<b>5,083</b>
<b>CARGO—</b>							
Landed..... Tons	726,989	16,227	316,198	254,057	885,685	37,241	2,236,397
Shipped..... Tons	534,606	5,876	103,444	89,366	2,248,129	68,670	3,050,171
Transhipped Tons	2,893	—	1,040	470	3,267	1,510	9,090
<b>TOTAL.... Tons</b>	<b>1,264,488</b>	<b>22,103</b>	<b>420,672</b>	<b>348,893</b>	<b>3,137,081</b>	<b>107,421</b>	<b>5,295,658</b>

4. **Coal Bunkered and Exported.**—The subjoined table shows the quantity of coal bunkered and exported at Union harbours, and also via Delagoa Bay, for the years 1910 to 1920-21 :—

**SOUTH AFRICAN COAL BUNKERED AND EXPORTED OVERSEA FROM UNION PORTS AND DELAGOA BAY, 1910 TO 1920-21.**

YEAR.	CAPE TOWN.		DURBAN.		OTHER PORTS (including Delagoa Bay).		TOTAL.	
	Bunkered.	Exported.	Bunkered	Exported.	Bunkered.	Exported.	Bunkered.	Exported.
	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*
1910...	83,510†	67	1,395,649	57,046	124,068	34,000	1,603,227	92,103
1911...	184,912	—	1,420,319	84,116	95,107	22,150	1,706,338	106,268
1912...	341,781	500	1,200,606	174,087	152,756	215,323	1,704,143	380,970
1913...	278,561	1,008	1,196,460	355,901	245,142	436,960	1,722,169	793,860
1914...	273,328	190	1,173,853	207,033	224,912	361,853	1,672,093	369,078
1915...	344,933	2,470	930,687	219,788	138,735	324,731	1,414,355	546,989
1916...	595,455	5,930	1,519,182	165,167	352,862	302,446	2,467,499	563,543
1917 (Jan.- Mar.)	147,923	146	401,374	14,079	100,215	95,039	649,512	110,164
1917-18	547,998	11,985	1,211,024	261,930	432,512	447,907	2,191,534	721,882
1918-19	276,154	30,193	608,273	704,474	257,110	589,433	1,341,537	1,324,100
1919-20	335,173	8,382	971,063	439,749	265,435	441,097	1,571,071	880,828
1920-21	359,062	13,670	1,122,538	749,785	414,730	842,594	1,896,330	1,006,049
1921-22	212,200	1,108	1,059,484	1,014,488	320,984	750,952	1,592,728	1,768,548

\* 2000 lb.

† Includes Welsh coal. From 1912 to 1919-20, 131,052 tons of Welsh coal were exported from Cape Town. This tonnage is not included in the figures given above.

5. **Register of Shipping.**—The statement given hereunder shows the number and net tonnage of steam and sailing vessels entered on the registers at the ports of Cape Town, Port Elizabeth, East London, and Durban at the end of each of the years specified :—

**REGISTER OF SHIPPING, UNION, 1917 TO 1921.**

Port.	1917.		1918.		1919.		1920.		1921.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
<b>Cape Town—</b>										
Steam.....	46	9,474	49	11,309	50	7,260	53	7,430	66	19,646
Sailing.....	6	333	9	3,084	12	4,497	12	4,497	14	3,275
<b>TOTAL....</b>	<b>52</b>	<b>9,807</b>	<b>58</b>	<b>14,483</b>	<b>62</b>	<b>11,757</b>	<b>65</b>	<b>11,927</b>	<b>80</b>	<b>22,921</b>
<b>Port Elizabeth—</b>										
Steam.....	11	124	11	124	11	124	11	124	11	124
Sailing.....	—	—	—	—	—	—	—	—	—	—
<b>TOTAL....</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>
<b>East London—</b>										
Steam.....	7	2,146	7	2,146	8	2,151	8	2,151	7	1,683
Sailing.....	2	1,583	2	1,063	1	1,038	—	—	—	—
<b>TOTAL....</b>	<b>9</b>	<b>3,729</b>	<b>9</b>	<b>3,209</b>	<b>9</b>	<b>3,209</b>	<b>8</b>	<b>2,151</b>	<b>7</b>	<b>1,683</b>
<b>Durban—</b>										
Steam.....	27	6,107	30	8,699	31	8,933	32	7,256	34	6,767
Sailing.....	9	899	—	—	—	—	1	509	2	893
<b>TOTAL....</b>	<b>36</b>	<b>7,006</b>	<b>30</b>	<b>8,699</b>	<b>31</b>	<b>8,933</b>	<b>33</b>	<b>7,765</b>	<b>36</b>	<b>7,660</b>
<b>GRAND TOTAL—</b>										
Steam.....	91	17,851	97	22,368	100	18,468	104	16,961	118	28,220
Sailing.....	17	2,815	11	4,147	13	5,555	13	5,006	16	4,169
<b>TOTAL....</b>	<b>108</b>	<b>20,666</b>	<b>108</b>	<b>26,515</b>	<b>113</b>	<b>24,023</b>	<b>117</b>	<b>21,967</b>	<b>134</b>	<b>32,388</b>

6. **South African Ocean Mail Contract.**—The Ocean Mail Contract between the Union Government and the Union-Castle Company, which was extended for two years from 30th September, 1922, makes provision for the following freight rates:—

(i) **GOVERNMENT FREIGHT RATES (CAPE TOWN BASIS), UNITED KINGDOM TO SOUTH AFRICA.**

To 30th September, 1922.....	35s. per ton.
To 30th September, 1923.....	32s. 6d. per ton.
To 30th September, 1924.....	30s. per ton.

These rates include materials for electrification of railways, with the exception of dynamos and motors packed separately, switch gear and electrical apparatus, electric cables and copper wire. The rates for rails are 25s. per ton.

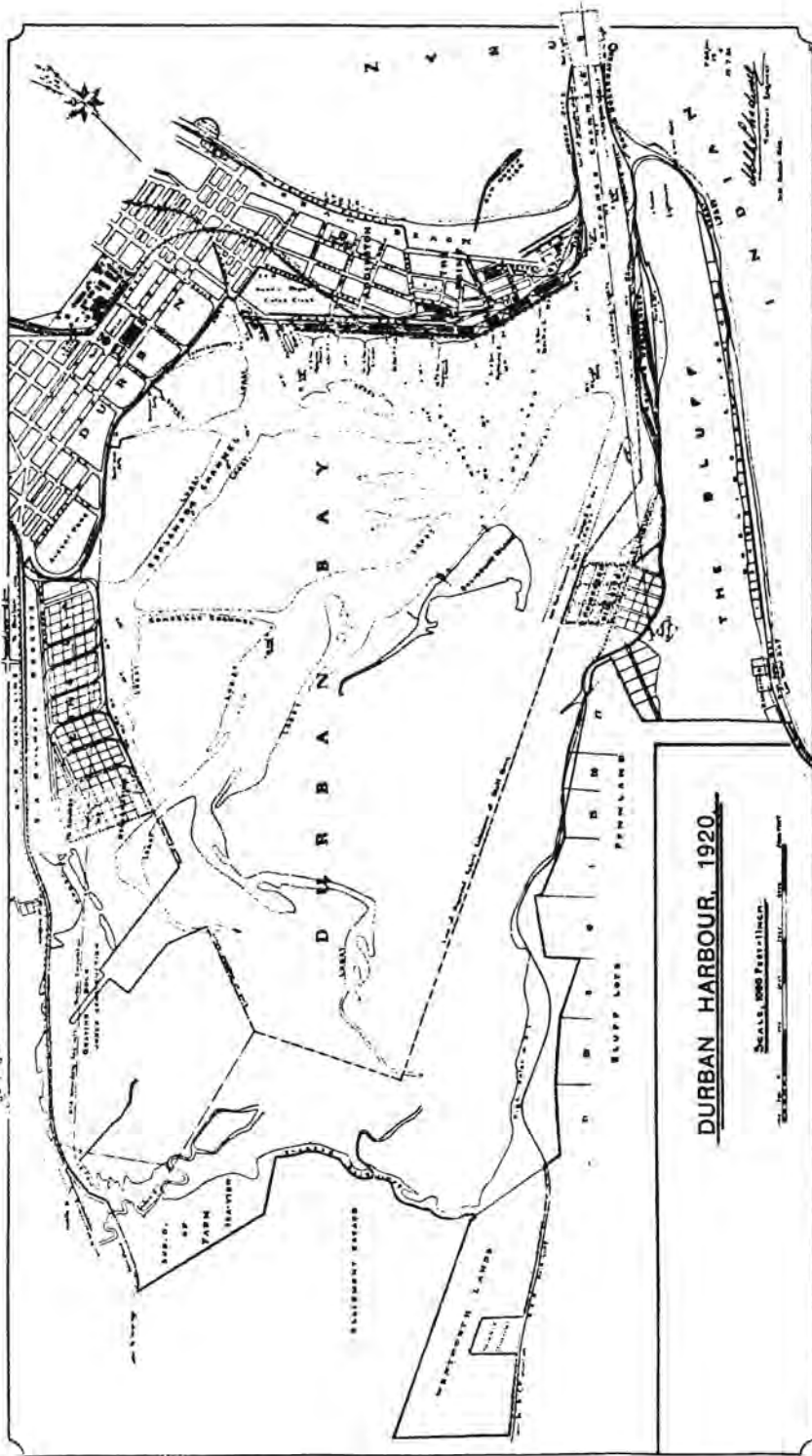
(ii) **SOUTH AFRICAN PRODUCE FREIGHT RATES, SOUTH AFRICA TO UNITED KINGDOM.**

Description.	Rates.
Fruit, Fresh (in cool chambers)—	
Peaches, plums, tomatoes, and melons.....	65s. per ton measurement.
Pears, apples, quinces, and other hard fruits.....	50s. per ton measurement.
Citrus and pines.....	45s. per ton measurement.
Fruit, Fresh (in ventilated holds)—	
All kinds (as above).....	40s. per ton measurement.
Fruits, Dried (other than raisins).....	50s. per ton weight or measurement.
Raisins.....	50s. per ton weight in bags.
Fruits, Canned.....	50s. per ton measurement in boxes.
Jams.....	50s. per ton measurement.
Ground Nuts—with shells.....	60s. per ton measurement.
Ground Nuts—without shells.....	40s. per ton weight.*
Dried Beans and Peas.....	90s. per ton weight.*
Onions (in cases).....	55s. per ton weight.
Bacon and cheese.....	60s. per ton measurement.
Eggs.....	4d. per lb.
Beef (in cool chamber).....	90s. per ton measurement.
Maize, Sugar, Bark, Wool, and Skins.....	‡ of a penny per lb. less than Argentine rate.†
	‡ Not to exceed average rate for whole cargoes by chartered steamers by more than—
	5s. per 2,000 lb. (maize, sugar, and bark);
	4d. per lb. (wool and skins).
Cereals, other than maize.....	Calculated on basis of space occupied on ship as compared with that occupied by maize.
Tobacco—manufactured.....	92s. 6d. per ton measurement.
Tobacco—unmanufactured.....	60s. per ton measurement.
Cotton.....	35s. per ton measurement.
Cotton Seed.....	45s. per ton weight.
Starch.....	32s. 6d. per ton weight.

\* Rate not exceeding East Africa rate.

† Rate not exceeding a maximum of 4d.

‡ These rates to be revised every three months, disputes to be settled by London arbitration.

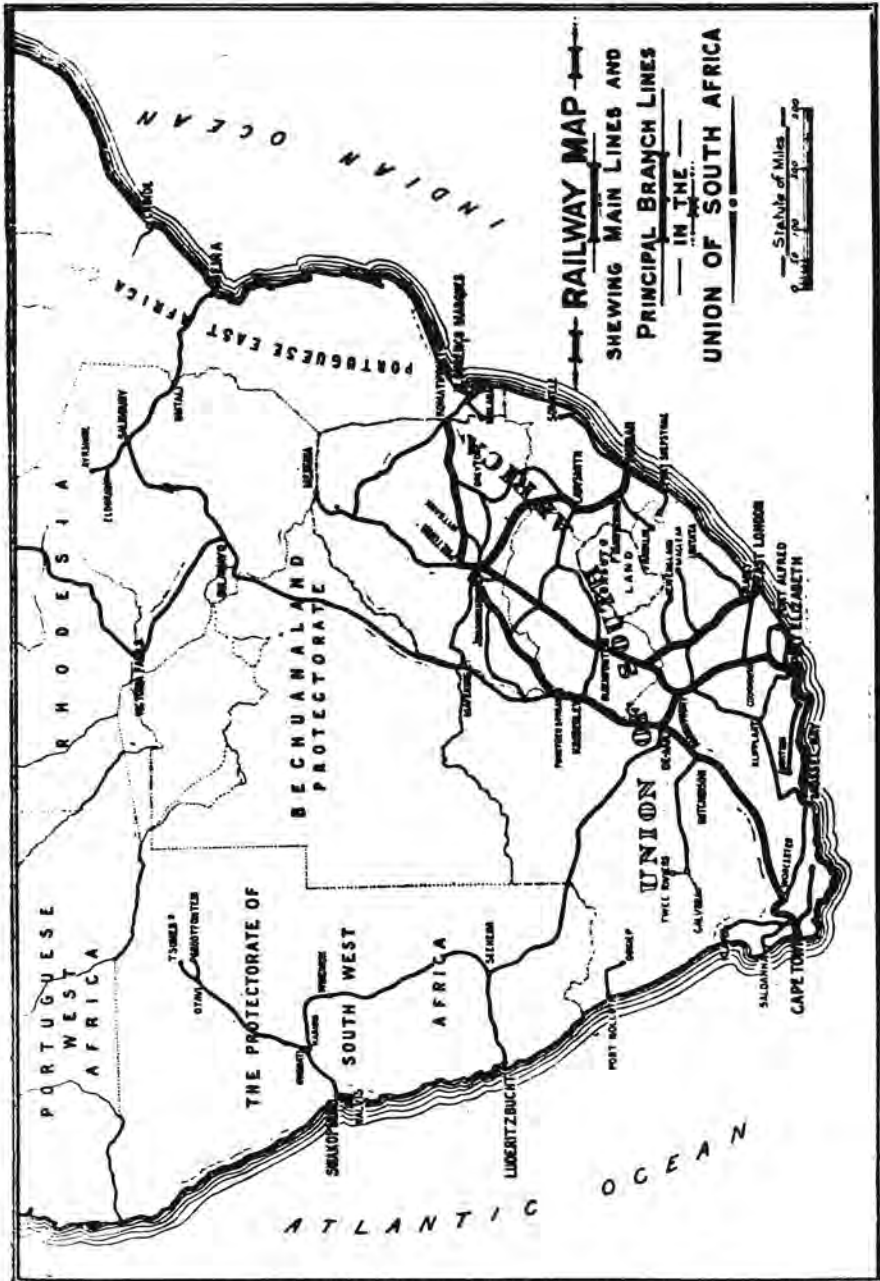


**DURBAN HARBOUR, 1920.**

SCALE, 1:5000 Feet to an Inch.







## CHAPTER XXI.

## RAILWAYS AND LAND TRANSPORTATION.

## § 1. Railway Development in South Africa.

1. **General.**—In the first three issues of the Year Book, an account was given of the more important stages of railway development in the Union. The table in § 3 below gives the mileage of Government and private lines from the year 1910 onwards, while the table on page 776 furnishes particulars regarding the mileage of Government railways in each Province from the year 1873.

2. **Comparison with other Dominions.**—The following table gives comparative figures regarding mileage of open line, mileage of line per 1,000 square miles of territory, and mileage of open line per 1,000 of estimated population for Australia, Canada, New Zealand, and the Union at the latest date for which particulars are available:—

Heading.	Australia. (1920.)	Canada. (1920.)	New Zealand. (1921.)	Union of South Africa. (1921.)
Mileage of open line .....	25,956	30,196	3,147	10,049
Mileage of line per 1,000 square miles.....	8.73	10.61	30.29	21.24
Mileage of line per 1,000 of estimated population—				
European.....	4.90	4.34	2.51	6.57
All Races.....	4.90	4.34	2.41	1.35

3. **Railways Construction Act (No. 30 of 1922).**—This Act provides for the construction and equipment of various lines of railway, and for the acquisition of the necessary lands or rights over them. The first Schedule of the Act gives the authorized lines of railway as follows:—

## SCHEME OF RAILWAY CONSTRUCTION UNDER ACT No. 30 OF 1922.

Particulars.	Approximate Length.	Estimated Cost.
	Miles.	£
Belmont to Douglas (agricultural railway).....	53	198,114
Dunswart to Apex, main line deviation via Benoni.....	4	115,461
Ermelo (Buhrmanns-Tafelkop) to Lothair.....	27	125,577
Fort Beaufort to Balfour (2-ft. gauge: agricultural railway).....	23	65,000
Frankfort to Villiers, thence to a point on the Transvaal-Natal Main line.....	51	269,420
Franklin to Kokstad.....	25½	132,192
Franklin to Matatiele via Cedarville (agricultural railway)	47½	225,768
George to Knysna.....	42	296,820
Harrismith to Warden (agricultural railway).....	36½	196,059
Heilbron to Petrus Steyn (agricultural railway).....	31½	145,656
Hercules to Magaliesberg (agricultural railway).....	50½	257,196
Kamfersdam to Winters Rush.....	35	130,410
Klipdale to Bredasdorp (agricultural railway).....	24	101,520
Lydenburg to Olifantspoortje via Ohrigstad (agricultural railway).....	71	398,168
Nylstroom to Vaalwater (agricultural railway).....	43½	187,468
Oudtshoorn to Calitzdorp (agricultural railway).....	34	167,042
Rustenburg to Boshock (agricultural railway).....	17	64,141
Senekal to Marquard (agricultural railway).....	30	170,100
Settlers to Tuinplaats (agricultural railway).....	14	49,000
Touws River to Ladysmith (agricultural railway).....	89	445,000
Upington to Kakamas via Keimoes (2-ft. gauge: agricultural railway).....	56	113,000
Zastron to Wepener.....	46	234,508
<b>TOTAL.....</b>	<b>851</b>	<b>4,087,620</b>

NOTE.—Agricultural railways to be constructed, equipped and maintained primarily for the conveyance of produce and goods.

4. **Electrification of Railways.**—Act No. 30 of 1922 provides for the electrification of any line of railway in respect of which moneys have been appropriated by Parliament for that purpose, and for the erection of the necessary power stations and equipment. Provision is made for the use subject to existing rights of the water in public streams for the purpose of working electric generating stations.

A number of schemes for the electrification of portions of the South African railway system were investigated at different times, and in 1922 the Government decided upon the electrification of the section Glencoe to Pietermaritzburg on the Natal main line, together with the Howick branch line, a distance of 173½ miles in all. It was estimated by Messrs. Merz and McLellan, the consulting engineers who reported on the project, that the capital cost of electrifying the main line section, on the basis of a down load of 30,000 tons gross per day, would be £4,654,690, including £1,534,690 for the construction of a power station and transmission lines.

## § 2. Gauge of Railways.

1. **General.**—The first three issues of the Year Book contained an account of the circumstances leading to the adoption of the 3 ft. 6 in. gauge as the standard gauge throughout South Africa and of the policy followed in constructing narrow-gauge branch lines in certain instances.

At the 31st March, 1922, there were 698 miles of narrow-gauge railway in the Union. Tables on page 777 give details of the mileage of line of various gauges in the Union and in each Province at that date.

## § 3. Construction and Open Mileage.

1. **Open Mileage.**—The following table gives figures showing the open mileage of Government and private railway lines in each Province at the 31st December, 1910 to 1916, and at the 31st March, 1918, and succeeding years.

### OPEN MILEAGE OF GOVERNMENT AND PRIVATE RAILWAY LINES IN EACH PROVINCE AT 31st DECEMBER, 1910 TO 1916, AND 31st MARCH, 1918, AND SUCCEEDING YEARS.

Year.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		TOTAL.
	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1910	3,330	485	993	50	1,725	6	987	4	7,041	545	7,586
1911	3,309	485	1,033	50	2,020	6	1,075	4	7,548	545	8,093
1912	3,491	485	1,053	50	2,197	6	1,100	4	7,830	545	8,375
1913	3,610	450	1,117	50	2,362	6	1,163	4	8,281	510	8,791
1914	3,707	450	1,165	50	2,436	—	1,180	4	8,483	504	8,987
1915	4,074	450	1,204	50	2,491	—	1,261	4	9,031	504	9,535
1916	4,191	453	1,242	50	2,614	—	1,342	4	9,419	507	9,926
Mar. 31, 1918	4,226	453	1,302	50	2,614	—	1,312	4	9,514	507	10,021
1919	4,254	453	1,302	50	2,614	—	1,342	4	9,542	507	10,049
1920	4,254	453	1,302	50	2,644	—	1,342	4	9,542	507	10,049
1921	4,254	453	1,319	33	2,644	—	1,342	4	9,559	490	10,049
1922	4,254	453	1,319	33	2,611	7	1,312	4	9,559	497	10,056

2. **Mileage of Government Railways.**—The following table gives the mileage of new railway lines in each Province opened in each year, and the total mileage of Government line at the end of each year, from the year 1873:—



**MILEAGE OF NEW RAILWAY LINE IN EACH PROVINCE OPENED IN EACH YEAR  
AND TOTAL MILEAGE OF GOVERNMENT LINE OPEN AT END OF EACH  
YEAR, FROM THE YEAR 1873.**

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.	
	Mileage Opened during Year.	Total Mileage at End of Year.	Mileage Opened during Year.	Total Mileage at End of Year.	Mileage Opened during Year.	Total Mileage at End of Year.	Mileage Opened during Year.	Total Mileage at End of Year.	Mileage Opened during Year.	Total Mileage at End of Year.
1873..	—	63	—	—	—	—	—	—	—	63
1874..	—	63	—	—	—	—	—	—	—	63
1875..	87	150	—	—	—	—	—	—	87	150
1876..	99	249	—	—	—	—	—	—	99	249
1877..	150	399	—	—	—	—	—	—	150	399
1878..	167	566	27	27	—	—	—	—	184	583
1879..	240	796	28	53	—	—	—	—	266	849
1880..	111	907	47	100	—	—	—	—	158	1,007
1881..	55	962	—	100	—	—	—	—	55	1,062
1882..	7	969	—	100	—	—	—	—	7	1,069
1883..	244	1,213	—	160	—	—	—	—	244	1,313
1884..	241	1,454	17	117	—	—	—	—	258	1,571
1885..	146	1,600	59	176	—	—	—	—	205	1,776
1886..	—	1,600	44	220	—	—	—	—	44	1,820
1887..	—	1,600	—	220	—	—	—	—	—	1,820
1888..	—	1,600	—	220	—	—	—	—	—	1,820
1889..	9	1,609	49	269	—	—	—	—	58	1,878
1890..	161	1,770	38	307	42	42	121	121	362	2,240
1891..	—	1,770	36	343	42	84	—	121	78	2,318
1892..	122	1,892	36	379	79	163	264	385	501	2,819
1893..	—	1,892	—	379	80	243	—	385	80	2,899
1894..	—	1,892	—	379	178	421	—	385	178	3,077
1895..	—	1,892	2	381	159	580	—	385	161	3,238
1896..	—	1,892	—	381	87	667	—	385	87	3,325
1897..	7	1,899	56	437	45	712	—	385	108	3,433
1898..	91	1,990	47	484	138	850	26	411	362	3,735
1899..	—	1,990	29	513	39	889	31	442	99	3,834
1900..	99	2,089	57	570	—	889	—	442	156	3,990
1901..	47	2,136	21	591	—	889	—	442	68	4,058
1902..	183	2,319	45	636	—	889	21	463	249	4,307
1903..	197	2,516	105	741	18	907	38	501	358	4,665
1904..	149	2,665	37	778	45	952	46	547	277	4,942
1905..	321	2,986	42	820	127	1,079	135	682	625	5,567
1906..	206	3,192	29	849	156	1,235	93	780	480	6,056
1907..	65	3,257	41	890	286	1,521	104	884	496	6,552
1908..	11	3,268	97	987	59	1,580	96	980	263	6,815
1909..	54	3,322	12	999	6	1,586	7	987	79	6,894
May 31,										
1910:	—	3,330	—	999	—	1,723	—	987	—	7,030 <sup>a</sup>
1910..	8	3,330	—	999	139	1,725	—	987	147	7,041
1911..	69	3,399	54	1,553	295	2,020	89	1,076	507	7,548
1912..	95	3,494	—	1,053	177	2,197	30	1,106	302	7,850
1913..	146	3,640	64	1,117	165	2,362	57	1,163	432	8,282
1914..	67	3,707	48	1,165	74	2,436	17	1,180	206	8,488
1915..	<sup>10</sup> 367	<sup>10</sup> 4,074	39	1,204	55	2,491	85	1,265	<sup>10</sup> 546	<sup>10</sup> 9,034
1916..	117	4,191	39	1,242	152	2,644	77	1,342	385	9,419
Mar. 31,										
1918..	36	4,226	59	1,302	—	2,644	—	1,342	95	9,514
1919..	28	4,254	—	1,302	—	2,644	—	1,342	28	9,542
1920..	—	4,254	—	1,302	—	2,644	—	1,342	—	9,542
1921..	—	4,254	<sup>11</sup> 17	<sup>11</sup> 1,319	—	2,644	—	1,342	17	9,559
1922..	—	4,254	—	1,319	—	2,644	—	1,342	—	9,559

<sup>1</sup> Includes Verulam-Tongaat Section, leased from Natal-Zululand Railway Company.

<sup>2</sup> Includes Tongaat-Tugela Section, leased from Natal-Zululand Railway Company.

<sup>3</sup> Includes Sterkstroom-Indwe Section, taken over by Government.

<sup>4</sup> Includes Bamboo Junction-Cape Collieries Section, taken over by Government.

<sup>5</sup> Includes Mossel Bay-George Section, worked by New Cape Central Railway Company.

<sup>6</sup> Includes Maitland-Ottery Section, taken over by Government.

<sup>7</sup> Includes Modderpoort-Ladybrand and Rayton-Cullinan Sections, taken over by Government.

<sup>8</sup> Mileage at Constitution of the Union.

<sup>9</sup> Includes Grahamstown-Port Alfred Section, taken over by Government.

<sup>10</sup> Includes 109 miles of line completed for and by Defence Department.

<sup>11</sup> Includes Vryheid East-Hloboane section, taken over by Government.

**3. Mileage of Government and Private Railways.**—The subjoined table gives particulars of Government and private railway lines in the several Provinces, showing the total mileage according to gauge at the latest available date.

**GOVERNMENT AND PRIVATE RAILWAY LINES IN EACH PROVINCE: MILEAGE AND GAUGE, 31st MARCH, 1922.**

PROVINCE.	GOVERNMENT LINES.			PRIVATE LINES.				ALL LINES.			
	Gauge.			Gauge.				Gauge.			
	3' 6".	2'.	Total.	3' 6".	2' 6".	2'.	Total.	3' 6".	2' 6".	2'.	Total.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Cape of Good Hope...	3,986	288	4,254	324	108	21	453	4,290	108	309	4,707
Natal.....	1,073	246	1,319	25	—	8	33	1,098	—	254	1,552
Transvaal.....	2,617	27	2,644	7	—	—	7	2,624	—	27	2,651
Orange Free State....	1,342	—	1,342	4	—	—	4	1,346	—	—	1,346
UNION.....	8,998	561	9,559	360	108	29	497	9,358	108	590	10,056

4. Main and Branch Railways.—The following table shows the total mileage of Government main and branch lines in each of the Provinces, classified according to gauge, at the latest available date:—

**GOVERNMENT RAILWAY LINES: MILEAGE AND GAUGE OF MAIN AND BRANCH LINES IN EACH PROVINCE, 31st MARCH, 1922.**

PROVINCE.	MAIN LINES.			BRANCH LINES.			TOTAL MAIN AND BRANCH LINES.		
	Gauge.			Gauge.			Gauge.		
	3' 6".	2'.	Total.	3' 6".	2'.	Total.	3' 6".	2'.	Total.
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Cape of Good Hope...	1,935	—	1,935	2,031	288	2,319	3,966	288	4,254
Natal.....	354	—	354	719	246	965	1,073	246	1,319
Transvaal.....	961	—	961	1,656	27	1,683	2,617	27	2,644
Orange Free State....	539	—	539	803	—	803	1,342	—	1,342
UNION.....	3,789	—	3,789	5,209	561	5,770	8,998	561	9,559

5. Mileage according to Area and Population.—The subjoined table gives particulars as to the total mileages in the Union of open lines of railway, owned by the Government or privately owned, during a period of years, and for the financial year 1920-21 in respect of each Province, with the number of miles of line to each 100 square miles of territory, and to the European, coloured, and total population. The figures relating to the population have been based upon the returns for the Census of 1921.

**MILEAGE OF OPEN LINES IN THE UNION FROM 1910 TO 1920-21, AND IN EACH PROVINCE FOR 1920-21, IN RELATION TO THE AREA AND POPULATION.**

YEAR AND AREA.	Mileages.					Number of Miles of Line per 100 Square Miles of Territory.	Number of Miles of Line per 10,000 Inhabitants.		
	Government Lines.	Private Lines.	Total.	Proportion to Total Mileage.	Increase over Previous Years.		European Descent.	Other.	Total.
UNION—1910.....	7,041	545	7,586	—	178	1.60	60.42	16.41	12.91
" 1911.....	7,548	545	8,093	—	507	1.71	63.21	17.18	13.51
" 1912.....	7,850	545	8,395	—	302	1.77	64.32	17.50	13.76
" 1913.....	8,282	510	8,792	—	397	1.87	66.10	18.00	14.15
" 1914.....	8,488	504	8,992	—	200	1.91	66.37	18.09	14.22
" 1915.....	9,034	504	9,538	—	546	2.02	69.13	18.86	14.82
" 1916.....	9,419	507	9,926	—	388	2.10	70.67	19.30	15.16
" 1917-18.....	9,514	507	10,021	—	95	2.12	70.11	19.17	15.05
" 1918-19.....	9,542	507	10,049	—	28	2.12	69.11	18.91	14.85
" 1919-20.....	9,542	507	10,049	—	—	2.12	68.06	19.14	14.94
1920-21.									
Cape of Good Hope	4,254	453	4,707	46.84	—	1.70	78.01	22.29	17.08
Natal.....	1,319	38	1,352	13.45	—	3.83	101.22	10.61	9.60
Transvaal.....	2,644	—	2,644	26.31	—	2.40	49.46	17.41	12.88
Orange Free State.	1,342	4	1,346	13.40	—	2.67	71.96	31.14	21.73
UNION.....	9,559	490	10,049	100.00	—	2.12	67.00	18.83	14.70

## § 4. Administration of Government Railways.

**1. Railway Administration prior to the Establishment of the Union.**—The administration of the railways (and harbours—see Chapter XX) of South Africa prior to the union of the Cape, Orange River, Transvaal and Natal Colonies was vested in the Governments of the respective colonies; and at the establishment of the Union (31st May, 1910) was vested in the Governor-General-in-Council. For the financial results of working prior to this date the respective Treasuries of the Colonies were responsible; that is to say, all profits after paying working expenses were handed over to the Treasury to meet interest on the loans from which the cost of construction and subsequent capital expenditure had been financed. Any excess of working expenditure over receipts had to be met by the Treasury out of the Consolidated Revenue Account of the Colony. The executive head of the Department in each case was the General Manager, who was responsible to a Minister of State.

**2. Administration of Union Government Railways.**—The whole of the railways (and harbours—see Chapter XX) in the Union are, with few exceptions, the property of the Government, and since the constitution of the Union have been administered under the provisions of the *South Africa Act, 1909*. This provides *inter alia* that—

all ports, harbours and railways belonging to the several Colonies at the establishment of the Union shall from the date thereof vest in the Governor-General-in-Council and that—

subject to the authority of the Governor-General-in-Council the control and management of the railways, ports and harbours of the Union shall be exercised through a Board consisting of not more than three Commissioners, who shall be appointed by the Governor-General-in-Council, and a Minister of State, who shall be chairman. Each Commissioner shall hold office for a period of five years, but may be reappointed.

A further Act to interpret the provisions of the above-mentioned law relating to the Railway Board and to define the functions of that Board was passed in the year 1916.

The pertinent provisions of this later Act are as follows:—

The railways, ports and harbours of the Union shall be administered and worked under the control and authority of the Governor-General-in-Council to be exercised through a Minister of State, who shall be advised by the Board.

The management and working of the Railways and Harbours shall, subject to the control of the Minister, be carried out by the General Manager, who shall be governed by such regulations as the Minister may from time to time frame after consultation with the Board.

The executive head of the Department is the General Manager of Railways and Harbours, with headquarters at Johannesburg. In him is vested the entire management and control as set out in the foregoing extract from the Act of 1916. Four Assistant General Managers, each controlling his respective system, the Chief Civil Engineer, and Chief Mechanical Engineer are responsible to the General Manager.

The headquarters of each of the four systems are situated at Cape Town (System A), Bloemfontein (System B), Johannesburg (System C), and Durban (System D). Under the three Assistant General Managers stationed at Cape Town, Bloemfontein, and Johannesburg, respectively, and directly responsible to them, are Divisional Superintendents. These officers control one of the Divisions in each of the systems A, B, and C. There are altogether eight of such Divisions—two in System "A," three in System "B," two in System "C," and one in System "D"—controlled from Cape Town, Kimberley, Port Elizabeth, East London, Bloemfontein, Durban, Johannesburg, and Pretoria. In the case of the Divisions controlled from Cape Town, Bloemfontein, Johannesburg, and Durban, where Assistant General Managers are stationed, the office of Divisional Superintendent is dispensed with, and the work of the Division, in addition to the work of the Assistant General Manager, is carried out under that officer. Under each Divisional Superintendent there are Superintendents and Assistant Superintendents (Technical, Commercial, and Operating), by whom the staff operating the railways are immediately controlled.

**3. Principles of Railway Administration.**—The principles upon which the Railways (and Harbours) of the Union are administered are clearly defined in the following extract from the *South Africa Act*:—

The railways, ports and harbours of the Union shall be administered on business principles, due regard being had to agricultural and industrial development within the Union and promotion, by means of cheap transport, of the settlement of an agricultural and industrial population in the inland portions of all provinces of the Union;

and the following further extract as to the financing of the railways indicates the principle on which the rates leviable for the conveyance of traffic are governed:—

So far as may be the total earnings shall not be more than are sufficient to meet the necessary outlays for working, maintenance, betterment, depreciation and the payment of interest due on capital, not being capital contributed out of railway or harbour revenue.

**4. Railway and Harbour Fund.**—In the *South Africa Act* provision is made for the establishment of a Railway and Harbour Fund into which all revenues raised or received from the administration of the railways and harbours are paid and from which are withdrawn all moneys necessary to meet the expenditure of the Railway and Harbour Department, but only such expenditure as has received the approval of Parliament. Withdrawals from the fund may be made for unforeseen expenditure to the extent of £300,000 or such additional sum as is represented by the excess of the actual revenue over the estimated

revenue. Such expenditure, however, must be reported as soon as Parliament meets. All profits earned remain at the credit of the fund and are not paid to the Treasury as was the practice prior to the constitution of the Union. Expenditure on Capital Account is made from moneys received from the Treasury out of Loan Funds. Unexpended balances are returned to the Treasury. The Administration has no liability in respect of the cost of raising or discount expenses in connection with the flotation of loans. Such expenses are wholly defrayed by the Treasury, jointly with expenses for meeting the requirements for Public Works and other purposes served by loans.

5. **Staff.**—The following table gives details as to the staff employed on the Government Railways at the 31st March, 1918, and succeeding years:—

**GOVERNMENT RAILWAYS—PARTICULARS OF STAFF EMPLOYED AT 31st MARCH, 1918 TO 1921.\***

YEAR.	REGULAR STAFF.				CASUAL STAFF.		Grand Total.
	European.			Coloured.	European.	Coloured.	
	Salaried.	Other.	Total.				
1917-18.....	7,305	26,038	34,243	32,544	128	3,302	70,217
1918-19.....	7,916	27,367	35,283	34,962	130	2,953	73,328
1919-20.....	8,501	31,138	39,639	38,189	121	3,013	80,962
1920-21.....	8,752	32,599	41,351	40,802	104	3,569	85,826

\* These figures do not include the staff in the South-West Africa Protectorate.

6. **Principal Officers of the Railway Administration.**—The following are the principal officers of the Railways and Harbours Administration:—

Railways and Harbours Board.....	Hon. J. W. Jagger (Chairman); Hon. Johann Rissik, Hon. T. Orr, C.M.G., and Sir Andries Stockenström, Bart.† (Railway Commissioners).
General Manager.....	Sir. W. W. Hov, K.C.B., M.Inst.T.
Assistant General Managers.....	R. B. Gettliffe, J. W. Carr, D.S.O., J. R. More, M.I.C.E., P. E. Potter, M.Inst.T., H. W. Cavill.
Chief Civil Engineer .....	R. C. Wallace, M.I.C.E., M.Inst.T.
Chief Mechanical Engineer.....	Colonel F. R. Collins, D.S.O.
Chief Electrical Engineer .....	F. W. Mills, M.I.E.E.
Chief Accountant.....	G. A. Reid.
Catering Manager.....	A. H. Simmons.
Manager, Publicity Department	A. H. Tatlow.

**§ 5. Engines and Rolling Stock.**

1. **Engines in Service.**—The following table gives the number of 3 ft. 6 in. gauge engines in service at the 31st March, 1921, with comparative figures from the year 1911. In addition to the engines referred to in the table, which are of 3 ft. 6 in. gauge, there were in service on the 31st March, 1921, fifty-four engines of 2 ft. gauge:—

**NUMBER OF 3 ft. 6 in. GAUGE RAILWAY ENGINES IN SERVICE AT END OF EACH YEAR, 1911 TO 1916, AND AT 31st MARCH, 1917 TO 1921.**

Tractive Force, lb. (75 per cent. of Boiler Pressure.)	Number of Engines.	Total Tractive Force.	Average Tractive Force.	Average Weight.
		lb.	lb.	Tons (2,000lb.).
TOTAL, 31st DECEMBER, 1911.....	1,303	28,798,144	20,673	52.16
" " " 1912.....	1,326	29,093,372	21,103	52.22
" " " 1913.....	1,328	30,881,676	21,626	54.26
" " " 1914.....	1,486	33,081,660	22,262	58.32
" " " 1915.....	1,549	36,219,692	23,382	59.61
" " " 1916.....	1,508	35,901,642	23,807	60.77
" " " 31st MARCH, 1917.....	1,507	35,887,792	23,814	60.79
" " " 1918.....	1,523	36,517,512	23,977	61.74
" " " 1919.....	1,556	37,865,507	24,335	62.26
" " " 1920.....	1,640	40,719,125	24,738	64.22
Under 10,000 and not known.....	42	357,038	8,501	28.85
10,001 to 14,000.....	49	609,698	12,443	38.46
14,001 " 18,000.....	241	3,978,960	16,510	50.25
18,001 " 22,000.....	344	6,535,502	18,999	48.51
22,001 " 26,000.....	295	6,888,210	23,350	61.32
26,001 " 30,000.....	148	4,239,784	28,647	72.51
30,001 " 34,000.....	301	9,754,302	32,406	84.02
34,001 " 38,000.....	189	6,911,148	36,507	90.22
*38,001 " 42,000.....	46	1,400,300	30,441	92.15
*42,001 " 46,000.....	32	1,450,660	45,333	98.28
*46,001 and upwards.....	21	1,012,345	48,207	107.60
TOTAL, 31st MARCH, 1921..	1,708	43,137,947	25,257	65.98

\* The tractive force of the Mallet engines included is calculated at 50 per cent. of boiler pressure.

† Deceased 1st December, 1922.

2. **Wagon, Coaching, and Merchandise Stock.**—The following table (i) gives the position in regard to railway wagon stock as at the 31st March, 1921; table (ii) gives similar particulars in respect of coaching stock; and table (iii) gives a classification of 3 ft. 6 in. gauge merchandise stock, according to carrying capacity, as at the 31st March, 1921, with comparative figures from the year 1910.

(i) RAILWAY WAGON STOCK, 31st MARCH, 1921.

Type.	Description.	Stock, 31st March, 1920.	1st April, 1920, to 31st March, 1921.		Stock, 31st March, 1921.	Carrying Capacity.	Placed in Service.	Condition at 31st Mar., 1921.	
			Addi- tions.	Reduc- tions.				In Work- ing Order.	Under and Wait- ing Re- pairs.
A B C D G L O Q S T U	8 FT. 6 IN. GAUGE. 8-Wheeled.								
	Hoppers.....	818	55	9	664	60,000-100,000	1904-1921	10,778	560
	Bogies, 60,000 lb. and over.....	5,336	204	—	5,540	60,000-100,000	1901-1920		
	Bogies under 60,000 lb.....	1,610	—	1	1,609	25,000-53,760	1882-1909		
	Drop-aided.....	2,561	310	15	2,856	25,000-78,400	1882-1921		
	Cattle.....	290	16	3	303	22,400-45,000	1882-1921		
	Refrigerator and In- sulated.....	80	133	—	213	30,000-44,800	1899-1921		
	Fruit and Perishables	49	—	—	49	25,000-44,800	1882-1914		
	Explosives.....	29	—	—	29	35,000	1896		
	Flat.....	53	—	7	46	44,800-160,000	1897-1915		
	Horseboxes.....	6	—	—	6	—	1907		
Well Wagons.....	18	—	—	18	44,800-112,000	1898-1914			
		10,850	718	35	11,333	—	—	10,778	560
V	8-Wheeled Vans and Miscellaneous.							521	29
	Mall and Luggage Vans.....	215	22	2	235	—	1902-1921		
	Caboose.....	29	2	—	31	—	1882-1920		
	Crane Tenders.....	17	2	—	19	—	1890-1920		
	Breakdown Vans.....	38	2	—	40	—	1903-1921		
	Tank Wagons.....	132	20	—	152	—	1902-1920		
X Y	Ballast Wagons.....	78	—	—	73	—	1897-1916		
		11,154	766	37	11,883	—	—	11,294	589
W E R X	6-Wheeled Vans and Miscellaneous.							208	9
	Goods Brake Vans..	5	—	—	5	—	1878-1908		
	Open Goods Wagons	182	—	—	182	—	1882-1911		
	Flat Wagons.....	2	—	1	1	—	1897-1913		
	Tank Wagons.....	22	—	3	19	—	1897-1917		
	Breakdown Vans... Machinery Trucks..	1 4	— 5	— —	1 9	— —	1882-1913 1920		
	11,370	771	41	12,100	—	—	11,502	508	
E F H I J K M N O Q R T	4-Wheeled.							16,686	865
	Open Goods.....	4,952	2	119	4,835	12,000-30,000	1878-1920		
	Covered Goods.....	613	9	24	598	15,000-30,000	1882-1920		
	Cattle, 13-ft. wheel- base.....	1,009	—	3	1,006	22,400-47,000	1897-1913		
	Cattle, under 13-ft. wheelbase.....	3,444	805	20	4,229	15,000-40,000	1897-1921		
	Sheep Wagons.....	3,822	—	17	3,805	15,000-30,000	1882-1913		
	Sheep Wagons (drop- sided).....	1,337	787	—	2,124	22,400-30,000	1897-1921		
	Refrigerator and In- sulated.....	146	—	2	144	15,000-30,000	1882-1916		
	Meat Wagons.....	88	—	1	87	15,000-30,000	1882-1912		
	Fruit and Perishables	448	—	3	445	15,000-30,000	1882-1911		
Explosives.....	191	—	2	189	15,000-30,000	1882-1912			
Flat Wagons.....	73	—	1	72	12,000-26,880	1882-1901			
Horseboxes.....	17	—	—	17	12,200-30,000	1882-1910			
	27,510	2,374	233	29,651	—	—	28,188	1,463	

(i) RAILWAY WAGON STOCK, 31st MARCH, 1921—continued.

Type.	Description.	Stock, 31st March, 1920.	1st April, 1920, to 31st Mar., 1921.		Stock, 31st March, 1921.	Carrying Capacity.  Tn.	Placed in Service.	Condition at 31st Mar., 1921.				
			Addi- tions.	Redu- ctions.				In Work- ing Order.	Under and Wait- ing Re- pairs.			
W	4-Wheeled Vans and Miscellaneous.											
	Goods Brake Vans...	450	—	12	438	—	1882-1919	} 1,214	} 37			
	Pillar Brake Vans...	16	—	—	16	—	1882					
Y	Caboose.....	37	20	1	56	—	1878-1920					
	Ballast Wagons.....	223	—	—	223	—	1897-1898					
	Tank Wagons.....	282	—	4	278	—	1882-1914					
	Pump Wagons.....	2	—	—	2	—	1896-1898					
	Crane Tenders.....	37	—	—	37	—	1882-1902					
	Breakdown Vans...	13	—	—	13	—	1882-1897					
	Ash and Refuse Wa- gons.....	177	—	—	177	—	1870-1920					
	Bunkering.....	22	1	12	166	—	—					
			28,769	2,895	202	30,902	—			—	29,402	1,500
		2-FT. GAUGE.										
		Various.....	526	34	2	558	—			1902-1921	} 668	}
		3-FT. 6-IN. GAUGE.										
	Crane.....	104	4	1	107	—	1882-1920					
	2-FT. GAUGE.											
	Crane.....	3	—	—	3	—	1902-1904					
		29,402	2,443	265	31,570	—	—	30,070	1,500			

(ii) RAILWAY COACHING STOCK, 31st MARCH, 1921.

Type.	Description.	Stock, 31st March, 1920.	1st April, 1920, to 31st March, 1921.		Stock, 31st March, 1921.	Average Seating Capacity.	Placed in Service.	Condition, 31st Mar., 1921.			
			Addi- tions.	Redu- ctions.				In Work- ing Order.	Under and Wait- ing Re- pairs.		
	3 FT. 6 IN. GAUGE.										
	8-Wheeled.										
M.L.,	1st Class.....	270	20	3	287	28	1887-1921	} 1,061	} 140		
	1st and 2nd Class.....	304	—	2	302	32	1891-1920				
D	2nd Class.....	208	43	1	250	40	1891-1921				
	3rd Class.....	305	—	2	303	66	1882-1916				
H & J	1st, 2nd, and 3rd Class	35	—	—	35	64	1898-1920				
	2nd and 3rd Class.....	15	1	—	16	42	1915-1920				
F	1st, 2nd, and Van....	7	1	—	8	13	1904-1920				
		1,144	65	8	1,201	—	—			1,061	140
Sub.,	1st Class.....	270	10	2	278	60	1882-1920			} 1,017	} 96
	1st Class and Van....	48	9	—	57	38	1882-1921				
M	1st and 2nd Class....	101	—	—	101	45	1882-1916				
	1st, 2nd, and Van....	48	—	—	48	36	1882-1920				
U	1st, 3rd, and Van....	1	—	—	1	40	1882-1916				
	2nd Class.....	140	21	1	160	60	1882-1920				
Y	1st, 2nd, and 3rd Class	55	—	—	55	56	1882-1920				
	2nd and Van.....	25	—	—	25	40	1882				
Q	2nd, 3rd, and Van....	2	2	—	4	35	1893-1920				
	3rd Class.....	197	29	—	226	84	1882-1921				
P	2nd and 3rd Class....	13	—	—	13	63	1890				
	1st, 2nd, and 3rd, and Van.....	44	—	—	44	40	1882-1920				
R	3rd and Van.....	82	13	—	95	48	1898-1921				
	Hall Motor Coaches...	8	—	—	8	56	1908-1911				
S	Dining-cars.....	86	—	1	85	24	1896-1918				
	Reserved.....	41	1	—	42	—	1882-1920				
T	Funeral, Workmen, etc.	9	1	—	10	56	1882-1920				
	Pay Coaches.....	3	—	—	3	—	1882-1904				
Vans, K	Luggage, Trampship, etc.	190	9	2	197	—	1882-1921				
	Postal and Mail.....	14	—	1	13	—	1890-1908				
B	Kitchen Staff and Bag- gage.....	16	—	1	15	—	1903-1913				
		2,537	160	16	2,681	—	—	2,391	290		

3. **Passengers and Cargo.**—Particulars are given in the following tables of passengers landed and embarked and live stock and cargo handled (i) at all Union harbours from the year 1910, and (ii) at the several ports of the Union for the latest available year:—

(i) **PASSENGERS, LIVE STOCK, AND CARGO DEALT WITH AT UNION HARBOURS, 1910 TO 1921-22.**

YEAR.	PASSENGERS.		LIVE STOCK.		CARGO.			Total.
	Landed.	Em- barked.	Landed.	Shipped.	Landed.	Shipped.	Tran- shipped.	
	No.	No.	No.	No.	Tons.	Tons.	Tons.	
1910 .....	53,503	44,918	*	*	2,450,424	2,045,514	17,125	5,118,063
1911.....	62,265	50,344	4,122	3,804	2,492,918	2,809,816	22,954	5,185,488
1912.....	49,177	45,913	5,212	2,603	2,891,711	2,060,052	31,417	5,883,180
1913.....	36,502	31,374	14,486	4,231	3,012,299	2,892,337	22,842	5,927,478
1914.....	39,497	43,718	13,713	10,963	2,498,568	2,687,383	28,726	5,214,677
1915.....	21,782	28,561	13,994	61,144	2,137,606	2,751,674	37,518	4,926,798
1916.....	19,853	40,462	5,009	3,508	1,897,289	3,211,427	33,737	5,142,453
1917 (Jan. to March).....	3,901	2,005	318	357	392,384	772,680	11,540	1,176,004
1917-18.....	9,814	13,072	1,316	945	1,378,895	3,173,982	28,655	4,681,532
1918-19.....	7,565	10,560	1,059	2,831	1,384,548	2,597,698	13,967	3,996,213
1919-20.....	39,300	34,571	1,944	658	1,485,499	2,927,506	6,080	4,419,695
1920-21.....	70,548	38,072	3,044	1,439	2,236,897	3,050,171	9,090	5,295,658
1921-22.....	71,792	41,253	1,280	1,172	1,419,412	8,846,642	7,267	5,278,131

\* Not available.

(ii) **PASSENGERS, LIVE STOCK, AND CARGO DEALT WITH AT VARIOUS UNION HARBOURS, 1920-21.**

Heading.	Cape Town.	Mossel Bay.	Port Elizabeth.	East London.	Durban.	Other Union Harbours.	Total.
<b>PASSENGERS—</b>							
Landed.....No.	37,202	91	5,657	6,393	20,290	855	70,548
Embarked....No.	15,787	48	1,035	6,066	14,202	934	38,072
<b>TOTAL.....No.</b>	<b>53,049</b>	<b>139</b>	<b>6,692</b>	<b>12,459</b>	<b>34,492</b>	<b>1,789</b>	<b>108,620</b>
<b>LIVE STOCK—</b>							
Landed.....No.	863	—	112	58	2,611	—	3,644
Shipped.....No.	703	—	11	1	724	—	1,439
<b>TOTAL.....No.</b>	<b>1,566</b>	<b>—</b>	<b>123</b>	<b>59</b>	<b>3,335</b>	<b>—</b>	<b>5,083</b>
<b>CARGO—</b>							
Landed.....Tons	726,989	16,227	316,198	254,057	885,085	37,241	2,236,397
Shipped.....Tons	534,696	5,876	103,444	69,366	2,248,129	68,670	3,050,171
Transhipped Tons	2,863	—	1,040	470	3,267	1,510	9,090
<b>TOTAL.....Tons</b>	<b>1,264,488</b>	<b>22,103</b>	<b>420,672</b>	<b>343,893</b>	<b>3,137,081</b>	<b>107,421</b>	<b>5,295,658</b>

4. **Coal Bunkered and Exported.**—The subjoined table shows the quantity of coal bunkered and exported at Union harbours, and also via Delagoa Bay, for the years 1910 to 1920-21:—

**SOUTH AFRICAN COAL BUNKERED AND EXPORTED OVERSEA FROM UNION PORTS AND DELAGOA BAY, 1910 TO 1920-21.**

YEAR.	CAPE TOWN.		DURBAN.		OTHER PORTS (including Delagoa Bay).		TOTAL.	
	Bunkered.	Exported.	Bunkered	Exported.	Bunkered.	Exported.	Bunkered.	Exported.
	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*	Tons.*
1910...	83,510†	67	1,395,649	57,046	124,068	84,990	1,603,227	92,103
1911...	184,912	—	1,426,319	84,116	95,107	22,150	1,706,333	106,266
1912...	341,781	560	1,209,606	174,087	152,756	215,323	1,704,143	389,970
1913...	278,691	1,008	1,196,460	356,901	245,142	436,960	1,720,169	793,869
1914...	273,328	190	1,173,853	207,033	224,912	361,853	1,072,993	569,076
1915...	344,933	2,470	930,687	219,788	138,735	324,731	1,414,355	546,989
1916...	595,455	5,930	1,519,182	165,167	362,862	392,446	2,467,499	563,543
1917								
(Jan.—								
Mar.)	147,923	146	401,374	14,979	100,215	95,639	649,512	110,164
1917-18	547,998	11,985	1,211,024	261,930	432,512	447,967	2,101,534	721,882
1918-19	276,154	30,193	608,273	704,474	257,110	589,433	1,141,537	1,324,100
1919-20	335,173	8,382	971,063	439,749	265,435	441,697	1,571,671	889,828
1920-21	359,062	13,670	1,122,538	749,785	414,730	842,594	1,896,330	1,606,049
1921-22	212,260	1,108	1,059,484	1,014,488	320,984	750,952	1,592,728	1,766,548

\* 2000 lb.

† Includes Welsh coal. From 1912 to 1919-20, 131,052 tons of Welsh coal were exported from Cape Town. This tonnage is not included in the figures given above.

5. **Register of Shipping.**—The statement given hereunder shows the number and net tonnage of steam and sailing vessels entered on the registers at the ports of Cape Town, Port Elizabeth, East London, and Durban at the end of each of the years specified:—

**REGISTER OF SHIPPING, UNION, 1917 TO 1921.**

Port.	1917.		1918.		1919.		1920.		1921.	
	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.	No.	Tonnage.
<b>Cape Town—</b>										
Steam.....	46	9,474	49	11,399	50	7,260	53	7,430	66	19,646
Sailing.....	6	333	9	3,084	12	4,497	12	4,497	14	3,275
<b>TOTAL.....</b>	<b>52</b>	<b>9,807</b>	<b>58</b>	<b>14,483</b>	<b>62</b>	<b>11,757</b>	<b>65</b>	<b>11,927</b>	<b>80</b>	<b>22,921</b>
<b>Port Elizabeth—</b>										
Steam.....	11	124	11	124	11	124	11	124	11	124
Sailing.....	—	—	—	—	—	—	—	—	—	—
<b>TOTAL.....</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>	<b>11</b>	<b>124</b>
<b>East London—</b>										
Steam.....	7	2,146	7	2,146	8	2,151	8	2,151	7	1,683
Sailing.....	2	1,583	2	1,063	1	1,058	—	—	—	—
<b>TOTAL.....</b>	<b>9</b>	<b>3,729</b>	<b>9</b>	<b>3,209</b>	<b>9</b>	<b>3,209</b>	<b>8</b>	<b>2,151</b>	<b>7</b>	<b>1,683</b>
<b>Durban—</b>										
Steam.....	27	6,107	30	8,699	31	8,933	32	7,256	34	6,767
Sailing.....	9	899	—	—	—	—	1	509	2	893
<b>TOTAL.....</b>	<b>36</b>	<b>7,006</b>	<b>30</b>	<b>8,699</b>	<b>31</b>	<b>8,933</b>	<b>33</b>	<b>7,765</b>	<b>36</b>	<b>7,660</b>
<b>GRAND TOTAL—</b>										
Steam.....	91	17,851	97	22,368	100	18,468	104	18,981	118	28,220
Sailing.....	17	2,815	11	4,147	13	5,555	13	5,006	16	4,169
<b>TOTAL.....</b>	<b>108</b>	<b>20,666</b>	<b>108</b>	<b>26,515</b>	<b>113</b>	<b>24,023</b>	<b>117</b>	<b>21,967</b>	<b>134</b>	<b>32,388</b>



6. **South African Ocean Mail Contract.**—The Ocean Mail Contract between the Union Government and the Union-Castle Company, which was extended for two years from 30th September, 1922, makes provision for the following freight rates:—

(i) **GOVERNMENT FREIGHT RATES (CAPE TOWN BASIS), UNITED KINGDOM TO SOUTH AFRICA.**

To 30th September, 1922.....	35s. per ton.
To 30th September, 1923.....	32s. 6d. per ton.
To 30th September, 1924.....	30s. per ton.

These rates include materials for electrification of railways, with the exception of dynamos and motors packed separately, switch gear and electrical apparatus, electric cables and copper wire. The rates for rails are 25s. per ton.

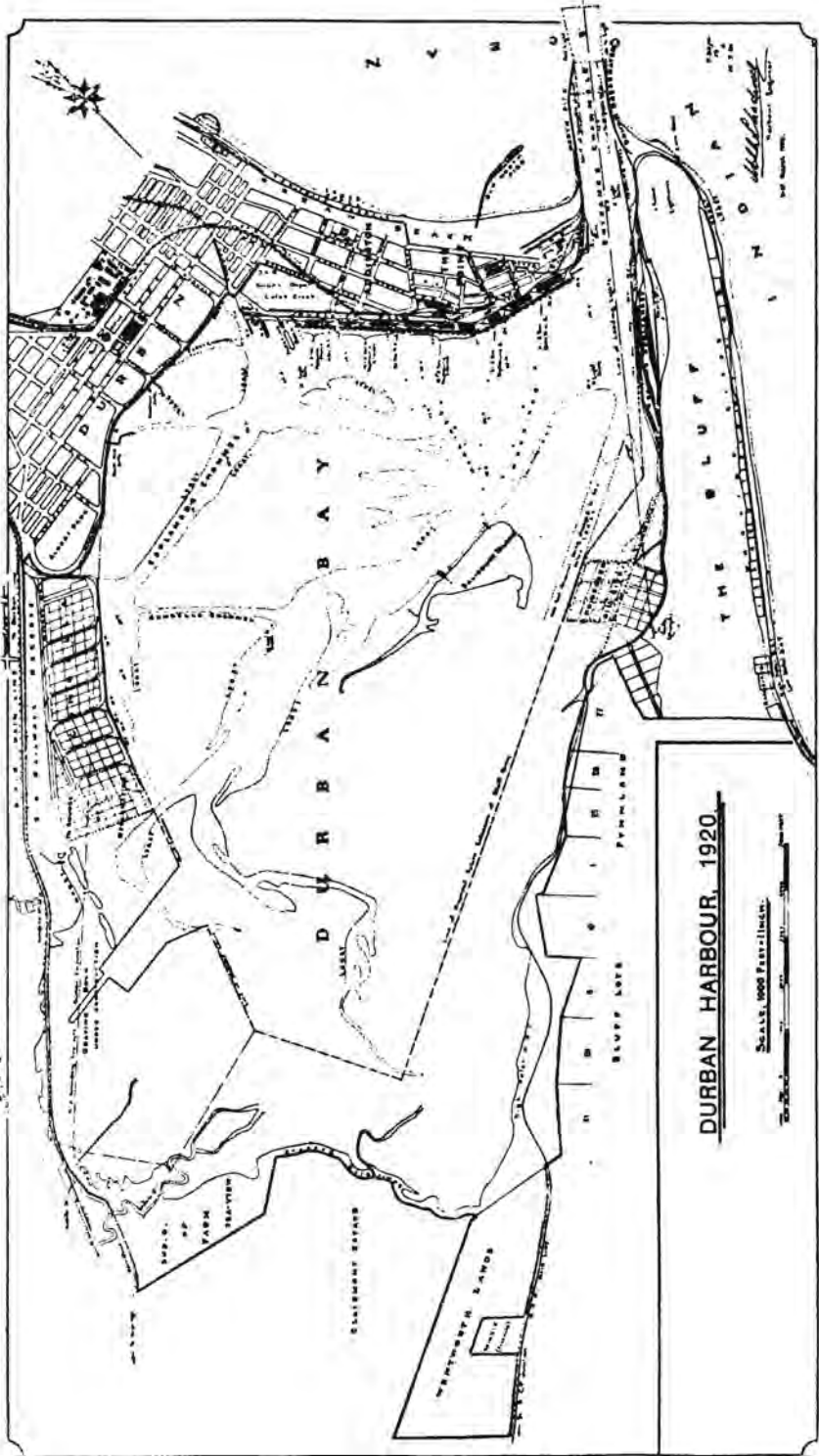
(ii) **SOUTH AFRICAN PRODUCE FREIGHT RATES, SOUTH AFRICA TO UNITED KINGDOM.**

Description.	Rates.
Fruit, Fresh (in cool chambers)—	
Peaches, plums, tomatoes, and melons.....	65s. per ton measurement.
Pears, apples, quinces, and other hard fruits.....	50s. per ton measurement.
Citrus and pines.....	45s. per ton measurement.
Fruits, Fresh (in ventilated holds)—	
All kinds (as above).....	40s. per ton measurement.
Fruits, Dried (other than raisins).....	50s. per ton weight or measurement.
Raisins.....	50s. per ton weight in bags. 50s. per ton measurement in boxes.
Fruits, Canned.....	50s. per ton measurement.
Jams.....	60s. per ton measurement.
Ground Nuts—with shells.....	40s. per ton weight.*
Ground Nuts—without shells.....	90s. per ton weight.*
Dried Beans and Peas.....	55s. per ton weight.
Onions (in cases).....	60s. per ton measurement.
Bacon and cheese.....	½d. per lb.
Eggs.....	90s. per ton measurement.
Beet (in cool chamber).....	½ of a penny per lb. less than Argentine rate.†
Maize, Sugar, bark, Wool, and Skins.....	‡ Not to exceed average rate for whole cargoes by chartered steamers by more than— 5s. per 2,000 lb. (maize, sugar, and bark); ½d. per lb. (wool and skins).
Cereals, other than maize.....	Calculated on basis of space occupied on ship as compared with that occupied by maize.
Tobacco—manufactured.....	92s. 6d. per ton measurement.
Tobacco—unmanufactured.....	60s. per ton measurement.
Cotton.....	35s. per ton measurement.
Cotton Seed.....	45s. per ton weight.
Starch.....	32s. 6d. per ton weight.

\* Rate not exceeding East Africa rate.

† Rate not exceeding a maximum of ½d.

‡ These rates to be revised every three months, disputes to be settled by London arbitration.

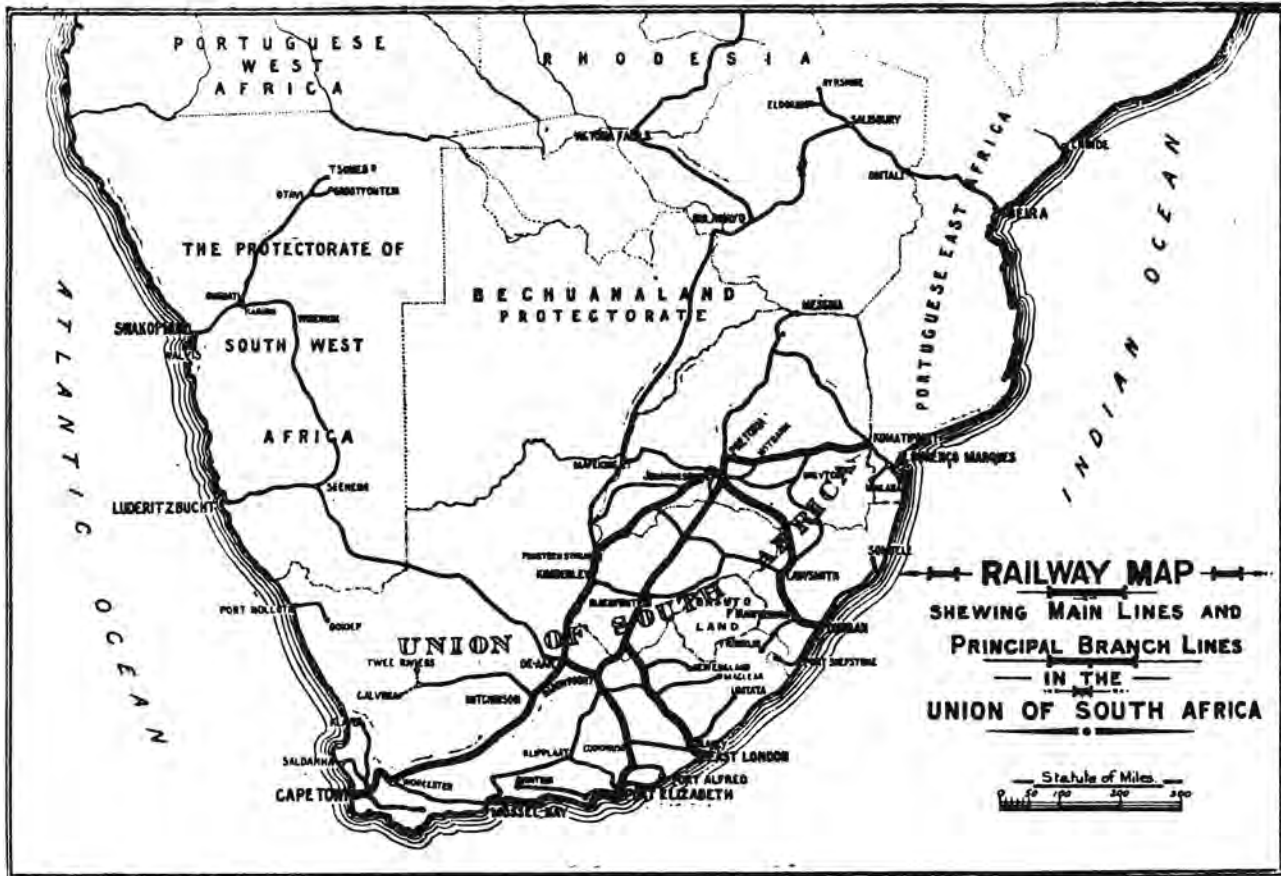


**DURBAN HARBOUR, 1920.**

SCALE, 1:5000 Feet to Inches.







## CHAPTER XXI.

## RAILWAYS AND LAND TRANSPORTATION.

## § 1. Railway Development in South Africa.

1. **General.**—In the first three issues of the Year Book, an account was given of the more important stages of railway development in the Union. The table in § 3 below gives the mileage of Government and private lines from the year 1910 onwards, while the table on page 776 furnishes particulars regarding the mileage of Government railways in each Province from the year 1873.

2. **Comparison with other Dominions.**—The following table gives comparative figures regarding mileage of open line, mileage of line per 1,000 square miles of territory, and mileage of open line per 1,000 of estimated population for Australia, Canada, New Zealand, and the Union at the latest date for which particulars are available:—

Heading.	Australia. (1920.)	Canada. (1920.)	New Zealand. (1921.)	Union of South Africa. (1921.)
Mileage of open line .....	25,956	39,196	3,147	10,049
Mileage of line per 1,000 square miles.....	8.73	10.51	30.29	21.24
Mileage of line per 1,000 of estimated population—				
European.....	4.90	4.34	2.51	6.57
All Races.....	4.90	4.34	2.41	1.35

3. **Railways Construction Act (No. 30 of 1922).**—This Act provides for the construction and equipment of various lines of railway, and for the acquisition of the necessary lands or rights over them. The first Schedule of the Act gives the authorized lines of railway as follows:—

## SCHEME OF RAILWAY CONSTRUCTION UNDER ACT No. 30 OF 1922.

Particulars.	Approximate Length.	Estimated Cost.
	Miles.	£
Belmont to Douglas (agricultural railway).....	53	198,114
Dunswart to Apex, main line deviation via Benoni.....	4	115,481
Ermelo (Buhmanns-Tafelkop) to Lothair.....	27	125,577
Fort Beaufort to Balfour (2-ft. gauge: agricultural railway).....	23	65,000
Frankfort to Villiers, thence to a point on the Transvaal- Natal Main line.....	51	269,420
Franklin to Kokstad.....	25½	132,192
Franklin to Matatiele via Cedarville (agricultural railway)	47½	225,768
George to Knysna.....	42	296,820
Harrismith to Warden (agricultural railway).....	36½	196,059
Heilbron to Petrus Steyn (agricultural railway).....	31½	145,656
Hercules to Magaliesberg (agricultural railway).....	50½	257,196
Kamferdam to Winters Rush.....	35	130,410
Klipdale to Bredasdorp (agricultural railway).....	24	101,520
Lydenburg to Olifantspoortje via Ohrigstad (agricultural railway).....	71	398,168
Nylstroom to Vaalwater (agricultural railway).....	43½	187,468
Oudtshoorn to Calitzdorp (agricultural railway).....	34	167,042
Rustenburg to Boshhoek (agricultural railway).....	17	64,141
Senekal to Marquard (agricultural railway).....	30	170,100
Settlers to Tuinplaats (agricultural railway).....	14	49,000
Touwa River to Ladysmith (agricultural railway).....	89	445,000
Uppington to Kakamas via Keimoes (2-ft. gauge: agricul- tural railway).....	56	113,000
Zastron to Wepener.....	46	234,508
<b>TOTAL.....</b>	<b>851</b>	<b>4,087,620</b>

NOTE.—Agricultural railways to be constructed, equipped and maintained primarily for the conveyance of produce and goods.

4. **Electrification of Railways.**—Act No. 30 of 1922 provides for the electrification of any line of railway in respect of which moneys have been appropriated by Parliament for that purpose, and for the erection of the necessary power stations and equipment. Provision is made for the use subject to existing rights of the water in public streams for the purpose of working electric generating stations.

A number of schemes for the electrification of portions of the South African railway system were investigated at different times, and in 1922 the Government decided upon the electrification of the section Glencoe to Pietermaritzburg on the Natal main line, together with the Howick branch line, a distance of 173½ miles in all. It was estimated by Messrs. Merz and McLellan, the consulting engineers who reported on the project, that the capital cost of electrifying the main line section, on the basis of a down load of 30,000 tons gross per day, would be £4,654,690, including £1,534,690 for the construction of a power station and transmission lines.

## § 2. Gauge of Railways.

1. **General.**—The first three issues of the Year Book contained an account of the circumstances leading to the adoption of the 3 ft. 6 in. gauge as the standard gauge throughout South Africa and of the policy followed in constructing narrow-gauge branch lines in certain instances.

At the 31st March, 1922, there were 698 miles of narrow-gauge railway in the Union. Tables on page 777 give details of the mileage of line of various gauges in the Union and in each Province at that date.

## § 3. Construction and Open Mileage.

1. **Open Mileage.**—The following table gives figures showing the open mileage of Government and private railway lines in each Province at the 31st December, 1910 to 1916, and at the 31st March, 1918, and succeeding years.

### OPEN MILEAGE OF GOVERNMENT AND PRIVATE RAILWAY LINES IN EACH PROVINCE AT 31st DECEMBER, 1910 TO 1916, AND 31st MARCH, 1918, AND SUCCEEDING YEARS.

Year.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		UNION.		TOTAL.
	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	Govt. Lines.	Private Lines.	
	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
1910	3,330	485	993	50	1,725	8	987	4	7,041	545	7,586
1911	3,399	485	1,053	50	2,020	8	1,076	4	7,548	545	8,093
1912	3,491	485	1,053	50	2,197	8	1,168	4	7,830	545	8,375
1913	3,610	450	1,117	50	2,362	8	1,163	4	8,282	510	8,792
1914	3,707	450	1,185	50	2,436	—	1,180	4	8,483	504	8,987
1915	4,074	450	1,204	50	2,491	—	1,265	4	8,034	504	8,538
1916	4,191	453	1,242	50	2,644	—	1,342	4	9,419	507	9,926
Mar. 31, 1918	4,226	453	1,302	50	2,611	—	1,342	4	9,514	507	10,021
1919	4,254	453	1,302	50	2,644	—	1,342	4	9,542	507	10,049
1920	4,254	453	1,302	50	2,644	—	1,342	4	9,542	507	10,049
1921	4,254	453	1,319	33	2,644	—	1,342	4	9,359	490	10,049
1922	4,254	453	1,319	33	2,644	7	1,342	4	9,359	497	10,056

2. **Mileage of Government Railways.**—The following table gives the mileage of new railway lines in each Province opened in each year, and the total mileage of Government line at the end of each year, from the year 1873:—

## (ii) RAILWAY COACHING STOCK, 31st MARCH, 1921—continued.

Type.	Description.	Stock, 31st March, 1920.	1st April, 1920, to 31st March, 1921.		Stock, 31st March, 1921.	Average Seating Capacity.	Placed in Service.	Condition, 31st Mar., 1921.	
			Addi- tions.	Re- duc- tions.				In Work- ing Order.	Under and Wait- ing Re- pairs.
	<b>4-Wheeled.</b>								
	1st Class.....	11	—	1	10	18	1897	} 110	} 12
	2nd Class.....	12	—	1	11	18	1897		
	3rd Class.....	14	—	—	14	30	1897		
	Reserved.....	83	—	—	83	—	1892-1907		
	Luggage and Guards Vans.....	4	—	—	4	—	1898		
		2,661	160	18	2,803	—	—	2,501	302
	<b>2-FT. GAUGE.</b>								
	Cape.....	49	—	—	40	—	1902-1908	} 91	} 3
	Natal.....	31	—	—	31	—	1907		
	C.S.A.R.....	1	—	—	1	—	1907		
	S.A.R.....	12	1	—	13	—	1910-1920		
	<b>GRAND TOTALS...</b>	2,754	161	18	2,897	—	—	2,592	305

## (iii) CLASSIFICATION OF 3 Ft. 6 In. GAUGE MERCHANDISE STOCK,\* ACCORDING TO CARRYING CAPACITY, AT END OF EACH YEAR, 1910 TO 1916, AND 31st MARCH, 1917 TO 1921.

Capacity lb.	Number of Vehicles.	Aggregate Capacity (in tons of 2,000 lb.)	Average Capacity (in tons of 2,000 lb.)
TOTAL, 31st DECEMBER, 1910...	22,017	390,896	17.75
" " 1911...	22,180	406,944	18.35
" " 1912...	21,932	414,883	18.92
" " 1913...	22,950	446,259	19.44
" " 1914...	24,269	477,044	19.66
" " 1915...	25,607	526,067	20.54
" " 1916...	26,478	547,185	20.66
" 31st MARCH, 1917...	26,609	594,955	20.66
" " 1918...	26,294	548,897	20.87
" " 1919...	26,238	548,215	20.89
" " 1920...	26,790	566,761	21.16
10,001 to 20,000 .....	2,859	24,963	8.73
20,001 to 30,000 .....	12,137	158,326	13.04
30,001 to 40,000 .....	2,485	47,011	18.92
40,001 to 50,000 .....	2,546	58,543	22.99
50,001 to 60,000 .....	2,533	70,779	27.94
60,001 to 70,000 .....	1,456	50,952	34.99
70,001 to 80,000 .....	3,420	135,955	39.75
80,001 and over.....	1,448	69,344	47.89
<b>TOTAL, 31st MARCH, 1921 .</b>	<b>28,884</b>	<b>615,873</b>	<b>21.32</b>

\* Exclusive of miscellaneous stock, such as vans, cabooses, cranes and crane-tenders, breakdown vans, tank trucks, ballast and ash wagons.

## § 6. Traffic.

1. **Mileage Run and Passengers and Goods Carried.**—The subjoined table gives the average route mileage of open lines, the train mileage run, the number of passengers carried (journeys), and the tonnage of goods carried for a series of years:—

**AVERAGE ROUTE MILEAGE OF OPEN RAILWAY LINES, TRAIN MILEAGE RUN, PASSENGERS CARRIED (JOURNEYS), AND TONNAGE OF GOODS CARRIED, 1915 TO 1920-21.**

HEADS.	1915.	1916.	1917-18.*	1918-19.*	1919-20.*	1920-21.*
Average Route Mileage of Open Lines (owned and leased) worked during year....Miles	8,772	9,209	9,473	9,529	9,542	9,559
Train Mileage.....Miles	29,820,176	33,484,301	32,830,332	31,092,210	33,574,608	35,973,779
Train and Engine Mileage...Miles	37,018,919	42,232,223	43,020,839	40,721,480	43,973,947	46,212,721
Passengers Carried (Journeys), No	48,800,230	45,607,046	51,178,888	51,493,889	60,782,100	64,069,138
Tonnage of Goods and Minerals other than Coal (Revenue Earning).....Tons	5,768,616	5,816,320	6,019,386	6,551,840	7,083,863	7,485,986
Tonnage of Coal (Revenue Earning).....Tons	6,275,828	7,602,188	7,917,116	7,559,296	7,712,552	8,948,555
Gross Tonnage Revenue Earning Traffic.....Tons	12,039,444	13,418,508	13,936,502	14,111,136	14,796,406	16,434,541

\* Year ended 31st March.

2. **Train and Engine Mileage.**—The following table gives the train and engine mileage run on Government lines from the year 1910:—

**TRAIN AND ENGINE MILEAGE RUN ON GOVERNMENT RAILWAY LINES, 1910 TO 1921-22.**

Year.	Passenger Train Miles.	Mixed Train Miles.	Goods Train Miles.	Total Train Mileage.	Total Train and Engine Mileage.
1910.....	6,157,040	4,576,885	12,548,721	23,580,646	29,764,137
1911.....	6,642,010	4,907,627	13,972,076	25,521,713	32,804,298
1912.....	7,187,754	5,371,665	15,614,287	28,173,706	36,154,189
1913.....	7,777,643	5,439,502	17,142,788	30,359,933	38,933,085
1914.....	7,010,328	5,441,123	17,250,540	29,701,991	38,161,437
1915.....	6,657,712	5,237,654	17,924,810	29,820,176	37,018,919
1916.....	7,271,972	5,375,233	20,837,096	33,484,301	42,232,223
Jan.-Mar., 1917.	1,920,976	1,364,893	5,062,897	8,348,766	10,795,688
1917-18*.....	6,728,206	5,089,053	21,013,073	32,830,332	43,020,339
1918-19*.....	6,247,389	5,114,121	19,730,700	31,092,210	40,721,480
1919-20*.....	7,216,310	5,330,069	21,028,229	33,574,608	43,973,947
1920-21*.....	8,973,990	4,691,968	22,307,821	35,973,779	46,212,721
1921-22*.....	8,617,296	4,515,192	19,520,578	32,653,066	41,732,557

\* Year ended 31st March.

3. **Speed of Trains.**—The speed of main line trains varies according to loads, grades, and other local conditions. Between Cape Town and Johannesburg and Durban and Johannesburg, the times for the journeys work out as follows:—

**SPEED OF MAIN LINE TRAINS.**

Section.	Miles.	Time in Hours.	Average Miles per Hour.
Cape Town-Johannesburg.....	956	44	21
Johannesburg-Cape Town.....	956	40½	23
Durban-Johannesburg.....	482	24	20
Johannesburg-Durban.....	482	23	21

These averages include all stops at stations and depots en route, but the actual running speed on short sections where the conditions are favourable is frequently 35 to 40 miles



per hour. Fast non-stop trains are run between Cape Town and Muizenberg and between Pretoria and Germiston. The speed of these trains averages 37 miles per hour for the whole journeys of 15½ miles and 36 miles respectively.

4. Length of Journeys.—Particulars in regard to the length of journeys between certain principal railway centres are contained in the subjoined table:—

**LENGTH OF JOURNEYS BETWEEN PRINCIPAL CENTRES IN MILEAGE AND TIME.**

Points between.			Points between.					
	Mileage.	Hours.		Mileage.	Hours.			
Bloemfontein-	Beira.....	1,493	94½	Johannesburg-	Beira.....	1,354	84½	
	Bulawayo.....	820	46½		Bloemfontein.....	262	11½	
	Cape Town.....	750	34		Bulawayo.....	681	36½	
	Durban.....	503	32		Cape Town.....	956	40½	
	East London.....	402	23		Durban.....	482	22½	
	Johannesburg.....	282	11½		East London.....	664	34½	
	Kimberley.....	105	4½		Kimberley.....	309	12½	
	Lourenco Marques.....	639	31		Lourenco Marques.....	394	19½	
	Port Elizabeth.....	450	21		Port Elizabeth.....	712	33	
	Pretoria.....	290	13½		Pretoria.....	45	1½	
	Victoria Falls.....	1,100	69½		Victoria Falls.....	961	59½	
Windhoek.....	1,131	62½	Windhoek.....	1,337	72½			
Cape Town-	Beira.....	2,035	116½	Kimberley-	Beira.....	1,388	84	
	Bloemfontein.....	750	36		Bloemfontein.....	105	4½	
	Bulawayo.....	1,362	68½		Bulawayo.....	715	35½	
	Durban.....	1,250	69½		Cape Town.....	647	27½	
	East London.....	587	49½		Durban.....	608	31	
	Johannesburg.....	956	44		East London.....	503	24	
	Kimberley.....	647	30½		Johannesburg.....	309	12½	
	Lourenco Marques.....	1,350	67		Lourenco Marques.....	703	45	
	Port Elizabeth.....	839	44½		Port Elizabeth.....	485	23½	
	(Via De Aar)	Port Elizabeth.....	664		40½	Pretoria.....	354	15½
	(Via N.C.C.E.)	Pretoria.....	1,001		46	Victoria Falls.....	995	59
Victoria Falls.....	1,642	91½	Windhoek.....	1,029	59½			
Windhoek.....	1,383	74½						
Durban-	Beira.....	1,998	109½	Port Elizabeth-	Beira.....	1,878	116½	
	Bloemfontein.....	503	33½		Bloemfontein.....	450	24½	
	Bulawayo.....	1,323	61½		Bulawayo.....	1,200	68½	
	Cape Town.....	1,250	71½		(Via De Aar)	Cape Town.....	839	46½
	East London.....	906	60		(Via N.C.C.E.)	Cape Town.....	664	43
	Johannesburg.....	482	24		Durban.....	953	59½	
	Kimberley.....	608	42½		East London.....	301	20½	
	Lourenco Marques.....	713	45½		Johannesburg.....	712	36	
	Port Elizabeth.....	953	60½		Kimberley.....	485	30½	
	Pretoria.....	510	24½		Lourenco Marques.....	1,089	67½	
	Victoria Falls.....	1,603	84½		Pretoria.....	740	37½	
Windhoek.....	1,634	101½	Victoria Falls.....	1,480	91½			
			Windhoek.....	1,221	75			
East London-	Beira.....	1,891	118½	Pretoria-	Beira.....	1,400	86½	
	Bloemfontein.....	402	22½		Bloemfontein.....	290	12½	
	Bulawayo.....	1,218	70½		Bulawayo.....	727	38	
	Cape Town.....	887	50½		Cape Town.....	1,001	43½	
	Durban.....	906	56½		Durban.....	510	24½	
	Johannesburg.....	664	35		East London.....	692	36	
	Kimberley.....	503	29½		Johannesburg.....	45	1½	
	Lourenco Marques.....	1,041	54½		Kimberley.....	354	15½	
	Port Elizabeth.....	301	21½		Lourenco Marques.....	349	16½	
	Pretoria.....	692	37½		Port Elizabeth.....	740	33½	
	Victoria Falls.....	1,483	94		Victoria Falls.....	1,007	61½	
Windhoek.....	1,282	84½	Windhoek.....	1,382	75½			

The longest continuous journey over the Union railways, both in distance and time, is from Klaver in the Cape Province to Somkele in Natal, the distance and time on journey being 1,555 miles and 123 hours respectively.

The railway to the north has now been extended about 575 kilometres beyond the Belgian Congo border at Sakanja, and a continuous journey can be made from Cape Town to Bukama, a distance of about 2,500 miles.

§ 7. Accidents.

Return of Accidents.—The subjoined table gives particulars of persons killed or injured on the railways during a series of years:—

**RAILWAYS—PERSONS (EUROPEANS AND OTHERS) KILLED OR INJURED IN ACCIDENTS, 1916 TO 1920-21.**

HEADING.	1916.			1917-1918.*			1918-1919.†			1919-20.†			1920-21.†		
	T.	E.	O.	T.	E.	O.	T.	E.	O.	T.	E.	O.	T.	E.	O.
<b>PASSENGERS.</b>															
Accidents to Trains, Rolling Stock, Permanent Way, etc.—															
Killed.....	2	1	1	16	—	16	7	—	7	6	5	1	14	—	14
Injured.....	41	35	6	60	16	44	61	13	48	26	16	10	63	14	46
Accidents from Other Causes, including accidents due to their own want of care or misconduct—															
Killed.....	10	5	5	11	8	8	16	9	7	28	13	15	15	8	7
Injured.....	42	24	18	39	18	21	29	15	14	48	29	19	38	19	19
<b>TOTAL—</b>															
Killed.....	12	6	6	27	8	19	23	9	14	34	18	16	29	8	21
Injured.....	83	59	24	99	34	65	90	28	62	74	45	29	101	33	68
Number of Casualties from Accidents to Trains, Rolling Stock, etc., per million passengers—															
Killed.....	·044	—	—	·312†	—	—	·136	—	—	·1	—	—	·453	—	—
Injured.....	·899	·1	—	1·074†	—	—	1·184	—	—	·43	—	—	1·578	—	—
<b>OTHER PERSONS.</b>															
Whist passing over Railway at Level Crossings—															
Killed.....	25	18	7	18	7	11	13	7	6	20	6	14	11	2	9
Injured.....	36	25	11	24	15	9	29	11	18	30	21	9	30	15	16
Trespassers—															
Killed.....	18	4	14	51	13	38	35	9	26	37	8	29	43	10	33
Injured.....	22	5	17	22	10	12	24	5	19	24	7	17	23	5	18
Suicides—															
Killed.....	2	1	1	3	8	—	7	6	1	10	8	2	4	2	2
Injured.....	—	—	—	1	—	1	—	—	—	1	—	1	1	1	—
Miscellaneous (not included above)—															
Killed.....	9	2	7	9	3	6	10	6	4	12	4	8	10	2	8
Injured.....	14	6	8	17	4	13	7	5	2	15	10	5	8	2	6
<b>TOTAL—</b>															
Killed.....	54	25	29	81	26	55	65	28	37	79	26	53	68	16	52
Injured.....	72	36	36	64	29	35	60	21	39	70	38	32	62	23	39
<b>GRAND TOTAL—</b>															
Killed.....	66	31	35	108	34	74	88	37	51	113	44	69	97	24	73
Injured.....	155	95	60	163	63	100	150	49	101	144	83	61	163	56	107

\* Fifteen months ended 31st March, 1918. † Twelve months ended 31st March.

§ 8. Passenger Fares and Goods and Live Stock Rates.

1. **Tariff Policy.**—The tariff policy of the South African Railways is governed by Section 12 of the *South Africa Act*, which provides as follows:—

The railways shall be administered on business principles, due regard being had to agricultural and industrial development within the Union, and promotion, by means of cheap transport, of the settlement of an agricultural and industrial population in the inland portions of all Provinces of the Union. So far as may be, the total earnings shall not be more than are sufficient to meet the necessary outlays for working, maintenance, betterment, depreciation, and the payment of interest due on capital, not being capital contributed out of railway or harbour revenue.

Prior to the establishment of the Union, the Government railways of the four Provinces were administered separately, those of the Cape of Good Hope and Natal being known as the *Cape Government Railways* and the *Natal Government Railways* respectively, and those of the Transvaal and the Orange Free State as the *Central South African Railways*.

2. **Passenger Fares.**—Three classes of accommodation are provided for passenger traffic, viz., first, second, and third. In addition, special native coaches are used, the fares for which are lower than third class fares for distances over 106 miles.

The fares in operation are (a) ordinary, (b) suburban, (c) trip bearer, (d) mileage coupon, (e) excursion, and (f) season—

- (a) First class ordinary single journey tickets taper down in cost from 2·7d. per mile to 1·37d. per mile. The cost of second class tickets is two-thirds of that of first class tickets. Third class tickets range from 1·4d. per mile to ·70d. per mile. Return fares are calculated at the single fare for the total distance, e.g. a ticket taken out for a return journey of 500 miles is equal to the single fare for 1 000 miles. Special native fares, available only by goods trains or by recognized native trains for certain specified classes of natives, vary in cost from ½d. to 1·4d. per mile.
- (b) Suburban fares, ordinary and season, operate in the vicinity of some of the largest towns, and are considerably lower than ordinary fares.
- (c) Trip bearer books, comprising 20 trips (10 return journeys), or 50 trips (25 return journeys), are issued at a reduction of 10 per cent. and 14 per cent. respectively on ordinary or special suburban fares.
- (d) Mileage coupon books are used mainly by commercial travellers and business men whose journeys are not sufficiently numerous to justify the outlay on a season ticket. Books of 500 and 1,500 coupons are issued, each coupon being good for one mile. A person using these coupons effects a considerable saving, in some instances as much as 30 per cent.
- (e) Excursion tickets, at a single fare for the return journey, are issued during holiday periods and during the winter months from inland centres to holiday resorts at the coast. (These excursion facilities were suspended for the duration of the War, but have been partially restored.)
- (f) Season tickets are issued:—
- (a) For travel within suburban areas; and
- (b) for commercial travellers and other persons travelling over long distances.

The following are the rates for certain distances:—

UNDER (a).

Distance.	Weekly.		Half-Monthly.		Monthly.	
	1st Class.	2nd Class.	1st Class.	2nd Class.	1st Class.	2nd Class.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
10 miles.....	0 11 9	0 9 6	1 3 3	0 18 9	2 2 0	1 13 9
20 miles.....	0 13 6	0 11 0	1 7 0	1 1 9	2 9 3	1 19 6
30 miles.....	0 15 6	0 12 3	1 11 0	1 4 6	2 16 3	2 4 6

Quarterly tickets are issued at three times the monthly rate, less 5 per cent.

Half-yearly tickets are issued at six times the monthly rate, less 10 per cent.

Yearly tickets are issued at twelve times the monthly rate, less 20 per cent.

UNDER (b).

Distance.	Annual.	
	1st Class.	2nd Class.
	£	£
200 miles.....	41	33
500 miles.....	60	48
1,000 miles.....	83	66
1,500 miles.....	98	78
2,000 miles.....	113	90
3,000 miles.....	138	110
4,000 miles.....	156	125

Half-yearly tickets are charged for at three-fourths of the annual rate levelled to the nearer £1.

Quarterly tickets are charged for at one-half of the annual rate levelled to the next higher £1.

The following table gives particulars of single fares for certain distances :—

**RAILWAYS—SINGLE PASSENGER FARES.**

Miles.	Class of Ticket.			
	1st.	2nd.	3rd.	Special Native. 3rd.
	s. d.	s. d.	s. d.	s. d.
5.....	1 2	0 9	0 7	0 7
10.....	2 3	1 6	1 2	1 2
25.....	5 3	3 6	2 9	2 9
50.....	10 6	7 0	5 3	5 3
100.....	21 0	14 0	10 6	10 6
250.....	51 0	34 3	25 0	13 11
500.....	99 3	66 0	47 0	27 10
750.....	143 9	96 0	70 3	41 8
1,000.....	185 6	123 9	93 9	55 7
1,500.....	259 6	173 0	135 6	83 4

3. **Parcels Rates.**—Parcels and excess luggage are conveyed per passenger train according to weight and distance. The following are a few examples of parcels rates :—

**RAILWAY PARCELS RATES.**

Miles.	½ lb.	2 lb.	5 lb.	25 lb.	50 lb.	100 lb.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
50.....	0 4	0 4	0 9	1 5	2 1	2 9
100.....	0 4	0 9	1 0	2 1	2 9	4 2
200.....	0 4	1 0	1 5	3 9	5 2	7 11
300.....	0 4	1 5	1 9	5 6	7 7	11 4
500.....	0 4*	1 5	2 5	8 7	11 4	17 3
1,000.....	0 11	1 10	3 9	13 5	17 11	26 6

Certain South African produce, such as bread, butter, meat, fruit, etc., is conveyed at half parcels rates.

4. **Live Stock Rates.**—Large animals are classified as cattle, horses, donkeys, mules, and foals.

Small animals are classified as calves under three months old, goats, pigs, sheep, buck, and ostrich chicks under four months old.

A minimum charge as for four head of large animals or twenty-one head of small animals per truck is levied.

**RAILWAY LIVE STOCK RATES.**

- (A) Rate per head (large animals).
- (B) Rate per 7 head (small animals).
- (C) Charge per short truck of 8 large animals per mile.
- (D) Charge per short truck of 49 small animals per mile.

Miles.	A.*	B.*	C.	D.
	s. d.	s. d.	d.	d.
100.....	8 2	8 2	7.84	6.86
250.....	16 2	16 2	6.20	5.43
500.....	28 4	28 4	5.44	4.76
750.....	37 11	37 11	4.85	4.24
1,000.....	42 6	42 6	4.08	3.57
1,500.....	63 9	63 9	4.08	3.57

NOTE.—No higher charge is levied than as for 10 head of large animals per short truck, irrespective of the number in excess of 10 head actually loaded in such trucks. Live stock will be accepted for transport under this arrangement solely at owner's risk.

\* The following reductions were notified in October, 1922: 50 miles, 1s. 4d.; 100 miles, 2s. 1d.; 200 miles, 3s. 5d.; 300 miles, 4s. 9d.; 400 miles, 6s. 0d.; 500 miles, 7s. 1d.; 600 miles, 8s. 11d.; 700 miles, 1s. 4d.

5. **Goods Rates.**—The rates charged for the conveyance of goods are divided broadly into four classes, viz., (a) Mileage, (b) Distribution, (c) Port, (d) Export and Coal Rates.

(a) **Mileage Rates.**—The following table shows mileage rates per 2,000 lb., and rates per ton per mile at certain distances for the various classes of traffic enumerated:—

**RAILWAY RATES PER TON PER MILE FOR GIVEN DISTANCES.**

Tarif No.	Examples of Commodities included in Tarif referred to.	50 Miles.	100 Miles.	250 Miles.	500 Miles.	750 Miles.	1,000 Miles.
1	Clothing, Liquors, Furniture, and General Luxuries..... Rate..	38s. 4d.	66s. 8d.	143s. 4d.	230s. 0d.	286s. 8d.	323s. 4d.
1	" " " " *Per ton	9·2d.	8d.	6·88d.	5·52d.	4·59d.	3·88d.
2	Machinery, Groceries, and Paints..... Rate..	29s. 4d.	48s. 4d.	105s. 0d.	166s. 8d.	210s. 0d.	238s. 4d.
2	" " " " *Per ton	6·8d.	5·8d.	5·04d.	4·00d.	3·36d.	2·86d.
3	Jams, Iron and Steel Rail and Tramway Track and Fuel Oil..... Rate..	21s. 8d.	38s. 4d.	80s. 0d.	120s. 8d.	158s. 4d.	178s. 4d.
3	" " " " *Per ton	5·2d.	4·6d.	3·84d.	3·04d.	2·58d.	2·14d.
4	Planed Timber, Pig-Iron, and Lead, Wool, and Trade Vehicles..... Rate..	16s. 8d.	30s. 0d.	66s. 8d.	105s. 0d.	131s. 8d.	148s. 4d.
4	" " " " *Per ton	4d.	3·6d.	3·2d.	2·52d.	2·11d.	1·78d.
5	Imported Rough Timber.... Rate..	10s. 0d.	18s. 4d.	43s. 4d.	68s. 4d.	90s. 0d.	105s. 0d.
5	" " " " *Per ton	2·4d.	2·2d.	2·08d.	1·64d.	1·44d.	1·26d.
	(Less 20 per cent, subject to a maximum deduction of 9d. per 100 lb.)						
5	Raw Materials in bulk for Manufacture, Galvanized Iron, Agricultural Implements, Butter, Eggs, Beer, S.A. Tea, Tobacco, Vinegar, Cheese, and Leather.. Rate..	13s. 4d.	23s. 4d.	53. 4d.	83s. 4d.	105s. 0d.	120s. 0d.
5	" " " " *Per ton	3·2d.	2·8d.	2·56d.	2d.	1·68d.	1·44d.
6	S.A. Sugar, Vegetables (less than 1 ton), Ginned Cotton, and S.A. Fruit (Dried).... Rate..	11s. 8d.	18s. 4d.	40s. 0d.	63s. 4d.	80s. 0d.	88s. 4d.
6	" " " " *Per ton	2·8d.	2·2d.	1·62d.	1·52d.	1·28d.	1·06d.
6	Vegetables, 1 ton lots..... Rate..	11s. 8d.	18s. 4d.	20s. 0d.	28s. 0d.	33s. 4d.	34s. 6d.
6	" " " " *Per ton	2·8d.	2·2d.	·96d.	·67d.	·53d.	·41d.
6	Fruit, S.A., fresh..... Rate..	11s. 8d.	18s. 4d.	31s. 8d.	50s. 0d.	63s. 4d.	63s. 4d.
6	" " " " *Per ton	2·8d.	2·2d.	1·52d.	1·2d.	1·01d.	·76d.
7	Grain and Products, S.A. Farm Seeds, Raw Cotton, Fencing Materials, Disinfectant, and Cattle Dip.... Rate..	8s. 4d.	10s. 0d.	18s. 6d.	28s. 0d.	33s. 4d.	34s. 6d.
7	" " " " *Per ton	2d.	1·2d.	·89d.	·67d.	·53d.	·41d.
7	Forage..... Rate..	8s. 4d.	10s. 0d.	17s. 0d.	23s. 0d.	29s. 6d.	34s. 6d.
7	" " " " *Per ton	2d.	1·2d.	·82d.	·55d.	·47d.	·41d.
8	Bricks, Stone, Ores, Fertilizers, and Mining Poles.... Rate..	5s. 11d.	7s. 8d.	12s. 2d.	18s. 10d.	20s. 1d.	21s. 4d.
8	" " " " *Per ton	1·42d.	·92d.	·58d.	·45d.	·32d.	·26d.
9	Coal..... Rate..	5s. 4d.	7s. 4d.	11s. 8d.	15s. 3d.	18s. 5d.	21s. 4d.
9	" " " " *Per ton	1·28d.	·88d.	·56d.	·37d.	·29d.	·26d.

\* Per ton per mile.

(b) **Distribution Rates.**—Certain important inland towns are known as "distribution centres," from which goods may be forwarded at special "distribution" rates, thus stimulating the development of commerce in the inland towns. The broad underlying basis of the "distribution" rates is as follows:—Rate to ultimate destination from the port

governing the distribution centre, plus 3d. per 100 lb. (which sum covers extra cartage and handling charges), less the rate from the same port to the distribution centre.

(c) *Port Rates.*—Special rates apply from the ports to inland towns. The following are the rates from the ports shown, to Johannesburg:—

**RAILWAY RATES PER TON AND PER TON PER MILE FROM CERTAIN PORTS TO JOHANNESBURG.**

(a) Rates per 2,000 lb., exclusive of cartage.

(b) Rates per ton (of 2,000 lb.) per mile.

TARIFF No.	PORT AND MILEAGE.							
	Table Bay (Cape Town), 958 miles.		Algoa Bay (Port Elizabeth), 713 miles.		Buffalo Harbour (East London), 666 miles.		Point (Durban), 486 miles.	
	(a)	(b)	(a)	(b)	(a)	(b)	(a)	(b)
	s. d.	d.	s. d.	d.	s. d.	d.	s. d.	d.
1.....	318 4	3-99	231 8	3-90	226 8	4-08	226 8	5-80
2.....	235 0	2-94	170 0	2-86	165 0	2-97	165 0	4-07
3.....	175 0	2-19	130 0	2-19	125 0	2-25	125 0	3-09
4.....	145 0	1-82	108 4	1-82	103 4	1-86	103 4	2-55
5.....	118 4	1-48	88 4	1-49	83 4	1-50	83 4	2-06
6.....	86 8	1-09	66 8	1-12	61 8	1-11	61 8	1-52

(d) *Export Rates and Bunker and Export Coal Rates.*

The following table shows (a) rates per 2,000 lb. and (b) rates per ton (of 2,000 lb.) per mile for the various classes of traffic enumerated:—

(1) *Export Traffic excepting Coal.*

**RAILWAY RATES PER TON AND PER TON PER MILE FOR CERTAIN EXPORT TRAFFIC.**

Commodity.	100 miles.	200 miles.	300 miles.	500 miles.	1,000 miles.
S.A. Grain.....(a)	8s. 4d.	12s. 6d.	15s. 0d.	15s. 0d.	15s. 0d.
".....(b)	1-00d.	-75d.	-60d.	-36d.	-18d.
S.A. Forage.....(a)	8s. 4d.	12s. 6d.	15s. 0d.	15s. 0d.	15s. 0d.
".....(b)	1-00d.	-75d.	-60d.	-36d.	-18d.
S.A. Fruit.....(a)	18s. 4d.	20s. 0d.	20s. 0d.	21s. 0d.	25s. 0d.
".....(b)	2-20d.	1-20d.	-80d.	-50d.	-30d.
S.A. Tobacco.....(a)	10s. 0d.	16s. 0d.	21s. 0d.	28s. 0d.	34s. 6d.
".....(b)	1-2d.	-96d.	-84d.	-67d.	-41d.
S.A. Minerals, e.g. Antimony, Lead Ore, Corundum Ore, Iron Oxide, Talc Powder, and Manganese Ore.....(a)	7s. 4d.	9s. 10d.	12s. 0d.	15s. 3d.	21s. 4d.
".....(b)	-88d.	-59d.	-48d.	-37d.	-26d.
Iron Ore.....(a)	3s. 3d.	6s. 5d.	9s. 3d.	14s. 9d.	21s. 4d.
".....(b)	-44d.	-39d.	-37d.	-35d.	-26d.
Crude "Asbestos," Copper and Tin Ore, Graphite and Kieselguhr.....(a)	7s. 4d.	9s. 10d.	12s. 0d.	15s. 3d.	21s. 4d.
".....(b)	-88d.	-59d.	-48d.	-37d.	-26d.

(2) *Bunker and Export Coal.*

Special rates are in force for export and bunker coal from all collieries to the ports.

The following are a few examples of the rates charged, in pence per ton of 2,000 lb. :—

**RAILWAY RATES IN PENCE PER 2,000 LB. FOR BUNKER AND EXPORT COAL.**

From.	BUNKER.		EXPORT.	
	To Table Bay (Cape Town).	To L. Marques.	To Table Bay (Cape Town).	To L. Marques.
Witbank.....	204d.	167d.	240d.	185d.
From.	To Point, Natal.	To Table Bay (Cape Town).	To Point, Natal.	To Table Bay (Cape Town).
Hatting Spruit.....	165·5d.	206d.	183·5d.	242d.
Hlobane.....	176d.	207d.	194d.	243d.

Subject to such conditions and on production of such proof as may be prescribed from time to time by the Administration, a rebate is granted in respect of coal shipped as cargo oversea beyond South or South-West Africa.

This rebate is also allowed on coal utilized in bunkering ships carrying export cargo equal to three-quarters or more of the ships' carrying capacity from Union ports and Lourenco Marques to places oversea beyond South or South-West Africa. The rebates are :—

Table Bay.....	5s. 7d. per ton of 2,000 lb.
Point.....	9s. 8d. " " " "
Lourenco Marques.....	9s. 8d. " " " "

**§ 9. Railway Finance.**

1. **Earnings.**—The subjoined tables, (i), (ii), (iii), (iv), (v), (vi), and (vii), give particulars of earnings of the South African Railways under various headings for various years. A graph [No. (viii)] is included, showing the variations of net revenue in relation to capital :—

(i) **RAILWAY EARNINGS UNDER MAIN HEADS, YEARS 1916 TO 1920-21.**

Heads.	1916.	1916-17.*	1917-18.*	1918-19.*	1919-20.*	1920-21.*
	£	£	£	£	£	£
Passengers.....	3,443,323	3,483,718	3,801,928	4,210,159	5,350,809	6,072,694
Parcels.....	338,479	343,999	369,838	397,235	533,013	634,790
Goods and Minerals (other than Coal).....	5,808,660	5,715,453	5,932,736	6,517,038	8,278,764	9,804,429
Coal.....	2,815,244	3,100,585	3,152,412	3,083,204	3,665,742	5,538,604
Live Stock.....	466,683	497,013	524,921	520,315	726,744	683,028
Other Traffic Receipts.....	77,985	80,060	80,477	80,548	80,088	232,338
Miscellaneous.....	306,743	364,750	453,548	473,780	534,626	652,574
<b>TOTAL.....£</b>	<b>13,257,067</b>	<b>13,586,478</b>	<b>14,315,860</b>	<b>15,232,279</b>	<b>19,169,780</b>	<b>23,618,457</b>

\* Year ended 31st March.

(ii) **RAILWAY EARNINGS—PERCENTAGE OF TOTAL EARNINGS UNDER EACH HEAD, 1916 TO 1920-21.**

Heads.	1916.	1916-17.*	1917-18.*	1918-19.*	1919-20.*	1920-21.*
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Passengers.....	25·97	25·64	26·68	27·55	27·91	25·71
Parcels.....	2·55	2·53	2·58	2·60	2·78	2·69
Goods and Minerals (other than Coal).....	43·82	42·07	41·44	42·64	43·19	41·51
Coal.....	21·24	22·81	22·02	20·17	19·12	23·45
Live Stock.....	3·52	3·66	3·67	3·41	3·70	2·89
Other Traffic Receipts.....	·59	·59	·56	·53	·42	0·99
Miscellaneous.....	2·31	2·69	3·17	3·10	2·79	2·76
<b>TOTAL.....</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>

\* Year ended 31st March.

## (iii) RAILWAYS—COACHING, GOODS, COAL, LIVE STOCK AND MISCELLANEOUS RECEIPTS, 1910 TO 1921-22.

Year.	Coaching.	Goods.	Coal.	Live Stock.	Miscellaneous.	Total.
	£	£	£	£	£	£
1910.....	3,200,502	6,463,181	2,017,130	384,802	291,937	12,357,532
1911.....	3,495,211	6,150,428	2,014,242	388,595	280,789	12,329,265
1912.....	3,724,981	6,130,732	1,969,182	388,086	273,376	12,486,357
1913.....	3,815,913	6,044,613	1,890,799	379,287	258,143	12,388,755
1914.....	3,631,134	5,396,131	1,842,809	448,995	254,135	11,573,204
1915.....	3,888,887	5,651,294	1,776,100	596,983	284,626	12,197,890
1916.....	3,859,737	5,808,660	2,815,244	466,683	306,743	13,257,067
Three months ended 31st March, 1917..	998,267	1,446,053	820,111	140,877	155,726	3,561,034
*1917-1918.....	4,252,243	5,932,736	3,152,412	524,921	453,548	14,315,860
*1918-1919.....	4,687,942	6,517,038	3,083,204	520,315	473,780	15,282,279
*1919-1920.....	5,963,909	6,278,764	3,665,743	726,744	534,626	19,163,786
*1920-1921.....	6,939,822	9,804,429	5,538,604	683,028	652,574	23,618,457
*1921-1922.....	6,239,107	9,431,712	3,818,868	664,601	653,071	20,807,359

\* Year ended 31st March.

## (iv) RAILWAYS—COACHING RECEIPTS PER AVERAGE OPEN MILE, PER TRAIN MILE AND PER PASSENGER JOURNEY, 1916 TO 1920-21.

Year.	Average Open Mileage.	Number of Passenger Train Miles.	Number of Passenger Journeys.	Coaching Receipts.			
				Total.	Per Open Mile.	Per Train Mile.	Per Passenger Journey.
1916.....	9,209	9,675,519	45,007,046	£ 8,859,737	£ 419	d. 95.74	d. 20.31
1917-18.....	9,473	9,018,279	51,178,883	4,252,243	449	113.06	19.94
1918-19.....	9,520	8,470,485	51,493,889	4,687,942	492	132.83	21.85
1919-20.....	9,542	9,796,596	60,732,100	5,963,909	625	146.10	23.57
1920-21.....	9,559	11,126,722	64,069,138	6,939,822	726	149.68	26.00

## (v) RAILWAYS—GOODS, COAL AND LIVE STOCK RECEIPTS, PER OPEN MILE, PER GOODS TRAIN MILE, AND PER TON CARRIED, 1916 TO 1920-21.

Year.	Average Open Mileage.	Number of Goods Train Miles.	Number of Tons Carried.	Goods Receipts.			
				Total.	Per Open Mile.	Per Train Mile.	Per Ton Carried (Goods and Coal).
1916.....	9,209	23,808,782	13,418,508	£ 9,090,587	£ 987	d. 81.63	d. 154.24
1917-18.....	9,473	23,812,053	13,936,502	9,610,069	1,015	86.91	156.45
1918-19.....	9,520	23,621,725	14,111,136	10,120,557	1,062	105.60	163.28
1919-20.....	9,542	23,778,012	14,799,405	12,671,251	1,328	127.90	205.53
1920-21.....	9,559	24,847,057	16,434,541	16,026,001	1,677	154.79	234.03

\* Exclusive of live stock tonnage.



(vi) EARNINGS UNDER EACH HEAD PER AVERAGE OPEN MILE, PER TRAIN MILE AND PER CENT. OF TOTAL EARNINGS, YEARS 1913 TO 1920-21.

Year and Description.	Passengers.	Parcels.	Goods.	Coal.	Live Stock.	Other Traffic.	Miscellaneous.	Total.
Per Average Open Mile :	£	£	£	£	£	£	£	£
1913.....	423	45	756	237	47	10	32	1,550
1914.....	379	43	640	219	53	9	30	1,373
1915.....	396	40	648	204	68	9	33	1,398
1916.....	374	37	631	306	51	8	33	1,440
*1917-18.....	402	39	626	333	55	9	48	1,512
*1918-19.....	442	42	633	324	54	9	50	1,604
*1919-20.....	561	56	868	384	76	8	56	2,009
*1920-21.....	635	67	1,026	579	72	24	68	2,471
Per Train Mile :—	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
1913.....	2 2-7	0 2-9	3 11-8	1 2-9	0 3-0	0 0-6	0 2-0	8 1-9
1914.....	2 1-8	0 2-9	3 7-6	1 2-9	0 3-6	0 0-6	0 2-1	7 9-5
1915.....	2 3-9	0 2-8	3 9-6	1 2-3	0 4-8	0 0-6	0 2-3	8 2-3
1916.....	2 0-7	0 2-4	3 5-6	1 8-2	0 3-3	0 0-6	0 2-2	7 11-0
*1917-18.....	2 3-8	0 2-7	3 7-4	1 11-0	0 3-8	0 0-6	0 3-3	8 8-6
*1918-19.....	2 8-4	0 3-1	4 2-3	1 11-8	0 4-1	0 0-6	0 3-6	9 5-9
*1919-20.....	3 2-2	0 3-8	4 11-2	2 2-2	0 5-2	0 0-6	0 3-8	11 5-0
*1920-21.....	3 4-5	0 4-2	5 5-4	3 1-0	0 4-6	0 1-6	0 4-3	13 1-6
Per cent. of Total Earnings :—								
1913.....	27-26	2-91	48-79	15-26	3-06	0-63	2-09	100-00
1914.....	27-67	3-14	46-63	15-92	3-88	0-67	2-19	100-00
1915.....	28-84	2-89	46-33	14-56	4-89	0-66	2-34	100-00
1916.....	25-97	2-56	43-32	21-24	3-52	0-50	2-31	100-00
*1917-18.....	26-56	2-58	41-44	22-02	3-67	0-56	3-17	100-00
*1918-19.....	27-55	2-60	42-64	20-18	3-40	0-53	3-10	100-00
*1919-20.....	27-91	2-78	43-19	19-12	3-79	0-42	2-79	100-00
*1920-21.....	25-71	2-69	41-51	23-45	2-89	0-99	2-76	100-00

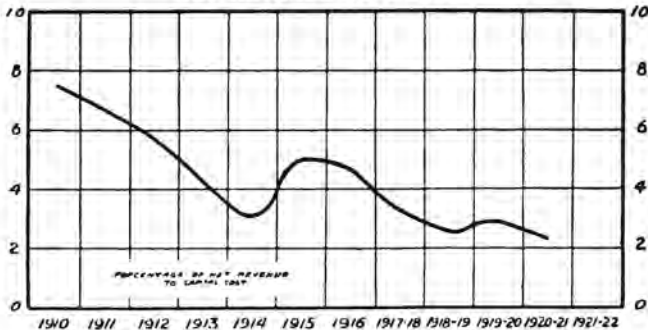
\* Year ended 31st March.

(vii) RAILWAYS—NET REVENUE, NET REVENUE PER CENT. OF CAPITAL AND NET REVENUE PER AVERAGE OPEN MILE WORKED AND PER TRAIN MILE RUN, CALENDAR YEARS 1910 TO 1916, AND FINANCIAL YEARS 1917-18, AND SUCCEEDING YEARS.

Year.	Net Revenue.	Per Cent. of Capital.	Per Average Open Mile.	Per Train Mile.
	£	£ s. d.	£	d.
1910.....	5,565,905	7 9 11	804	56-65
1911.....	5,083,302	6 12 2	898	47-61
1912.....	4,485,564	5 13 1	590	38-21
1913.....	3,309,056	4 2 3	414	26-16
1914.....	2,651,462	3 0 3	315	21-42
1915.....	4,216,432	4 19 10	481	33-93
1916.....	4,090,911	4 13 0	444	29-32
*1917-18.....	3,034,773	3 5 8	320	22-19
*1918-19.....	2,317,575	2 9 8	243	17-89
*1919-20.....	2,750,783	2 18 2	288	19-66
*1920-21.....	2,260,449	2 6 4	236	15-08
*1921-22.....	2,471,741	2 8 6	258	18-17

\* Year ended 31st March.

(viii) RAILWAYS—GRAPH ILLUSTRATING VARIATIONS IN PERCENTAGE OF NET REVENUE TO CAPITAL.



\* Year ended 31st March.

EXPLANATION OF THE GRAPH.—The vertical height of each square represents 2 per cent., and the base of each square an interval of one year.

2. **Working Expenditure.**—Particulars as to the working and recurrent expenditure of the South African Railways are given under various headings in the subjoined tables (i), (ii), (iii), and (iv), for the years stated in each case:—

(i) **RAILWAYS—TOTAL WORKING EXPENDITURE, 1915 TO 1920-21.**

Expenditure.	1915.	1916.	1917-18.*	1918-19.*	1919-20.*	1920-21.*
	£	£	£	£	£	£
Maintenance of Way and Works.	1,351,044	1,598,099	1,851,040	2,063,156	2,731,800	3,453,259
Maintenance of Rolling Stock:—						
Locomotives.....	785,791	897,004	1,010,478	1,141,804	1,531,833	2,002,401
Motor Vehicles.....	15	—	—	—	—	—
Coaching Stock.....	289,888	304,816	363,345	386,609	474,926	545,754
Goods Stock.....	393,535	450,360	567,885	602,698	823,345	1,037,917
Running Expenses.....	2,068,563	2,394,485	2,515,693	2,641,455	3,463,223	4,287,259
Traffic Expenses:—						
Superintendence and Station Expenses.....	1,735,106	1,933,829	2,218,009	2,433,517	3,389,619	4,271,131
Advertising.....	14,337	10,826	10,172	10,214	12,080	31,667
Compensation.....	43,661	58,092	61,968	70,257	90,462	148,718
General Charges.....	216,439	203,560	223,054	243,568	314,011	378,902
Superannuation.....	164,805	180,090	206,452	197,881	244,092	279,729
Cartage.....	208,693	220,570	257,710	292,836	380,325	447,143
<b>TOTAL ORDINARY WORKING EXPENDITURE.....£</b>	<b>7,271,877</b>	<b>8,251,731</b>	<b>9,285,815</b>	<b>10,083,995</b>	<b>13,455,716</b>	<b>16,883,880</b>
Relaying, Strengthening, etc... Depreciation:—	227,429	134,542	93,844	155,280	196,120	155,211
Permanent Way and Works... Rolling Stock.....	184,544 178,792	} 505,500	1,438,009	1,441,598	1,474,167	1,607,822
<b>TOTAL WORKING EXPENDITURE.....£</b>	<b>7,862,642</b>	<b>8,891,773</b>	<b>10,817,668</b>	<b>11,680,873</b>	<b>15,126,003</b>	<b>18,646,913</b>
Balance (being Surplus of Revenue over Expenditure).....	4,335,243	4,365,294	3,498,191	3,601,406	4,043,783	4,971,544
<b>TOTAL.....£</b>	<b>12,197,890</b>	<b>13,257,067</b>	<b>14,315,859</b>	<b>15,282,279</b>	<b>19,160,786</b>	<b>23,618,457</b>

\* Year ended 31st March.

NOTE.—The following are figures in respect of the three months ended 31st March, 1917:—

Total ordinary working expenditure.....	£2,100,254
Total working expenditure.....	2,348,937
Balance (being surplus of Revenue over Expenditure).....	1,212,097

**TOTAL..... £3,561,034**

## (ii) RAILWAYS—WORKING EXPENDITURE UNDER EACH MAIN HEAD PER AVERAGE OPEN MILE AND PER TRAIN MILE, 1916 TO 1920-21.

Head of Expenditure.	Per Average Open Mile.					Per Train Mile.				
	1916.	1917-18.*	1918-19.*	1919-20*	1920-21.*	1916.	1917-18.*	1918-19.*	1919-20*	1920-21.*
	£	£	£	£	£	s. d.	s. d.	s. d.	s. d.	s. d.
Maintenance of Permanent Way and Works.....	174	195	216	286	361	0 11·4	1 1·5	1 4·0	1 7·5	1 11·0
Maintenance of Rolling Stock—										
Locomotives....	97	107	120	161	210	0 6·4	0 7·4	0 8·8	0 11·0	1 1·4
Coaching Stock..	83	38	41	50	57	0 2·2	0 2·7	0 2·9	0 3·4	0 3·7
Goods Stock....	49	60	63	86	109	0 3·2	0 4·2	0 4·6	0 5·9	0 6·9
Running Expenses.	260	266	277	363	448	1 5·2	1 6·8	1 8·4	2 0·8	2 4·6
Traffic Expenses—										
Superintendence and Station Expenses.....	210	234	255	355	447	1 1·9	1 4·2	1 6·8	2 0·2	2 4·6
Advertising.....	1	1	1	1	3	0 0·1	0 0·1	0 0·1	0 0·1	0 0·2
Compensation....	8	7	7	9	15	0 0·4	0 0·5	0 0·5	0 0·6	0 1·0
General Charges...	42	45	47	59	69	0 2·7	0 3·1	0 3·4	0 4·0	0 4·4
Cartage.....	24	27	31	40	47	0 1·6	0 1·9	0 2·3	0 2·7	0 3·0
<b>TOTAL (excluding Renewals and Relaying, etc.)</b>	<b>896</b>	<b>980</b>	<b>1,058</b>	<b>1,410</b>	<b>1,766</b>	<b>4 11·1</b>	<b>5 7·9</b>	<b>6 5·8</b>	<b>8 0·2</b>	<b>9 4·7</b>
Relaying, Strengthening, etc.....	15	10	16	21	16	0 1·0	0 0·7	0 1·2	0 1·4	0 1·0
Renewals—										
Rolling Stock... Permanent Way.	55	153	151	154	169	0 8·6	0 10·5	0 11·1	0 10·5	0 10·7
<b>TOTAL (including Renewals and Relaying, etc.)</b>	<b>966</b>	<b>1,143</b>	<b>1,225</b>	<b>1,585</b>	<b>1,951</b>	<b>5 3·7</b>	<b>6 7·1</b>	<b>7 6·1</b>	<b>9 0·1</b>	<b>10 4·4</b>

\* Year ended 31st March.

## (iii) RAILWAYS—WORKING EXPENDITURE UNDER EACH MAIN HEAD PER CENT. OF EARNINGS AND EXPENDITURE, 1916 TO 1920-21.

Head of Expenditure.	Per Cent. of Total Earnings.					Per Cent. of Expenditure.				
	1916.	1917-18.*	1918-19.*	1919-20.*	1920-21.*	1916.	1917-18.*	1918-19.*	1919-20.*	1920-21.*
	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Maintenance of Permanent Way and Works.....	12·05	12·93	13·50	14·25	14·62	17·97	17·12	17·66	18·06	18·52
Maintenance of Rolling Stock—										
Locomotives.....	6·77	7·06	7·47	7·99	8·48	10·09	9·34	9·77	10·13	10·74
Coaching Stock.....	2·30	2·54	2·53	2·48	2·31	3·43	3·36	3·31	3·14	2·93
Goods Stock.....	3·40	3·97	3·94	4·30	4·40	5·06	5·25	5·16	5·44	5·57
Running Expenses.....	18·06	17·57	17·28	18·06	18·15	26·93	23·26	22·66	22·90	22·99
Traffic Expenses—										
Superintendence and Station Expenses.....	14·59	15·49	15·02	17·08	18·09	21·75	20·50	20·89	22·41	22·00
Advertising.....	·08	·07	·07	·06	·13	·12	·09	·08	·08	·17
Compensation.....	·44	·43	·46	·47	·63	·65	·57	·60	·80	·80
General Charges.....	2·89	3·00	2·89	2·92	2·79	4·31	3·97	3·77	3·69	3·53
Cartage.....	1·66	1·00	1·02	1·98	1·89	2·49	2·38	2·50	2·51	2·40
<b>TOTAL (excluding Renewals and Relaying, etc.)</b>	<b>62·24</b>	<b>64·86</b>	<b>65·98</b>	<b>70·19</b>	<b>71·40</b>	<b>92·80</b>	<b>85·84</b>	<b>86·32</b>	<b>88·96</b>	<b>90·55</b>
Relaying, Strengthening, etc.	1·02	·66	1·02	1·02	0·66	1·51	·87	1·33	1·20	·83
Renewals—										
Rolling Stock... Permanent Way.....	3·81	10·04	9·43	7·69	6·80	5·69	13·29	12·34	9·75	8·62
<b>TOTAL (including Renewals and Relaying, etc.)</b>	<b>67·07</b>	<b>75·56</b>	<b>76·43</b>	<b>78·90</b>	<b>78·95</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>	<b>100·00</b>

\* Year ended 31st March.

## (iv) RAILWAYS—WORKING EXPENSES, TOTAL, PER AVERAGE OPEN MILE WORKED AND PER TRAIN MILE RUN, YEARS 1910 TO 1921-22.

Year.	Working Expenses.	Per Average Open Mile.	Per Train Mile.
	£	£	s. d.
1910.....	6,862,684	992	5 9·8
1911.....	7,441,568	1,026	5 10·0
1912.....	8,112,874	1,067	5 9·1
1913.....	8,964,690	1,122	5 10·9
1914.....	8,840,208	1,049	5 11·4
1915.....	7,862,642	901	5 3·4
1916.....	8,891,773	966	5 3·7
1917-18*.....	10,817,669	1,143	6 7·1
1918-19*.....	11,680,873	1,225	7 6·1
1919-20*.....	15,126,003	1,585	9 0·1
1920-21*.....	18,646,913	1,951	10 4·4
1921-22*.....	17,214,275	1,801	10 6·5

\* Year ended 31st March.

3. **Expenditure from Capital.**—The subjoined table gives particulars as to capital expenditure on the South African Railways from 31st May, 1910, together with the interest paid, the profit and loss, and the percentage of profit and loss to the total expenditure from capital:—

## RAILWAYS—CAPITAL, INTEREST ON CAPITAL (OPEN LINES), PROFIT AND LOSS.\*

Period.	Capital Expenditure to end of Period.	Interest.	Profit and Loss (-).	Percentage of Profit or Loss to Capital.
	£	£	£	Per cent.
1910†.....	75,100,228	1,344,866	2,019,965	2·56
1911.....	77,576,357	2,426,973	2,636,329	3·40
1912.....	79,371,503	2,619,470	1,866,094	2·35
1913.....	82,574,580	2,751,314	571,242	0·69
1914.....	84,777,765	2,855,986	— 191,024	0·23
1915.....	86,990,040	2,919,552	1,310,380	1·52
1916‡.....	91,376,156	3,102,162	988,750	1·08
1917§.....	92,080,119	778,669	354,880	0·39
1917-18  .....	92,936,714	3,216,525	— 181,752	0·20
1918-19  .....	93,908,143	3,213,842	— 896,267	0·95
1919-20  .....	96,408,435	3,310,725	— 559,942	0·58
1920-21  .....	99,821,886	3,533,420	— 1,272,972	1·28
1921-22¶.....	103,356,073	3,864,472	— 1,392,731	1·34

\* Amount carried to distribution account.

† Represents the seven months from date of Union (31st May, 1910) to 31st December, 1910.

‡ For the year 1915 no provision for depreciation was made in working expense, but a special appropriation of £958,497 was made to the Renewal Fund at 31st March, 1916, from the profit for the year.

§ Three months ended 31st March, 1917.

|| Year ended 31st March.

4. **Cost of Construction.**—The subjoined tables give particulars as to the cost of construction of sections of lines of the South African Railways. Table (i) gives the cost of new lines completed since the establishment of the Union. Table (ii) gives examples of lines of 3 ft. 6 in. gauge constructed at a high average cost per mile open. Table (iii) gives examples of lines of 3 ft. 6 in. gauge constructed at a low average cost per mile open. Table (iv) gives the average cost per mile of lines of 2 ft. gauge completed or under construction. The average cost per mile open of lines of 3 ft. 6 in. gauge in the Union is £8,035, and of lines of 2 ft. gauge, £2,798.

## (i) RAILWAYS—COST OF NEW LINES COMPLETED FROM THE ESTABLISHMENT OF THE UNION TO THE 31st MARCH, 1921.

Year of Opening.	Line.	Length.	Expenditure since 31/5/10.	Total Expenditure to 31/3/21.
	3 ft. 6 in. Gauge :—	Miles. Ch.	£	£
1913.	George-Oudtshoorn.....	45 30	404,343	462,003
1912.	Wolsley-Ceres.....	10 05	112,157	124,383
1911.	Eende Kuil-Graafwater.....	48 12	43,552	118,242
1912.	Schoombie-Hofmeyr.....	31 06	86,821	91,163
1910.	Riverside-Malenge.....	8 20	109,477	179,775
1912.	Malenge-Llewellyn.....	19 51		
"	Llewellyn-Franklin.....	4 66	25,977	25,977
"	Lady Grey-Gairtney.....	22 69	54,818	115,330
"	Cape Flats-Ottery Road-Diep River...	2 50	10,602	53,452
1911.	Pietersburg-Bandolier Kop.....	71 0	117,854	225,501
"	Lichtenburg District.....	141 20	235,193	468,344
"	Ermelo-Piet Retief.....	70 07	142,144	240,737
1912.	Newington-Tzaneen.....	127 44	597,034	605,885
"	Tzaneen-Groot Letaba.....	2 18	11,868	11,868
1913.	Nelspruit-Sabie.....	55 44	385,579	387,787
1914.	Sabie-Graakop.....	21 46		
1912.	Standerton-Vrede.....	44 29	167,066	196,025
1915.	Benoni-Welgedacht.....	16 39	61,629	123,784
1911.	Alberton Branch.....	3 29	14,284	14,306
1912.	Waterworks-Wepener.....	57 79	117,048	198,114
1911.	Bethlehem-Reitz.....	35 44	141,445	147,082
"	Howick Branch.....	2 44	8,831	8,831
1915.	Graafwater-Klaver.....	30 65	150,185	150,185
"	Caledon-Protem.....	53 24	199,738	199,738
1913.	Butterworth-Idutywa.....	27 74	89,552	108,795
1914.	Bandolier Kop-Messina.....	96 10	357,443	357,443
1915.	Tzaneen-Zoekmakars.....	53 08	366,277	366,277
1912.	Zeerust-Buhrmans Drift.....	30 56	87,201	87,201
1913.	Piet Retief-Vryheid.....	77 62	320,431	320,431
1914.	Reitz-Frankfort.....	46 28	203,882	203,882
1913.	Lindley Road-Senekal.....	27 45	93,564	93,564
1914.	Greytown-Krantzkop.....	31 53	123,267	123,267
"	Winterton-Bergville.....	18 05	75,698	75,698
1916.	Idutywa-Umtata.....	70 56	278,645	278,645
1915.	Motkop-Glen Almond.....	17 27	59,061	59,061
"	Aliwal North-Zastron.....	55 33	237,729	237,729
"	Carnarvon-Twee Rivieren-Calvinia....	194 17	542,939	545,810*
1916.	Delarey-Pudimoe.....	79 40	261,476	261,476
"	Bethal-Volksrust.....	106 12	397,749	397,749
1915.	Fauresmith-Koffyfontein.....	32 57	72,084	72,084
"	Westleigh-Vierfontein.....	52 39	162,719	162,719
"	Vierfontein-Bothaville.....	23 04	64,729	64,729
1915.	Dalton-Glenside.....	11 65	34,098	34,098
"	Schroeders-Burnahill.....	14 79	57,092	57,092
"	Donnybrook-Underberg.....	38 59	127,767	127,767
"	Gingindlovu-Eshowe.....	19 75	149,721	149,721
1917.	Prieska-Upington South.....	142 37	301,257	301,257
1915.	Upington South-Border.....	172 30	262,797	262,797
"	Border-Kalkfontein.....		229,705	229,705
	TOTAL.....	2,367 52	8,184,528	9,127,508

\* Construction completed 31st October, 1921.

Expenditure at that date, £545,810.

## (i) RAILWAYS—COST OF NEW LINES COMPLETED FROM THE ESTABLISHMENT OF THE UNION TO THE 31st MARCH, 1921—continued.

Year of Opening.	Line.	Length.	Expenditure since 31/5/10.	Total Expenditure to 31/3/21.
	2 ft. Gauge :—	Miles. Ch.	£	£
1913.	Hopefield-Hoerjies Bay.....	44 62	78,155	84,464
1911.	Alfred County Railway.....	} 24 60	32,086	142,533
" "	Port Shepetone-Paddock.....			
" "	Umlaas Road-Mid Illovo.....	26 60	21,946	69,370
1914.	Gamtoos-Patentie.....	16 64	71,461	71,461
" "	Ixopo-Madonella.....	18 11	45,011	45,011
1917.	Paddock-Harding.....	51 55	140,261	140,261
	TOTAL.....	182 72	388,920	553,100
	GRAND TOTAL.....	2,550 44	8,573,448	9,877,737

## (ii) RAILWAYS—EXAMPLES OF LINES CONSTRUCTED AT LARGE CAPITAL EXPENDITURE PER MILE OPEN.

Line.	Length.	Cost.	Average Cost per Mile.*
	Miles.	£	£
3 ft. 6 in. Gauge :—			
Salt River-Wynberg (inclusive).....	6	111,007	18,501
Braamfontein-Germiston.....	10	173,772	17,377
Rand Mines.....	16	208,072	13,005
Wynberg-Simonstown.....	14	175,326	12,523
Point-Transvaal Border.....	309	3,800,480	12,299
Buffalo Harbour-Kingwilliamstown and Queenstown.....	166	1,696,934	10,222
Vereeniging-Ressano Garcia.....	382	3,816,147	9,990
Capetown-Worcester, via Stellenbosch.....	123	1,217,907	9,902
Port Elizabeth-Cradock.....	181	1,752,424	9,682

\* Average cost of all 3 ft. 6 in. lines per mile, £8,035, including new works on open lines up to 31.12.19.

## (iii) RAILWAYS—EXAMPLES OF LINES CONSTRUCTED AT SMALL CAPITAL COST PER MILE OPEN.

Line.	Length.	Cost of Construction.	Average Cost per Mile.*
	Miles.	£	£
<b>3 ft. 6 in. Gauge:—</b>			
Modderpoort—Ladybrand.....	7	25,134	2,591
Thornville Junction—Richmond.....	17	61,547	3,620
Ermelo—Tendega.....	147	561,168	3,818
Schroeders-Bergers Hill.....	15	57,092	3,806
Eende Kuil—Klaver.....	79	268,427	3,398
Hamilton—Beaconsfield.....	100	369,331	3,693
Bethal—Volksrust.....	106	397,749	3,752
Welverdiend—Lichtenburg—Pudimoe....	222	729,820	3,298
Springfontein—Fauresmith.....	56	159,899	2,855
Waterworks—Wepener.....	58	198,114	3,416
Lindley Road—Senekal.....	28	93,564	3,342
Hutchinson—Carnarvon.....	86	228,828	2,661
Pietersburg—Bandolier Kop.....	71	225,501	3,176
Wonderboom Junction—Rustenburg....	61	152,163	2,495
Donnybrook—Underberg.....	39	127,767	3,276
Mafeking—West Rand Junction.....	168	421,766	2,511
Merrivale—Howick.....	3	8,831	2,944
Dalton—One House Farm.....	12	34,098	2,842
Schoombie—Hofmeyr.....	31	91,163	2,941
Bowkers Park—Tarkastad.....	33	88,327	2,677
Barkly Bridge—Alexandria.....	54	132,857	2,460
Fauresmith—Koffiesfontein.....	33	72,084	2,184

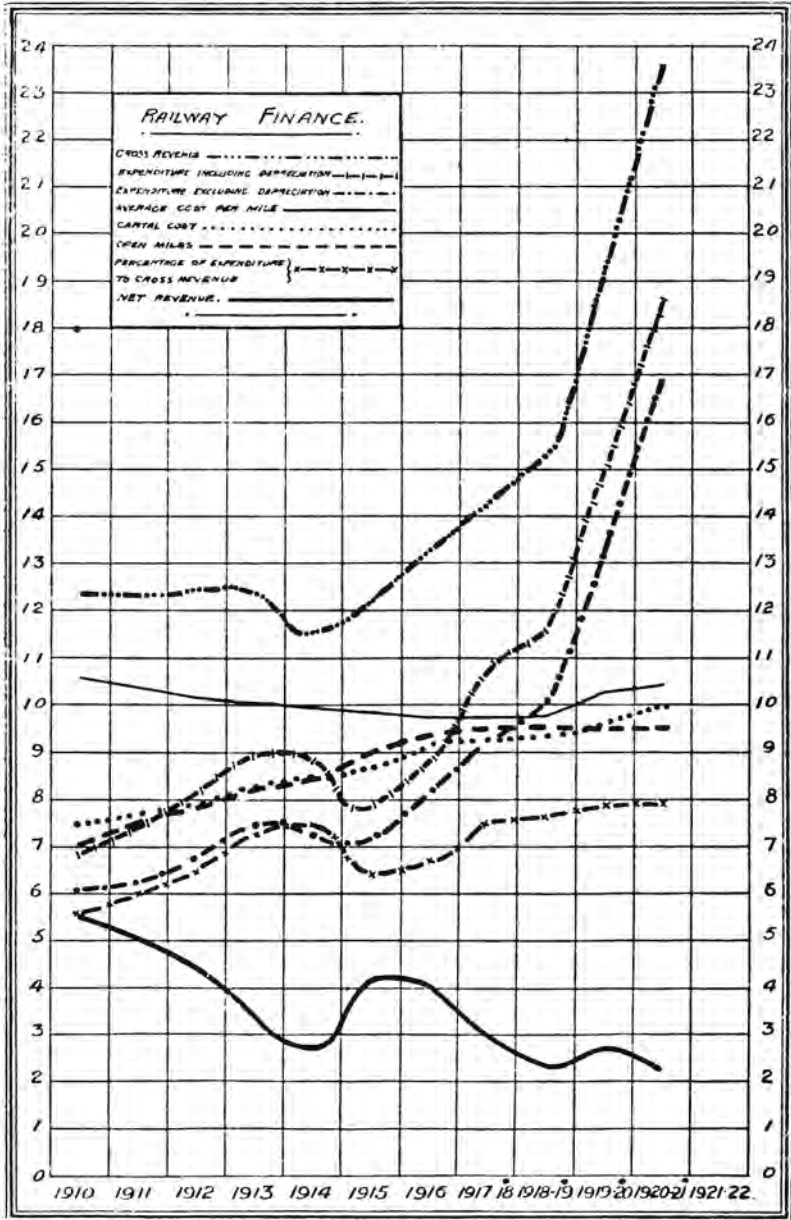
\* Average cost of all 3 ft. 6 in. lines per mile, including New Works up to 31.12.19, £8,035.

## (iv) RAILWAYS—EXAMPLES OF COST OF LINES OF 2-FT. GAUGE.

Line.	Length.	Cost of Construction	Average Cost per Mile.*
	Miles.	£	£
Kalabas Kraal—Saldanha.....	92	183,530	1,995
Alfred County (Port Shepstone—Paddock-Harding).....	76	237,113	3,120
Umlans Road—Mid Illovo.....	27	69,370	2,569
Gamtoos—Patentie.....	17	71,467	4,204
Ixopo—Maddonella.....	18	45,011	2,501
Valley Junction—Walmer.....	3	5,060	1,686
Esperanza—Donnybrook.....	96	308,654	3,209
Estcourt—Weenen.....	29	95,295	3,285
Port Elizabeth—Avontuur.....	176	537,179	3,052
Piensaars River—Settlers.....	27	16,744	620

\* Average cost of 2-ft. lines per mile, including New Works up to 31.12.19, £2,798.

(v) GRAPH SHOWING THE FINANCIAL POSITION OF GOVERNMENT RAILWAYS, YEARS 1910 TO 1920-21.



EXPLANATION OF GRAPH.—Each large square horizontally represents one calendar year, and vertically as under :—

In case of—	Percentage of expenditure to gross revenue	...	Add	0
	Open miles—Cost per open mile (average)	...	"	000
	Gross revenue	...	"	000,000
	Net revenue	...	"	000,000
	Expenditure	...	"	000,000
	Capital cost	...	"	0,000,000



### § 10. Land Transportation: Miscellaneous.

1. **Tramways.**—All public tramways in the Union used for the conveyance of passengers now employ electric traction, those at Bloemfontein, Boksburg and Germiston being of the trackless type. The tramways of Cape Town (City and Camp's Bay), Kimberley and Port Elizabeth are owned by companies; but elsewhere are owned and controlled by the municipalities. The following are the existing tramways in operation:—

*Cape of Good Hope*—

Cape Town and Suburbs, Camp's Bay, East London, Kimberley and Port Elizabeth.

*Natal*—

Durban and Pietermaritzburg.

*Transvaal*—

Pretoria, Boksburg, Germiston and Johannesburg.

*Orange Free State*—

Bloemfontein.

The following table shows the length of routes in the case of each tramway in the Union and other particulars as to equipment, the number of employees, capital, revenue, expenditure and other matters:—

#### TRAMWAY SYSTEMS OF UNION, 1920-21.

##### (a) CAPE OF GOOD HOPE.

HEADING.	CAPE OF GOOD HOPE.				
	Cape Town City Tramways Co., Ltd.	Camp's Bay Tramway Co., Ltd.	East London.	Kimberley.	Port Elizabeth.
Date of establishment.....	1896	1901	1900	1905	1897
Gauge.....	4 ft. 8½ ins.	4 ft. 8½ ins.	4 ft. 8½ ins.	3 ft. 6 ins.	4 ft. 8½ ins.
Length of route.....miles	22	6·87	3·78	32	10
Length of track.....miles	27·75	6·87	5·85	32	16
Total capital expenditure.....£	—	260,000	58,078	—	209,628
Revenue.....£	314,950	28,153	28,379	52,268	82,174
Expenditure.....£	239,020	30,064	29,494	—	50,376
Number of vehicles.....	112	17	15	35	37
Car miles run.....	2,210,770	236,450	236,780	750,356	594,607
Number of passengers carried...	24,120,137	1,423,313	3,338,783	7,773,970	5,653,584
Number of units used.....	5,586,728	705,429	471,343	1,080,166	1,103,422
Number of employees—					
European.....	415	39	59	96	118
Other.....	275	21	22	43	50
<b>TOTAL.....</b>	<b>890</b>	<b>60</b>	<b>81</b>	<b>139</b>	<b>108</b>

##### (b) NATAL, TRANSSVAAL, AND ORANGE FREE STATE.

HEADING.	NATAL.		TRANSSVAAL.			ORANGE FREE STATE.
	Durban.	Pietermaritzburg.	Johannesburg.	Pretoria.	Boksburg.	Bloemfontein.
Date of establishment.....	1902	1904	1906	1910	1914	1915
Gauge.....	4 ft. 8½ in.	4 ft. 8½ in.	4 ft. 8½ in.	4 ft. 8½ in.	Trackless	Trackless
Length of route.....miles	20·4	6	44·63	9·75	2·33	10·36
Length of track.....miles	38·39	8	68·67	15·76	—	—
Total capital expenditure.....£	673,541	109,368	1,013,722	243,113	21,589	47,359
Revenue.....£	234,402	22,456	610,496	80,427	9,946	18,085
Expenditure.....£	289,708	21,734	697,576	92,462	10,138	23,183
Number of vehicles.....	117	19	109	36	6	18
Car miles run.....	1,952,222	266,500	4,640,418	604,550	105,100	248,828
Number of passengers carried...	22,410,559	2,749,475	52,979,672	8,630,000	548,165	1,534,351
Number of units used.....	4,431,554	243,450	12,450,548	1,373,890	177,046	247,746
Number of employees—						
European.....	408	47	733	110	18	32
Other.....	124	10	370	33	3	3
<b>TOTAL.....</b>	<b>532</b>	<b>57</b>	<b>1,103</b>	<b>143</b>	<b>21</b>	<b>35</b>

2. **Motor Vehicles.**—The following tables give particulars regarding the number, description, horse-power, and country of origin of all motor vehicles licensed in the Union during the year ended 31st December, 1921:—

(i) **NUMBER AND DESCRIPTION OF MOTOR VEHICLES LICENSED IN EACH PROVINCE, 1921.**

PROVINCE.	DESCRIPTION OF MOTOR VEHICLE.							USED FOR.	
	Car.	Taxi.	Bus.	Lorry.	Van.	Bicycle.	Total.	Private Purposes.	Business or Commercial Purposes.
Cape of Good Hope.	12,294	441	30	661	136	4,774	18,245	14,579	3,666
Natal.....	3,796	200	31	226	52	2,731	7,036	5,728	1,308
Transvaal.....	7,289	376	59	133	71	7,342	16,270	11,448	3,822
Orange Free State*.	2,255	72	4	29	3	458	2,821	2,360	441
UNION, 1921..	25,634	1,089	133	949	262	15,305	43,372	34,135	9,237
UNION, 1920..	22,957	1,107	115	682	223	14,924	40,008	29,354	10,654

(ii) **HORSE-POWER OF MOTOR VEHICLES—EXCLUDING MOTOR BICYCLES.**

PROVINCE.	HORSE-POWER.								Total Motor Vehicles excluding Motor Bicycles.
	4-9.	10-14.	15-19.	20-24.	25-29.	30-34.	35-40.	Over 40.	
Cape of Good Hope..	250	733	1,068	5,931	1,800	1,936	1,295	449	13,471
Natal.....	72	123	329	1,634	757	621	517	252	4,305
Transvaal.....	129	520	2,142	3,245	1,322	390	139	41	7,928
Orange Free State... .	8	43	207	1,163	335	313	234	60	2,363
UNION, 1921....	459	1,419	3,746	11,073	4,223	3,260	2,185	802	28,067
UNION, 1920....	342	1,310	3,740	10,206	3,509	2,959	2,327	691	25,084

(iii) **HORSE-POWER OF MOTOR BICYCLES.**

PROVINCE.	HORSE-POWER.			Total Motor Bicycles.
	1-3.	3½-5½.	6 and over.	
Cape of Good Hope.....	767	2,087	1,920	4,774
Natal.....	444	1,271	1,016	2,731
Transvaal.....	1,065	3,705	2,542	7,342
Orange Free State.....	90	174	194	458
UNION, 1921.....	2,366	7,237	5,672	15,305
UNION, 1920.....	2,054	6,906	5,964	14,924

(iv) **COUNTRY OF ORIGIN OF ALL MOTOR VEHICLES.**

PROVINCE.	Great Britain.	Canada.	America.	France.	Germany.	Italy.	Other Countries.	Total Motor Vehicles.
Cape of Good Hope..	4,109	1,900	11,777	177	108	18	156	18,245
Natal.....	1,894	542	4,524	27	12	5	32	7,036
Transvaal.....	5,638	1,252	8,036	139	135	14	56	15,270
Orange Free State... .	305	557	1,938	5	9	1	6	2,821
UNION, 1921....	11,946	4,251	26,275	348	264	38	250	43,372
UNION, 1920....	11,949	3,678	23,442	390	250	27	272	40,008

\* Represents all motor vehicles in respect of which wheel tax was paid.

3. **Roads and Bridges.**—The following tables show the mileage of roads and the number of bridges in the Union (excluding roads and bridges under the control of municipalities and village management boards, for which see Chapter XXIV), together with the expenditure during a period of years:—

(i) **MILEAGE OF ROADS AND NUMBER OF BRIDGES (EXCLUDING THOSE UNDER CONTROL OF MUNICIPALITIES AND VILLAGE MANAGEMENT BOARDS), UNION, TOGETHER WITH EXPENDITURE, 1915-16 TO 1920-21.**

Heading.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
<b>Cape of Good Hope—</b>						
Roads.....miles	20,099	20,187	20,188	30,775	31,282	32,654
Bridges.....number	229	234	227	224	231	238
Expenditure.....£	64,743	77,622	56,291	166,514	334,330	433,763
<b>Natal—</b>						
Roads.....miles	5,861	5,910	6,000	6,030	6,070	6,140
Bridges.....number	156	174	178	150	194	204
Expenditure.....£	150,701	153,600	152,117	201,293	233,465	274,579
<b>Transvaal—</b>						
Roads.....miles	12,000	12,160	12,160	12,160	12,160	12,060
Bridges.....number	99	100	100	100	109	110
Expenditure.....£	125,743	110,584	122,779	209,230	233,595	340,954
<b>Orange Free State—</b>						
Roads.....miles	9,412	9,412	9,412	9,412	9,420	9,520
Bridges.....number	52	52	44	42	43	59
Expenditure.....£	48,640	90,300	71,159	61,922	151,082	216,932
<b>Union of South Africa—</b>						
Roads.....miles	47,372	47,669	47,758	58,377	58,932	60,374
Bridges.....number	538	560	549	552	577	611
Expenditure.....£	389,827	441,106	402,346	638,950	952,472	1,266,228

(ii) **PARTICULARS OF ROADS AND BRIDGES UNDER THE CONTROL OF THE PROVINCIAL ADMINISTRATIONS, 1920-21.**

Heading.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
<b>Roads—</b>					
Main.....	Miles. 3,959	Miles. 6,140	Miles. 6,000	Miles. 3,300	Miles. 19,459
Divisional or District.....	26,295	—	6,000	6,220	38,515
Chief Traffic Roads in Transkei	2,400	—	—	—	2,400
<b>TOTAL.....</b>	<b>32,654</b>	<b>6,140</b>	<b>12,000</b>	<b>9,520</b>	<b>60,374</b>
<b>Bridges—</b>					
Under 20-feet span.....	No. 22	No. 26	No. 6	No. —	No. 54
20-feet span and over.....	216	178	104	59	557
<b>TOTAL.....</b>	<b>238</b>	<b>204</b>	<b>110</b>	<b>59</b>	<b>611</b>
<b>Expenditure—</b>					
Roads.....	£ 409,652	£ 234,029	£ 315,007	£ 169,800	£ 1,129,388
Bridges.....	24,111	39,650	25,947	47,132	136,840
<b>TOTAL.....£</b>	<b>433,763</b>	<b>274,579</b>	<b>340,954</b>	<b>216,932</b>	<b>1,266,228</b>

## CHAPTER XXII.

### POSTS, TELEGRAPHS, AND TELEPHONES.

#### § 1. Posts.

**1. Origin and Development of Postal Service in South Africa.**—The first record of any postal service in South Africa is in respect of the primitive system dating as far back as the beginning of the seventeenth century, when boulders on the shores of Table Bay were used by passing vessels as the repository of letters intended for collection and conveyance to their destinations by vessels proceeding in the opposite direction.

The first regular postal communication was that established by Government in 1806

In 1860 a penny post was started in Cape Town, and in the following year it was also started in Port Elizabeth. In 1864 all places in the Colony between which mails were exchanged twice daily were given the privilege of a penny post. The first mail to the Diamond Fields was despatched from Cape Town on the 19th January, 1871.

The foundation of the South African Postal Union was laid in 1883 by means of separate Conventions entered into between several of the South African Governments. During the same year travelling post offices were first attached to trains on the railway system and the telegraphic money order system was adopted. In 1893 the administration of the Bechuanaland post and telegraph services was placed in the hands of the Postmaster-General of the Cape Colony. In 1895 the Cape Colony entered the Universal Postal Union. The first South African Postal Union Convention came into force in 1898. This secured uniformity of practice and rates of postage between the Cape, Natal, Transvaal, and the Orange Free State. The Portuguese Province of Mozambique became a party to the Union at a later date. In September, 1899, the Imperial Penny Postage (introduced in 1898) was adopted by the Cape Colony.

**2. Postal Service of the Union.**—The Union Department of Posts and Telegraphs was created on the 31st May, 1910, when the Union was constituted. The postal laws and ordinances of the four Provinces of the Union, dating from 1882 in the case of the Cape of Good Hope and Natal, from 1898 in the case of the Transvaal, and from 1903 in the case of the Orange Free State, continued to have effect until the 1st September, 1911, when the "Act to consolidate and amend the laws in force in the Union relating to the Post Office, and to impose certain charges to discourage shipping combinations" (Act No. 10, 1911) was brought into operation. The Act provides that the administration and control of the Department shall, under the Minister of Posts and Telegraphs, be vested in the Postmaster-General, who has the supervision and control of all persons in the service of the Department and all post offices and post and telegraph services. He is authorized to establish, maintain, and abolish mail services, post offices, and savings bank offices; to make and alter postal and telegraph arrangements with other postal and telegraph administrations; and to make regulations for the conduct and guidance of officers and for the conduct of any business entrusted to him, or as to the manner of exercising the powers and duties assigned to him by the Act. He may prescribe the fees, rates, or charges to be demanded or received for the conveyance of postal articles and for the transmission, conveyance, or delivery of telegrams, and for any other service rendered by the Department. The headquarters of the Department are at Pretoria. Mails are conveyed by every description of transport by the aboriginal runner, the post-cart, the modern motor-car, and the travelling (railway) post office. There are in all 1,504 posts exclusive of those conveyed by rail.

**3. Postal Facilities.**—The following statement shows the number of offices open, posting receptacles in use, and private bags in use for a series of years, also the number of inhabitants and the number of square miles to each post office:—

## POSTAL FACILITIES, 1912 TO 1922.

Year.	Number of Post Offices Open.	Number of Posting Receptacles in Use (excluding those at Post Offices).	Number of Private Bags in Use.	Number of Inhabitants to each Post Office.	Number of Square Miles to each Post Office.
1912* ...	2,644	894	2,785	2,260	179
1913* ...	2,783	933	2,976	2,146	170
1914* ...	2,451	959	3,038	2,437	193
1915* ...	2,478	962	3,011	2,410	190
1916* ...	2,522	987	3,077	2,368	186
1917* ...	2,604	1,027	3,344	2,294	180
1918* ...	2,623	1,030	3,348	2,663	180
1919* ...	2,665	1,052	3,244	2,681	173
1920† ...	2,684	1,056	3,548	2,722	176
1921† ...	2,771	1,074	3,747	2,696	171
1922† ...	2,798	1,097	3,486	2,483	169

\* 31st December.

† 31st March.

4. **Union Mail Matter.**—The subjoined table gives particulars of mail matter posted in the Union of South Africa and Basutoland for delivery therein during a series of years:—

## MAIL MATTER POSTED IN UNION (AND BASUTOLAND) FOR DELIVERY THEREIN, 1912 TO 1921-22.

Year.	Letters (000's omitted).	Post Cards (000's omitted).	Newspapers (000's omitted).	Book and Sample Packets, Printed Papers (000's omitted).	Official Correspondence (000's omitted).	Parcels (000's omitted).	Registered Articles (000's omitted).	Total (000's omitted).
1912...	97,606	6,223	14,640	41,696	12,161	1,851	1,279	175,456
1913...	100,598	7,066	18,545	34,368	12,810	2,018	1,369	176,764
1914...	90,558	6,369	16,690	30,922	11,529	1,817	1,232	159,107
1915...	106,355	6,897	21,285	46,668	12,433	2,130	1,477	196,245
1920-21*	122,420	6,127	22,096	46,391	14,396	3,341	1,997	216,768
1921-22*	108,665	5,494	23,217	51,706	13,879	3,724	2,014†	208,899

\* Year 1st April to 31st March.

NOTE.—No statistics available for years 1916 to 1919.

† Includes Express Articles.

5. **Extra Union Mail Matter.**—The following tables give particulars regarding mail matter dispatched to and received from countries beyond the Union:—

## (i) EXTRA UNION MAIL MATTER DISPATCHED, 1912 TO 1921-22.

Year.	Letters (000's omitted).	Post Cards (000's omitted).	Newspapers (000's omitted).	Book and Sample Packets, Printed Papers (000's omitted).	Official Correspondence (000's omitted).	Parcels (000's omitted).	Registered Articles (000's omitted).	Total (000's omitted).
1912...	11,708	1,111	1,991	241	165	91	*235	15,307
1913...	11,083	983	2,391	259	142	92	*259	14,930
1915...	9,498	384	2,153	379	314	116	*225	12,844
1920-21†	8,358	449	1,890	1,287	155	176	226	12,041
1921-22†	10,170	514	1,334	1,533	63	168	240	14,028

\* Included in preceding columns. † Year 1st April to 31st March.

NOTE.—No statistics of letters, etc., available for years 1914 and 1916 to 1919. The number of parcels dispatched during these years was: 1914, 57,457; 1916, 173,673; 1917, 99,817; 1918, 174,762; 1919, 118,565.

## (ii) EXTRA UNION MAIL MATTER RECEIVED, 1911 TO 1921-22.

Year.	Letters (000's omitted).	Post Cards (000's omitted).	News- papers (000's omitted).	Book and Sample Packets, Printed Papers (000's omitted).	Official Corre- spondence (000's omitted).	Parcels (000's omitted).	Regis- tered Articles (000's omitted).	Total (000's omitted).
1911...	13,007	062	0,807	508	82	270	*247	24,634
1912...	13,123	1,017	10,196	1,187	60	290	*248	25,893
1920-21†	9,181	671	3,607	3,185	220	456	403	17,723
1921-22*	11,976	729	4,519	4,120	144	425	337	22,250

\* Included in preceding columns. † Year 1st April to 31st March.

NOTE.—No statistics of letters, etc., available for years 1913 to 1919. The number of parcels received during those years was: 1913, 275,768; 1914, 208,295; 1915, 246,244; 1916, 277,772; 1917, 263,606; 1918, 301,631; 1919, 261,138.

6. Cost of Mail Conveyance.—The following tables show the cost of mail conveyance, exclusive of the ocean mail service, during a series of years:—

## COST OF MAIL CONVEYANCE IN UNION, 1912 TO 1921-22.

Year.	Main and Branch Posts.	Conveyance over Union Railways.	Conveyance over Private Railways.	Landing and Shipping Mails.	Total.
	£	£	£	£	£
1912....	99,534	77,500	4,840	1,900	183,774
1913....	100,060	77,500	3,524	1,949	183,942
1914....	95,966	77,500	3,600	1,949	179,015
1915....	89,063	77,500	3,728	1,949	172,240
1916....		165,231		1,949	167,180
1917....		169,525		2,000	171,525
1918....		168,000		2,000	170,000
1919-20*	97,753	154,111	3,311	2,000	257,175
1920-21*	118,585	173,928	3,311	2,200	298,022
1921-22*	112,412	237,163	3,311	1,905	354,791

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

7. Number of Employees.—The following table shows the number of persons employed by the Department of Posts, Telegraphs, and Telephones during a series of years:—

## NUMBER OF EMPLOYEES, 1917 TO 1922.

Date.	Administrative and Clerical Division.	General Division.	Learners in Training.	Local Officials and Railway Officials per- forming Post Office Work.	Total.
1917 (31st March) ..	3,191	3,352	124	2,550	9,217
1918 ..	3,153	3,602	98	2,602	9,455
1919 ..	3,216	3,831	207	2,602	9,916
1920 ..	3,541	4,038	321	2,569	10,469
1921 ..	4,039	4,449	317	2,690	11,495
1922 ..	3,711	4,403	361	2,825	11,303

8. Financial.—The following table gives particulars of the financial aspect of the working of the Department of Posts during a series of years:—

## POSTS—FINANCIAL STATISTICS, 1912 TO 1921-22.

Year.	Cash, Receipts.	Value of Free Services Rendered.	Cash Payments.	Value of Free Services Received.	Total Amount of Money dealt with (000's omitted).	Revenue Collected for other Departments
	£	£	£	£	£	£
1912.....	1,016,974	117,857	977,189	68,902	21,000	637,921
1913.....	1,049,414	127,959	1,021,215	91,414	21,500	640,188
1914.....	1,015,836	129,444	1,050,231	81,359	21,000	597,827
1915.....	1,042,325	133,949	985,818	60,776	22,000	589,269
1916.....	1,028,939	141,316	1,010,032	73,478	22,500	692,279
1917.....	1,159,537	137,203	1,067,161	68,726	23,000	746,920
1918.....	1,163,835	141,201	1,182,141	69,123	23,500	900,398
1919-20*	1,379,755	168,793	1,408,543	85,439	25,000	1,108,439
1920-21*	1,573,190	198,014	1,973,983	116,781	20,000	1,288,158
1921-22*	1,662,154	169,283	1,889,525	129,263	25,425	1,153,729

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

*Rates of Postage.*—The following are the principal post office charges:—

**PRINCIPAL POST OFFICE CHARGES.**

Class of Mail Matter.	For the Union of South Africa, Bechuanaland Protectorate, S.W. Africa, Rhodesia, and Province of Mozambique.	For United Kingdom, Egypt, and British Possessions.	For Foreign Countries.
Letters.....	2l. per 1 oz.....	2l. per 1 oz....	First oz. 3d.; each additional oz. or part thereof, 1½d.
Post cards, single.	1d. each.....	1½d. each.....	1½d. each.
„ reply paid	2d. each.....	3d. each.....	3d. each.
Newspapers.....	½d. per 4 oz. for each newspaper up to a maximum weight of 2 lb.	½d. per 2 oz.....	½d. per 2 oz.
Books and Commercial papers and Newspapersexceeding 2 lb in weight	½d. per 2 oz.....	½d. per 2 oz., with a minimum charge of 3d. for commercial papers	½d. per 2 oz., with a minimum charge of 3d. for commercial papers.
Sample packets....	½d. per 2 oz., with a minimum charge of 1d. in the case of packets addressed to places outside the Union	½d. per 2 oz., with a minimum charge of 1d.	½d. per 2 oz., with a minimum charge of 1d.

**Parcels.**

Agricultural parcels addressed to any place within the Union.....	Up to 1½ lb.....	3d.
	Over 1½ lb., but not exceeding 3 lb....	6d.
	Over 3 lb., but not exceeding 6 lb....	8d.
	Over 6 lb., but not exceeding 9 lb....	10d.
	Over 9 lb., but not exceeding 11 lb....	1s.
Ordinary parcels for places within the Union and for Mozambique and South-West Africa.....	Not exceeding 4 oz.....	2d.
	Not exceeding 8 oz.....	4d.
	Not exceeding 1 lb.....	6d.
	For every additional 1 lb. or portion thereof.....	6d.
For Bechuanaland Protectorate.....	1s. per lb.	
For Rhodesia (Southern).....	1s. 1d. per lb.	
For Rhodesia (Northern).....	1s. 3d. per lb.	
For United Kingdom.....	9d. per lb.	
For British possessions and foreign countries	Special rates have been fixed on an average traffic basis.	

9. **Money Orders.**—Money Order Conventions are in force between the Union of South Africa and Commonwealth of Australia, Dominion of Canada, Hong-Kong, India, Kenya Colony, Mauritius, Mozambique, New Zealand, Norway, Nyasaland Protectorate, St. Helena, United States of America, and Zanzibar. There is also direct money order exchange with the United Kingdom.

There are 723 money order offices in the Union. The maximum amount of a single money order is £40.

(i) **VALUE OF MONEY ORDERS AND COMMISSION, 1912 TO 1921-22.**

YEAR.	MONEY ORDERS ISSUED.		MONEY ORDERS PAID.		Commission Collected—Amount accruing to Union Government.
	Number.	Value.	Number.	Value.	
1912.....	491,738	£ 2,925,518	378,629	£ 2,179,398	£ 24,290
1913.....	489,829	2,950,124	386,193	2,271,542	23,435
1914.....	436,541	2,634,608	306,709	2,125,878	19,925
1915.....	394,983	2,439,167	330,608	1,954,554	17,911
1916.....	383,010	2,298,229	337,638	2,005,131	16,718
1917.....	401,125	2,620,090	391,002	2,598,476	18,084
1918.....	385,311	2,512,331	356,447	2,265,149	17,881
1919-20*.....	444,060	3,549,881	425,381	2,998,101	30,325
1920-21*.....	433,078	3,271,225	412,813	3,417,430	14,310
1921-22*.....	416,696	2,896,910	347,389	2,283,073	22,428

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

## (ii) NUMBER AND VALUE OF MONEY ORDERS ISSUED IN THE UNION FOR PAYMENT IN THE UNION AND IN OTHER COUNTRIES, 1916 TO 1921-22.

Country.	1916.	1917.	1918.	1919-20.*	1920-21.*	1921-22.*
(a) NUMBER.						
Australia.....	5,546	5,162	4,401	4,818	5,770	5,408
Canada.....	582	345	476	1,008	972	650
Ceylon.....	20	30	62	29	32	31
France.....	1,353	1,001	799	839	—	—
Hong-Kong.....	146	171	108	101	87	70
India.....	12,555	21,012	18,344	12,223	11,022	15,824
Kenya Colony.....	93	67	179	51	76	98
Mauritius.....	304	277	277	252	68	111
Mozambique.....	1,368	959	910	709	864	622
New Zealand.....	334	312	287	317	437	338
Norway.....	642	341	297	339	378	320
Nyasaland.....	77	62	81	64	218	371
Rhodesia.....	1,127	1,091	1,029	1,131	1,311	1,329
St. Helena.....	23	37	29	32	38	22
South-West Africa.....	—	1,014	1,104	937	886	823
United Kingdom.....	47,311	40,807	37,628	42,202	66,154	69,292
United States of America.....	5,985	4,664	4,920	15,301	745	4,850
Zanzibar.....	19	15	33	13	13	10
Total issued in Union for payment in other countries...	77,494	78,267	70,964	80,366	89,675	100,178
Total issued in Union for payment in Union.....	305,516	322,858	314,347	303,694	343,403	316,518
<b>GRAND TOTAL.....</b>	<b>383,010</b>	<b>401,125</b>	<b>385,311</b>	<b>444,060</b>	<b>433,078</b>	<b>416,696</b>

(b) VALUE.						
	£	£	£	£	£	£
Australia.....	10,100	18,278	15,615	18,871	38,287	24,848
Canada.....	3,116	2,627	2,716	18,583	13,589	4,190
Ceylon.....	257	414	565	217	314	173
France.....	3,744	2,998	2,765	2,574	2	—
Hong-Kong.....	937	1,834	987	791	812	533
India.....	163,862	454,675	321,399	207,806	196,534	290,375
Kenya Colony.....	550	450	5,880	720	966	1,023
Mauritius.....	1,686	1,652	2,151	1,840	564	735
Mozambique.....	10,390	7,812	7,706	7,353	9,630	6,304
New Zealand.....	2,019	1,849	1,581	1,912	4,236	2,394
Norway.....	2,743	1,552	1,461	1,658	2,396	1,730
Nyasaland.....	813	631	861	693	2,563	4,190
Rhodesia.....	8,431	8,500	7,932	9,960	12,215	13,617
St. Helena.....	127	293	269	257	311	142
South-West Africa.....	—	6,613	8,466	10,091	11,582	9,249
United Kingdom.....	271,202	233,777	229,709	300,233	617,554	485,282
United States of America.....	18,069	12,703	12,019	863,608	2,371	11,107
Zanzibar.....	85	203	1,051	172	100	67
Total issued in Union for payment in other countries...	507,140	756,786	623,073	1,387,339	914,052	855,958
Total issued in Union for payment in Union.....	1,791,059	1,863,304	1,880,258	2,162,542	2,357,173	2,040,952
<b>GRAND TOTAL.....£</b>	<b>2,298,229</b>	<b>2,620,090</b>	<b>2,512,331</b>	<b>3,549,881</b>	<b>3,271,225</b>	<b>2,896,910</b>

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.



## (iii) NUMBER AND VALUE OF MONEY ORDERS ISSUED IN OTHER COUNTRIES FOR PAYMENT IN THE UNION, 1914 TO 1921-22.

Country.	1916.	1917.	1918.	1919-20.*	1920-21.*	1921-22.*
(a) NUMBER.						
Australia.....	2,999	4,011	1,748	1,950	2,427	2,456
Canada.....	745	704	616	636	717	593
Ceylon.....	26	9	23	70	40	23
France.....	188	123	92	205	16	—
Hong-Kong.....	7	13	10	23	17	17
India.....	969	1,092	2,057	624	573	121
Kenya Colony.....	438	267	315	510	299	234
Mauritius.....	216	252	313	788	334	170
Mozambique.....	600	651	659	811	1,809	857
New Zealand.....	530	480	427	385	599	525
Norway.....	177	129	107	133	117	80
Nyasaland.....	93	191	174	84	51	45
Rhodesia.....	7,336	6,982	6,630	6,705	7,106	5,740
St. Helena.....	62	97	108	224	38	30
South-West Africa.....	—	5,703	6,384	6,307	7,070	7,119
United Kingdom.....	12,696	12,510	11,927	3,396	11,650	11,030
United States of America.....	1,801	1,424	1,637	1,638	1,211	1,486
Zanzibar.....	20	43	22	28	24	19
Army Money Orders.....	—	34,801	11,228	37,580	2,800	—
TOTAL.....	28,918	69,482	44,477	62,597	36,958	30,505

## (b) VALUE.

	£	£	£	£	£	£
Australia.....	10,234	8,925	5,755	6,990	19,463	10,435
Canada.....	2,147	2,320	1,926	2,450	2,398	1,848
Ceylon.....	129	40	58	278	164	131
France.....	800	499	421	1,692	209	—
Hong-Kong.....	18	80	28	57	60	30
India.....	7,229	7,038	21,067	9,206	12,849	835
Kenya Colony.....	2,746	1,690	2,059	6,310	1,467	1,065
Mauritius.....	819	1,103	1,617	14,848	6,992	395
Mozambique.....	3,329	4,013	4,483	22,010	42,260	17,352
New Zealand.....	2,661	3,170	1,958	2,289	7,224	2,710
Norway.....	1,288	1,204	1,303	1,626	1,820	921
Nyasaland.....	800	1,410	1,490	1,043	1,005	545
Rhodesia.....	42,856	41,198	41,007	43,209	47,188	46,394
St. Helena.....	627	1,296	2,115	5,918	828	183
South-West Africa.....	—	39,654	41,214	45,678	55,401	48,679
United Kingdom.....	61,444	60,961	62,198	100,918	99,289	79,372
United States of America.....	6,658	5,284	7,002	6,944	5,094	6,659
Zanzibar.....	155	304	115	481	119	56
Army Money Orders.....	—	558,754	183,771	566,283	10,230	—
TOTAL.....£	143,940	738,943	380,577	839,160	320,060	217,610

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

(iv) *Rates of Commission on Money Orders.*—The rates of commission charged on money orders issued in the Union of South Africa are as follows:—

For payment in the Union of South Africa, South-West Africa, and Bechuanaland Protectorate.....	6d. per unit of £4 or part thereof.
For payment in Rhodesia and Mozambique	9d. per unit of £4 or part thereof.
For payment elsewhere.....	1s. per unit of £4 or part thereof.

(v) *Cable Money Orders.*—A service exists between the Union of South Africa on the one hand, and the United Kingdom and Mauritius on the other, by which remittances may be cabled to or from money order offices in those countries. The maximum amount of a cable money order is £40 and the charges in the Union are:—

- (a) The money order commission at overseas rates, viz., 1s. for every £4 or part thereof, and
- (b) The cost of the telegram of advice at deferred rates (unless the remitter prefers to telegraph at full rates) for telegrams addressed to the country of destination.

10. **Postal Orders.**—British postal orders of all denominations from 6d. to 21s. are issued and paid throughout the Union.

(i) **NUMBER AND VALUE OF POSTAL ORDERS ISSUED AND PAID IN THE UNION, 1912 TO 1921-22.**

YEAR.	POSTAL ORDERS ISSUED.		POSTAL ORDERS PAID.		UNION SHARE OF POUNDAGE ON ISSUES AND REBATE ON ISSUES AND PAYMENTS.
	Number.	Value.	Number.	Value.	
		£		£	£
1912....	3,261,045	2,080,627	2,485,700	1,521,374	21,161
1913....	3,595,255	2,263,831	2,788,167	1,688,024	23,620
1914....	3,458,062	2,156,313	2,795,233	1,669,566	22,585
1915....	3,467,201	2,149,600	2,870,576	1,712,362	22,785
1916....	3,681,262	2,249,173	3,102,006	1,824,122	23,410
1917....	3,565,124	2,106,310	3,140,936	1,791,013	22,766
1918....	3,235,274	1,904,473	2,871,210	1,614,674	20,962
1919-20*	3,347,766	1,974,031	3,002,910	1,707,723	21,351
1920-21*	2,908,770	1,734,692	2,069,544	1,556,597	19,967
1921-22*	2,762,273	1,571,252	2,348,563	1,267,819	18,199

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

(ii) **RATE OF POUNDAGE CHARGED ON EACH DENOMINATION OF POSTAL ORDER ISSUED.**

Denomination.	Poundage.
6d., 1s., 1s. 6d., 2s., 2s. 6d.....	1d.
3s., 3s. 6d., 4s., 4s. 6d., 5s., 5s. 6d., 6s., 6s. 6d., 7s., 7s. 6d., 8s., 8s. 6d., 9s., 9s. 6d., 10s., 10s. 6d.....	2d.
11s., 11s. 6d., 12s., 12s. 6d., 13s., 13s. 6d., 14s., 14s. 6d., 15s.....	3d.
15s. 6d., 16s., 16s. 6d., 17s., 17s. 6d., 18s., 18s. 6d., 19s., 19s. 6d., 20s., 21s....	4d.

11. **Postal Drafts.**—A system of postal drafts is in force by means of which a member of the public can draw upon another at any point in the Union where there is a money order office for any sum up to £10. A *demand* is made by the postmaster, on a date specified by the drawer, to the person from whom the money is to be collected. If paid, the postmaster issues a receipt and remits the amount collected to the drawer by money order. The Department's fee is 6d. for one demand and 9d. for two. The presentation of a postal draft has the same force and effect as a legal demand, and in any suit or action the production of a dishonoured draft, with the postmaster's report thereon, is taken as evidence of the facts stated in such report, unless the contrary be proved.

**POSTAL DRAFTS ISSUED AND COLLECTED, 1912 TO 1921-22.**

Year.	Number of Demands.	Number Collected.	Amount Collected.	Fees.
			£	£
1912.....	13,145	2,832	4,152	403
1913.....	15,160	3,149	4,342	461
1914.....	10,259	3,826	5,444	584
1915.....	15,134	2,881	3,729	454
1916.....	16,835	2,930	3,029	507
1917.....	13,068	2,355	3,018	388
1918.....	11,336	1,981	2,895	335
1919-20*	10,583	1,859	2,793	314
1920-21*	13,381	2,560	3,968	337
1921-22*	14,998	2,804	4,098	455

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

12. **South Africa to England Ocean Mail Service.**—The first ocean mail contract entered into (1876) provided for a regular weekly mail service, the passage between the United Kingdom and Cape Town to be completed in twenty-six days. In 1899 an agreement was concluded between the United Kingdom and the various colonies and states of South Africa for the adoption of a scheme proposed by the Cape Colony Post Office, under which the cost of the ocean mail service was borne proportionately by the participating British and South African Administrations, on the basis of the use made of it by each Administration. The Cape Colony Administration was responsible for the management of the South African ocean mail service on the basis of this agreement up to the date of Union. The present contract with the Union-Castle Mail Steamship Company had force for ten years from the 1st October, 1912, and was extended for a further two years from the 30th September, 1922. The duration of the voyage is 16 days 15 hours in each direction, with the option of a reduction to 16 days on the voyage to Southampton on payment of an additional subsidy. The subsidy paid is £225,000 per annum, of which, however, £27,000 is paid in consideration of the mail steamers commencing and terminating their voyages at Durban instead of Cape Town. The contracting parties, on the basis of usor, are Great Britain, the Union, Southern Rhodesia, and the Bechuanaland Protectorate.

Postal communication is maintained between South Africa and Australia, India, and the Far East by means of private ships as opportunity offers.

(i) **AVERAGE AND SHORTEST TIME OCCUPIED IN THE CONVEYANCE OF MAILS BETWEEN CAPE TOWN AND ENGLAND, 1913 TO 1921.**

HEADING.	1913.	1914.	1915.	1920.	1921.
<i>Average Length of Voyage.</i>	Dys. Hrs. Mns.	Dys. Hrs. Mns.	Dys. Hrs. Mns.	Dys. Hrs. Mns.	Dys. Hrs. Mns.
To South Africa.....	16 8 52	16 23 20	18 2 10	} 16 15 0 (approximate.)	16 21 4
From South Africa..	16 12 34	16 22 50	17 22 58		17 0 9
<i>Fastest Voyage.</i>					
To South Africa.....	16 4 50	—	—	—	16 3 50
From South Africa..	16 8 15	—	—	—	15 12 37

NOTE.—No particulars available in respect of the years 1916–19.

(ii) **QUANTITY OF MAIL MATTER CONVEYED, 1912 TO 1921-22.**

YEAR.	NUMBER OF MAIL BAGS.		NUMBER OF PARCEL RECEPTACLES.	
	To South Africa.	From South Africa.	To South Africa.	From South Africa.
1912.....	95,406	35,373	22,340	2,650
1913.....	94,623	34,257	22,711	2,400
1914.....	87,413	28,235	17,224	1,907
1915.....	75,211	27,680	22,682	2,140
1916.....	70,224	26,550	29,050	2,304
1917.....	58,501	19,742	33,660	2,698
1918.....	54,563	18,152	58,257	5,845
1919-20*.....	66,277	25,116	40,655	3,911
1920-21*.....	87,027	25,406	49,818	5,880
1921-22*.....	94,672	28,270	54,255	4,701

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

## § 2. Telegraphs.

1. **First Lines Constructed and Development of Service.**—The beginning of telegraph construction in South Africa was in April, 1860, when a line between Cape Town and Simonstown was opened for traffic by the Cape of Good Hope Telegraph Company (Ltd.), and in 1864 a line from Cape Town to Grahamstown was completed. On the 1st July, 1873, the lines of the company were transferred to the control of the Government. In Natal, under an Act of 1863, the Government was empowered to grant a concession to a company for the construction of telegraphs, and in 1874, when the Government obtained possession of the company's lines, only one connection existed, i.e. between Durban and Pietermaritzburg, a distance of about fifty-one miles. In 1876 the line from Cape Town to the north was extended to Kimberley, and in 1879 the Cape Colony and Natal were connected telegraphically, establishing in the following year, by means of the East Coast cable, a connection between Cape Town and Europe. In 1879 telegraph offices were opened at Pretoria and Standerton, in the Transvaal; in 1885 an office was established at Barberton, and in 1886 and 1887 offices were opened along the Witwatersrand.

The telegraph lines now encircle the whole of the Union and extend northwards to the Belgian Congo, Kenya, and Uganda, westwards to South-West Africa, and eastwards to Mozambique.

**2. Statistics of Working.**—The following table gives particulars regarding the mileage of line, mileage of wire, number of offices, and number of telegrams dealt with in the Union during a series of years:—

**PARTICULARS AS TO WORKING OF UNION TELEGRAPHS, 1912 TO 1921-22.**

Year.	Mileage of Line.	Mileage of Wire.	Number of Offices.	Telegrams dealt with.*		Cash Revenue.	Value of Government Traffic.	Total Capital Expenditure to End of Year (000's omitted).
				Number (000's omitted).	Value.			
1912...	15,236	50,860	1,460	5,029	£ 398,252	£ 372,222	£ 45,093	£ 1,153
1913...	14,517	48,011	1,575	5,804	415,238	375,738	48,820	1,234
1914...	15,021	50,352	1,602	5,909	450,303	356,739	87,834	1,225
1915...	16,053	54,256	1,656	6,166	408,563	386,701	103,998	1,250
1916...	16,036	54,031	1,695	5,693	478,672	388,770	89,902	1,262
1917...	15,991	53,785	1,703	6,175	436,429	349,100	87,329	1,271
1918...	15,951	53,850	1,730	6,620	467,085	409,490	69,422	1,274
1919-20†	12,482	43,938	1,781	7,646	529,300	475,231	67,843	1,283
1920-21‡	—	—	1,857	6,905	552,255	529,518	53,435	1,315
1921-22‡	9,348‡	41,415‡	1,921	6,091	526,319	495,936	46,798	1,346

\* Including radio messages and cablegrams, but excluding railway service messages handed in at telegraph offices worked by the Railway Administration.  
 † Year 1st April to 31st March. Separate figures for first three months of 1919 not available.  
 ‡ Decrease due to revision of statistics relative to routes on railway property.  
 § Decrease due to wires now forming part of superimposed circuits.

**3. Rates for Transmission of Telegrams.**—The following are the present rates for transmission of telegrams:—

For the Union of South Africa, South-West Africa, and the district of Lourenco Marques..... } 1s. 3d. for the first 12 words or portion thereof and 1d. for every additional word.  
 For transmission from Cape Town, Durban, and Port Elizabeth by wireless telegraphy to ships at sea.... } 11d. per word.

**4. Wireless Telegraphy.**—(i) *Existing Facilities.*—Wireless stations have been established by the Department at Slangkop and Port Elizabeth (Cape) and Durban (Natal). The normal range of the Durban station is 300 miles by day and 1,000 miles by night, whilst the higher power installation at Slangkop has a range of 450 miles by day and 1,500 miles by night. These are the guaranteed ranges, but are greatly exceeded at night by both stations. Continuous attendance is provided at the telegraph offices at Cape Town and King William's Town, and arrangements have been made at the principal ports for summoning a telegraph official in case of emergency. The ports from which succour can be sent to distressed vessels are therefore in communication with the wireless stations at all times.

(ii) *Projected High-Power Station.*—In September, 1922, the Union Government entered into an agreement with the Marconi's Wireless Telegraph Company, Ltd. (England) for the erection of a high-power wireless station capable of direct communication with the United Kingdom.

The articles of agreement were based on the terms of a White Paper laid on the table of the House of Assembly in July, 1922. The agreement may be summarized as follows:—

(1) The Marconi's Wireless Telegraph Company, Ltd. (England), undertake to form a South African Wireless Company for the purpose of erecting and operating a station suitable for duplex commercial working between South Africa and Great Britain.

(2) The capital of this company to be approximately £500,000, consisting of 500,000 ordinary £1 shares, of which at least four-fifths will be held by Marconi's Wireless Telegraph Company, Ltd., the balance being available for public subscription in South Africa by an issue to be made at a later date.

(3) At least four of the directorate to be resident within the Union for the purpose of forming a quorum and managing the South African company's affairs; one to be the managing director and one a representative of the Government.

(4) The Government of the Union of South Africa to grant the South African company the right to erect, maintain and operate the station for a period of not less than ten years.

(5) At the termination of this period the Government to have the option to purchase the station outright.

(6) The wireless rates to England in no case to exceed the following:—

	s.	d.
Full rate messages.....	1	4
Deferred messages.....	0	8
Government messages.....	0	8
Press messages.....	0	2½

per word.

(7) The Marconi Company to arrange for the operation of a suitable corresponding station in the United Kingdom, and in the event of the Union Government taking over the station, to maintain and operate the English end of the service as heretofore.

(8) The Marconi Company to arrange for direct communication with the new high-power station in Australia, and with any high-power stations belonging to the allied wireless companies which may be operating in India, Canada, United States, Argentine, Brazil or elsewhere.

(9) The company to guarantee a 10 per cent. improvement in daily service over the Australian guarantee, which latter calls for an uninterrupted service throughout 300 days of every year on a minimum basis of twenty words per minute each way for twelve hours per day.

(10) In the final agreement the company undertook that the station should be used as an integral part of the Imperial wireless system, priority being given, as far as is consistent with the efficient working of the station, to communications with stations of the Imperial wireless system.

#### PARTICULARS OF WORKING OF WIRELESS STATIONS, 1912 TO 1921-22.

YEAR.	NUMBER OF MESSAGES.			NUMBER OF WORDS.			VALUE OF MESSAGES (AMOUNT ACCRUING TO UNION GOVERNMENT).
	Outwards.	Inwards.	Total.	Outwards.	Inwards.	Total.	
1912.....	2,314	4,361	6,675	26,118	41,796	67,914	£ 1,981
1913.....	2,471	3,554	6,028	28,992	39,590	68,582	2,000
1914.....	1,597	2,701	4,298	19,012	32,878	51,890	1,514
1915.....	419	1,232	1,651	5,905	16,635	22,540	658
1916.....	489	1,947	2,436	9,011	30,179	39,190	1,143
1917.....	71	553	624	1,290	7,943	9,233	268
1918.....	41	190	237	730	3,098	3,828	112
1919-20*	2,264	7,556	9,820	37,119	98,289	135,408	3,949
1920-21*	3,390	8,727	12,123	44,381	110,072	154,453	4,505
1921-22*	3,758	7,662	11,420	89,166	96,674	185,840	4,286

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

5. **Cable Service.**—The cables connecting South Africa with Great Britain, Australia, South America, India, and the Far East are owned by the Eastern Telegraph and its associated companies. There are five principal routes:—

- (1) To the United Kingdom via St. Helena and St. Vincent.
- (2) To Australia and the Far East via Cocos.
- (3) To the United Kingdom via the West Coast station serving the Gold Coast, etc.
- (4) To the United Kingdom and India via East Coast stations.
- (5) To South America via Ascension and St. Vincent.

A new agreement with the Eastern Telegraph Company to run for a period of 25 years from 1st January, 1920, has been completed.

### § 3. Telephones.

1. **First Exchange and Development of Service.**—In 1882 the first telephone exchange in South Africa was opened at Port Elizabeth, followed in 1884 by the opening of a similar exchange at Cape Town, and in quick succession exchanges were established at all the principal towns throughout the Cape Colony, Natal, Transvaal, and Orange Free State. The largest exchange is that in Johannesburg, with 11,923 telephone stations.

2. **Statistics of Working.**—The following tables give particulars of the operation of the telephone services for a series of years:—

#### (i) PARTICULARS AS TO TELEPHONE SERVICES, 1912 TO 1921-22.

Year.	Mileage of Wire (including Spare Wire).	Number of Exchanges.	Number of Public Call Offices.	Number of Instruments in Use.	Number of Subscribers.	Approximate Number of Calls (000's omitted).	Number of Instruments per 100 of White Population.
1912.....	62,997	222	822	21,903	14,793	37,000	1.72
1913.....	85,015	359	1,309	26,257	19,192	59,022	2.06
1914.....	97,948	400	1,763	29,400	21,919	57,400	2.30
1915.....	107,946	417	1,923	32,144	23,756	62,077	2.52
1916.....	115,174	422	2,038	35,163	25,073	77,386	2.78
1917.....	121,502	437	2,151	36,816	26,878	82,619	2.51
1918.....	127,178	452	2,180	38,396	28,320	93,110	2.98
1919.....	128,004	461	2,216	42,119	31,501	98,643	2.87
1920.....	132,726	468	2,242	43,022	32,090	98,010	2.88
1921.....	140,889	549	2,346	48,392	36,000	101,064	3.16
1922.....	158,737	583	2,656	51,819	38,646	100,785	3.40

\* 31st December.

† 31st March.

(ii) **FINANCIAL PARTICULARS OF TELEPHONE SERVICES, 1912 TO 1921-22.**

Year.	Cash Revenue.	Value of Government Traffic.	Total Capital Expenditure to End of Year (000's omitted).
	£	£	£
1912.....	235,642	23,235	1,406
1913.....	238,610	28,000	1,674
1914.....	278,730	35,114	1,864
1915.....	316,380	37,121	2,003
1916.....	358,098	41,270	2,106
1917.....	404,994	52,520	2,210
1918.....	443,715	59,943	2,272
1919-20*.....	523,641	51,439	2,534
1920-21*.....	682,431	53,030	3,007
1921-22*.....	735,669	60,036	3,402

\* Year 1st April to 31st March. Separate particulars for first three months of 1919 not available.

**§ 4. Savings Bank.**

1. **Conduct of Savings Bank.**—Savings Banks are conducted by the Department at Cape Town (for the Cape of Good Hope), Pretoria (for the Transvaal, Orange Free State, and certain Northern Cape offices), and Pietermaritzburg (for Natal and certain Eastern Cape offices). Deposits of one shilling, or any multiple of one shilling, are received, subject to a limit of £200 net in any one year ending 31st March, and £1,000 in all, excluding interest. Interest at the rate of 3½ per cent. per annum is allowed. Deposits are received at all money order offices. Any depositor may, in addition, invest in Savings Bank Certificates of £100 each up to £1,000. Interest on certificates at 5 per cent. per annum is credited to the depositor's ordinary account half-yearly.

2. **Savings Bank Transactions.**—Particulars of Post Office Savings Bank transactions from 1909-10 will be found in Chapter XXIII, Section E.

## CHAPTER XXIII.

### FINANCE.

#### A. GENERAL FINANCIAL SYSTEM OF THE UNION GOVERNMENT.

1. **Statutory Provisions.**—The financial provisions of the Constitution are to be found in Sections 117 to 133 of the *South Africa Act*. In terms of Section 117, all revenues from whatever source arising vest in the Governor-General-in-Council. The section creates a Railway and Harbour Fund, into which are paid all revenues from the administration of the railways, ports, and harbours, while further provision is made as follows: "There shall also be formed a Consolidated Revenue Fund, into which shall be paid all other revenues raised or received by the Governor-General-in-Council, and such fund shall be appropriated by Parliament for the purposes of the Union in the manner prescribed by this Act and subject to the charges imposed thereby." Further provisions relating to the financial system of the Union are those contained in the *Exchequer and Audit Act* of 1911, as amended by Act No. 31 of 1915, and the *Public Debt Commissioners Act*, 1911. The raising of loans is governed by the *General Loans Consolidation and Amendment Act*, No. 22 of 1917.

2. **Consolidated Revenue Fund.**—Under the present financial arrangements which conform to the provisions of the *South Africa Act*, as more particularly defined in the *Exchequer and Audit Act*, 1911, all revenues, except those of the Railway and Harbour Administration, are carried to the Consolidated Revenue Fund. This fund comprises the Revenue Account and the Loan Account, the former being credited with all moneys received from revenue proper, the latter with moneys derived from the raising of loans, from repayment of loans, or from the alienation of fixed property and such other moneys as Parliament may direct to be paid to that account. The charges upon the Revenue and Loan Accounts are provided for by annual appropriation Acts, and, subject to Section 26 of the *Exchequer and Audit Act*, it is only under the authority of such an Act that a withdrawal from the Consolidated Revenue Fund can take place. The section referred to provides that withdrawals to meet unforeseen and necessary expenditure not provided for in an appropriation Act or expenditure in excess of an amount so provided may be made under special warrant of the Governor-General up to an amount not exceeding in the whole £300,000.

3. **Railway and Harbour Fund.**—The revenues of the Railway and Harbour Administration are carried to a fund styled the Railway and Harbour Fund, and are appropriated for purposes of the Administration by annual appropriation Acts. A similar provision to that described above exists for meeting unforeseen or excess charges on the fund within certain limits. The Railway and Harbour Fund embraces a Capital Account and a Revenue Account, and the funds to meet capital expenditure are in the main provided by the Treasury, from the proceeds of loans raised, by way of loan to the Administration at rates of interest corresponding to those paid by the Treasury.

4. **Public Debt Commissioners.**—All trust moneys, e.g. Sinking Fund, Pension Fund, Guardians' Fund, and Post Office Savings Bank moneys, coming into the hands of the Government or the Railway and Harbour Administration, are handed over for investment and management to the Public Debt Commissioners, who are also authorized to invest the funds of Provincial Administrations. The Public Debt Commissioners consist of the Minister of Finance as Chairman, *ex officio*, a member of the Railway Board, and one other member. The powers and functions of the Commissioners are governed by the *Public Debt Commissioners Act*, 1911, which also provides that the surplus of revenue over ordinary

expenditure in each year shall be paid to the Commissioners and applied by them in redemption of debt.

**5. Audit.**—The audit of all the accounts of the Union Government, including those of the Railway and Harbour Administration, is conducted by the Controller and Auditor General, who reports annually thereon to Parliament. The appointment, powers, and duties of this officer are prescribed in the *Exchequer and Audit Act* of 1911 and the amending Acts of 1916 and 1922.

**6. Financial Relations between the Union Government and the Provinces.**—The powers of the Provinces are defined in Section 85 of the *South Africa Act* and the *Financial Relations Acts* of 1913 and 1917. The most important of their duties are Education *other than higher education*, i.e. up to University matriculation standard, Hospitals and Poor Relief, Roads and Bridges, and Game and Fish Preservation. From the date of the constitution of the Union until April, 1913, when the *Financial Relations Act* came into operation, the whole of the funds required by the Provinces were provided by grants from the Union Exchequer. The Act of 1913 was based on the Majority Report of the Financial Relations Commission, which was composed of a representative of each Province, with the Right Honourable Sir G. H. Murray, G.C.B., as Chairman.

It provides for—

- (a) a subsidy from Union funds of one-half of the ordinary annual expenditure of the Province, subject to certain limitations as regards the annual increase in such expenditure ;\*
- (b) the assignment to the Province, without powers of legislation in regard thereto, of the revenues derived from (i) transfer duty, (ii) liquor licences, (iii) native pass fees in Transvaal labour districts ;
- (c) the transfer to the Province, with power of legislation in regard thereto, of trading and professional licences (with certain exceptions), education fees, hospital fees, etc.
- (d) a special subsidy of £100,000 in each case to Natal and the Orange Free State, the funds otherwise placed at their disposal being insufficient to balance the commencing expenditure of these Provinces.

It is specially provided that the expenditure of any divisional council, school board, or native council out of revenues raised locally should rank as ordinary expenditure of the Province for the purpose of assessing the subsidy referred to at (a) above. This provision is necessary to put the Cape Province on terms of equality, financially, with the other Provinces. For the provincial services in the Cape are largely carried out and paid for by subsidiary local authorities, so that the charges on the Cape Provincial Revenue Fund and consequently the subsidy payable by the Union Government in respect of these charges are relatively less than in the other Provinces, where no such system of devolution exists. Seeing that the Trading and Liquor Licence revenues in Natal are collected by the municipalities, provision is made for a special grant to that Province equal to the yield of such licence revenues to the municipalities in any year. As regards the capital expenditure of the Provinces, the Act provides that it should be met from funds provided by the Union Treasury upon loan at such rate of interest and redeemable within such period as may be fixed. The interest and redemption charges rank as ordinary expenditure of the Province for purposes of the Union subsidy. The Provinces are not permitted to borrow from any source other than the Union Treasury.

In September, 1922, a Commission was appointed to inquire into and report upon the finances of the several Provinces, with the following personnel:—Messrs. J. R. Leisk, C.M.G., J. H. Hofmeyr, M.A., W. D. Baxter (Chairman), H. S. Scott, B.A., and Alex Aiken.

## B. PUBLIC REVENUE AND EXPENDITURE OF THE UNION.

### § 1. Revenue of the Union.

**1. Revenue and Expenditure of States Prior to Union.**—The following table gives particulars regarding the revenue and expenditure of the States now forming the Union from 1881 to 1910. Railway revenue and expenditure have been excluded from the figures which have been adjusted to uniform fiscal periods (1st April to 31st March):—

\* Amended by Section 2 of Act No. 5 of 1922 (see page 843).



**REVENUE AND EXPENDITURE (EXCLUDING RAILWAY REVENUE AND EXPENDITURE) OF STATES NOW FORMING THE UNION, 1881 TO 1910 (ADJUSTED TO UNIFORM FISCAL PERIODS).**

Year. (1st April to 31st March.)	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
( ) REVENUE.					
	£	£	£	£	£
1881-82.....	2,486,193	394,782	—	224,153	3,105,128
1882-83.....	2,407,682	482,567	83,266	211,800	3,185,265
1883-84.....	2,111,791	446,855	328,467	275,746	3,162,859
1884-85.....	2,225,182	482,591	286,664	228,081	3,222,518
1885-86.....	2,100,704	508,320	218,714	229,153	3,056,801
1886-87.....	1,990,524	478,110	867,302	185,883	3,021,828
1887-88.....	2,029,646	614,862	722,435	200,424	3,576,867
1888-89.....	2,235,068	784,935	1,057,691	208,107	4,285,801
1889-90.....	2,433,830	797,877	1,507,840	281,039	5,020,595
1890-91.....	2,398,166	763,849	1,216,094	377,720	4,755,829
1891-92.....	2,462,759	831,368	1,039,352	380,236	4,713,715
1892-93.....	2,565,036	704,714	1,367,544	300,092	4,946,296
1893-94.....	2,742,028	572,125	1,838,946	291,336	5,444,435
1894-95.....	2,736,251	618,751	2,570,785	283,889	6,209,676
1895-96.....	3,184,651	604,548	3,856,844	355,123	8,091,166
1896-97.....	3,755,009	873,778	4,725,089	385,270	9,739,746
1897-98.....	3,549,295	965,379	4,372,433	399,167	9,286,574
1898-99.....	3,416,040	1,100,411	4,184,246	392,985	9,093,682
1899-00.....	3,448,505	1,708,635	—	317,662	—
1900-01.....	4,082,456	1,151,397	—	226,350	—
1901-02.....	4,779,898	1,375,375	—	260,586	—
1902-03.....	5,798,365	1,677,894	4,070,632	560,401	12,107,232
1903-04.....	5,116,916	2,112,815	5,356,884	820,487	13,406,202
1904-05.....	4,527,850	1,568,987	4,642,328	808,324	11,547,489
1905-06.....	4,331,886	1,708,607	4,005,670	765,092	11,811,155
1906-07.....	4,103,017	1,682,714	5,025,287	780,323	11,591,341
1907-08.....	3,925,237	1,666,674	4,788,573	728,600	11,109,093
1908-09.....	4,156,832	1,577,836	5,469,198	863,858	12,067,724
1909-10.....	4,828,456	1,661,498	6,003,948	991,190	13,485,092
1910 (April and May)	837,066	283,410	1,015,570	169,405	2,305,451

(b) EXPENDITURE.

	£	£	£	£	£
1881-82.....	2,434,798	339,016	—	187,707	2,961,521
1882-83.....	2,881,624	471,796	90,523	200,402	3,594,485
1883-84.....	2,901,862	514,092	337,105	288,672	4,021,781
1884-85.....	2,783,121	585,730	253,109	229,871	3,851,831
1885-86.....	2,725,575	618,603	217,433	229,548	3,791,159
1886-87.....	2,556,554	563,694	324,052	200,005	3,650,305
1887-88.....	2,524,835	532,221	733,428	175,704	3,966,188
1888-89.....	2,564,126	647,030	884,403	157,147	4,253,606
1889-90.....	2,789,434	862,392	1,302,466	213,333	5,167,525
1890-91.....	3,106,337	994,422	1,486,113	312,640	5,899,612
1891-92.....	3,095,981	941,914	1,309,747	405,231	6,752,873
1892-93.....	3,161,587	848,307	1,217,088	374,459	5,601,441
1893-94.....	3,597,220	797,729	1,410,222	322,755	6,127,926
1894-95.....	3,632,898	849,082	1,970,816	314,419	6,766,715
1895-96.....	3,803,185	862,706	3,177,170	351,220	8,194,281
1896-97.....	4,651,649	906,555	4,602,061	426,536	10,676,801
1897-98.....	4,995,706	1,177,355	4,399,102	437,677	11,009,840
1898-99.....	4,830,489	2,457,714	4,423,940	441,330	12,153,473
1899-00.....	4,686,695	1,515,392	—	340,249	—
1900-01.....	5,224,595	1,271,415	—	103,481	—
1901-02.....	5,396,013	1,519,105	—	210,812	—
1902-03.....	6,472,157	2,877,830	3,470,999	686,589	13,507,575
1903-04.....	6,624,547	2,732,897	4,560,904	755,456	14,673,804
1904-05.....	6,166,920	2,528,912	4,339,126	767,227	13,799,185
1905-06.....	5,654,519	2,459,306	4,689,232	784,517	13,567,574
1906-07.....	5,572,970	2,419,668	6,278,274	770,794	14,041,646
1907-08.....	5,541,938	2,440,518	4,594,093	772,382	13,348,841
1908-09.....	5,519,063	2,370,012	4,494,429	674,372	13,057,816
1909-10.....	5,645,803	2,482,746	5,080,151	975,395	14,184,095
1910 (April and May)	948,128	421,525	875,951	181,092	2,426,696

2. **Ordinary Revenue of the Union.**—The total ordinary revenue of the Union from the date of the establishment of the Union is given according to financial years (1st April to 31st March) in the subjoined table, together with the revenue per head of the total population and per head of the European population only. The ordinary revenue is taken to exclude railway and harbour revenue, and (from 1st April, 1913) collections of revenue

on behalf of Provincial Administrations. Receipts from bewaarplaatsen, a source of revenue resulting from certain Government ownership rights in respect of gold mines in the Transvaal, have been included up to 31st March, 1917. Since that date such moneys have been appropriated to the loans account, and were not available for ordinary revenue.

**ORDINARY REVENUE OF THE UNION, AND REVENUE PER HEAD OF THE POPULATION, 1910-11 TO 1921-22.**

Year.	Customs Revenue.	Mining Revenue.	Other Revenue.	Total Revenue.	Per Head of Population.	Per Head of European Population.
	£	£	£	£	£ s. d.	£ s. d.
1910-11*	3,787,036	1,642,087	9,018,128	14,448,151	2 19 0†	13 16 2†
1911-12	4,508,844	2,185,085	10,694,401	17,369,030	2 18 0	13 11 4
1912-13	4,634,929	2,207,137	10,602,578	17,444,644	2 17 2	13 7 4
1913-14	4,733,171	2,374,311	8,873,462	15,980,944	2 11 5	12 0 4
1914-15	3,690,531	1,634,309	9,083,297	14,438,137	2 5 9	10 18 5
1915-16	4,744,691	1,666,524	10,332,190	16,743,405	2 12 0	12 2 9
1916-17	5,237,530	2,318,324	11,061,594	18,617,448	2 16 11	13 5 1
1917-18	4,588,522	1,203,450	13,865,618	19,657,599	2 19 1	13 15 1
1918-19	5,991,733	1,107,451	14,811,845	21,911,029	3 4 9	15 1 5
1919-20	6,288,525	2,324,955	18,272,477	26,885,957	4 0 10	18 4 3
1920-21	9,015,875	1,886,871	18,773,410	29,676,156	4 6 10	19 15 9
1921-22	5,292,786	460,362	23,131,122	28,884,270	4 3 2	18 19 2

\* 10 Months.

† 12 Months.

**3. Sources of Revenue.**—The ordinary revenue of the Union is derived from (a) Receipts from Customs and Excise. (b) Collections by the Inland Revenue Department under various heads, including income tax payments, taxation of mines, stamp, transfer, and other duties, and Native taxes; and (c) Revenue earned by the Postal, Telegraph and Telephone services of the Union. The revenue receipts under the main heads are given below for six financial years (1st April to 31st March).

**HEADS OF REVENUE OF THE UNION, 1915-16 TO 1920-21.**

DESCRIPTION OF REVENUE.	1915-16.	1916-17.	1917-18.	1918-10.	1919-20.	1920-21.
	£	£	£	£	£	£
Customs.....	4,744,691	5,237,530	4,588,522	5,991,733	6,288,524	9,015,875
Excise.....	808,191	955,290	1,055,305	1,241,898	1,648,150	1,300,013
Mining Revenue.....	1,666,524	2,318,324	1,203,450	1,107,451	2,452,805	1,886,871
Bewaarplaatsen.....	187,008	208,833	†	†	†	†
Licences—Trading and Professional.....	92,184	96,165	94,225	106,124	126,095	134,151
Licences—Other.....	16,947	15,520	14,361			
Stamp Duties and Fees..	471,182	509,051	585,874	674,045	958,399	1,017,844
Income Tax.....	1,028,953	1,465,401	3,860,282	4,207,013	4,696,435	4,854,378*
Estate and Succession Duty.....	186,186	181,509	208,814	224,601	282,506	358,179
Native Taxes.....	829,363	819,909	821,053	818,332	827,527	829,864
Pass Fees.....	34,368	48,316	46,974	43,040	42,168	34,895
Land Revenue.....	148,851	150,951	152,053	151,225	147,245	144,419
Forest Revenue.....	51,978	55,504	63,767	89,819	117,256	107,220
Rents of Government Property.....	105,734	105,738	107,633	108,321	138,338	196,784
Sales of Crown Land... Interest.....	95,420	†	†	†	†	†
Departmental Receipts..	3,772,065	3,062,270	4,158,160	4,201,525	4,480,382	4,699,633
Fines and Forfeitures...	442,796	431,430	510,629	543,712	814,037	724,369
Miscellaneous.....	221,500	201,773	108,413	169,015	195,581	231,267
Postal.....	78,798	85,202	94,573	85,630	84,877	151,733
Telegraph and Telephone	1,038,865	1,063,380	1,167,825	1,176,810	1,370,755	1,573,190
Excess Profits Tax....	729,712	725,164	805,777	879,835	998,872	1,211,919
	—	—	—	—	1,215,996	1,206,332
<b>TOTAL.....</b>	<b>£ 16,743,405</b>	<b>18,617,448</b>	<b>19,657,599</b>	<b>21,911,029</b>	<b>26,885,957</b>	<b>29,676,186</b>

\* Including Gold Mine Leases previously included in Mining Revenue.

† Credited to Loan Account.

4. **Customs Revenue.**—The subjoined table gives particulars of revenue derived from customs duties levied in the Union during a series of calendar years. Further details as to the customs of the Union are given in Chapter XIX.

**CUSTOMS REVENUE OF THE UNION, 1916 TO 1921.**

CLASS.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Foodstuffs of Animal Origin....	100,254	56,314	22,900	60,962	116,848	56,798
Foodstuffs of Vegetable Origin.	781,605	597,146	456,833	459,460	562,308	506,687
Non-Alcoholic Beverages.....	5,157	3,692	1,797	3,676	3,440	1,706
Spirits and Alcoholic Liquors...	681,216	687,030	469,962	534,190	844,374	814,193
Tobacco.....	124,827	114,796	97,500	78,377	96,071	60,557
Live Animals.....	39	17	28	29	41	51
Animal Substances (not Food-stuffs).....	125	49	2,063	218	273	159
Vegetable Substances (not Food-stuffs).....	1,225	1,098	3,028	1,382	1,536	1,788
Apparel and Textiles.....	229,046	310,428	2,686,014	2,013,697	3,295,950	1,602,154
Oils, Fat, and Waxes.....	208,520	179,463	119,731	161,259	202,694	161,417
Paints and Varnishes.....	—	—	—	—	—	—
Stones and Minerals.....	1,839	706	82	167	114	587
Specie.....	—	—	—	—	—	—
Metals (unmanufactured).....	11	20	90	3	37	71
Metals (partly manufactured)...	17,290	21,635	23,565	19,416	14,599	10,325
Metals (manufactured).....	44,549	47,741	264,421	478,552	998,561	583,545
Leather and Indiarubber.....	291,875	177,515	289,851	315,588	541,100	224,142
Wood and Wicker.....	23,731	18,947	84,221	80,906	281,621	144,142
Earthenware, Cements, China, Glass, and Stoneware.....	10,166	3,790	55,954	70,849	193,016	126,494
Paper and Stationery.....	51,636	50,993	81,343	81,030	127,095	97,757
Jewellery, Timepieces, and Fancy Goods.....	85,212	79,313	83,916	101,143	214,413	101,218
Optical, Surgical, and Scientific Instruments.....	52	20	6	18	38	43
Drugs, Chemicals, and Fertilizers	52,446	53,886	56,595	74,999	92,569	63,294
Miscellaneous.....	2,793,914	2,447,062	1,106,784	1,467,542	2,393,475	1,217,942
<b>TOTAL.....£</b>	<b>5,454,235</b>	<b>4,801,668</b>	<b>5,906,692</b>	<b>5,993,463</b>	<b>9,081,082</b>	<b>5,775,106</b>

5. **Excise Revenue.**—The subjoined table gives particulars of revenue from Excise in the Union during six financial years (1st April to 31st March):—

**EXCISE REVENUE OF THE UNION, 1915-16 TO 1920-21.**

DESCRIPTION.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Spirits.....	346,916	475,095	556,560	675,291	880,296	612,803
Beer.....	143,119	131,583	138,906	158,705	240,247	249,915
Cigarettes.....	187,521	198,640	227,982	256,505	323,384	286,593
Sugar.....	98,910	122,029	98,242	123,356	162,023	119,102
Matches.....	28,456	26,122	31,270	26,041	31,137	30,340
Playing Cards.....	980	1,490	2,026	1,676	858	835
Miscellaneous.....	289	321	319	324	314	358
<b>TOTAL.....£</b>	<b>806,191</b>	<b>955,280</b>	<b>1,055,305</b>	<b>1,241,898</b>	<b>1,648,159</b>	<b>1,300,013</b>

6. **Revenue from Mining.**—Particulars of the sources of revenue from mining in the Union are given hereunder for six financial years (1st April to 31st March). A special War levy of £500,000 on the profits of gold mining was imposed under the *Mining Taxation Amendment Act, 1915*. The first instalment (2½ per cent. on the profits) yielded in the financial year 1915-16 the sum of £301,186, and the balance was paid in the financial year 1916-17.

## (i) MINING REVENUE OF THE UNION, 1916-16 TO 1920-21.

DESCRIPTION.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<b>Gold Mines—</b>						
Profits Tax.....	1,253,194	1,428,314	237,739	—	—	—
Income Tax*.....	—	—	1,053,138	766,311	943,296	1,189,956
Bewaarplaatsen.....	187,029	208,823	124,725	119,055	205,452	208,021
Share of Profits.....	—	5,112	238,062	478,139	630,353	900,490
<b>Diamond Mines—</b>						
Profits Tax.....	5,907	150,119	27,999	—	—	—
Income Tax*.....	—	—	344,277	388,182	593,337	538,751
Export Duty.....	—	159,667	210,651	334,116	1,331,500	810,463
Registration Fees.....	9,941	12,980	8,530	6,014	—	—
Share of Profits.....	130,831	304,424	355,275	402,018	879,504	709,797
<b>Other Mines—</b>						
Profits Tax.....	13,616	Dr. 3,543†	19,480	—	—	—
Income Tax*.....	—	—	55,717	83,644	108,513	103,133
Share of Profits.....	12,010	21,739	26,662	10,010	4,567	4,332
Licences and Mijnpacht Dues.	241,024	239,520	261,307	259,089	279,380	272,279
<b>TOTAL.....</b>	<b>£ 1,853,552</b>	<b>2,527,155</b>	<b>2,968,562</b>	<b>2,846,558</b>	<b>4,975,902</b>	<b>4,827,222</b>

\* The Income Tax (Consolidation) Act of 1917, which came into force on 29th June, 1917, substituted taxation on incomes and dividends for the existing mining taxation [Mining Taxation Act of 1910, Mining Taxation Amendment Act of 1915, and Special War Tax (Gold Mines) Act of 1916]. This involved the transfer of about £1,500,000 from the head "Mining" to the head "Income Tax" in the Inland Revenue Account. It should be noted that the period covered by the receipts under the head "Income Tax" extends to the 30th June.

† This amount represents credits to Income Tax (under Section 5 of Act No. 24 of 1918) in excess of the amount actually received during the year under the Mining Taxation Act.

**7. Income Tax.**—Income tax during the year 1916-17 was levied throughout the Union, in terms of the *Income Tax Act*, No. 35 of 1916, on all incomes returned as having exceeded £300 during the twelve months ended 30th June, 1916. Persons with incomes which were over £300 but did not exceed £500 received abatements in respect of—

- (i) premium (not exceeding £25) for life, accident, or sickness insurance;
- (ii) fees (not exceeding £10) paid to, or benefits accrued from, friendly or benefit societies;
- (iii) children under the age of 16 years at the beginning of the year for which the return was made, at the rate of £20 for each child.

When taxable income exceeded £500 the above abatements were reduced by the amount by which the taxable income exceeded £500.

Except when the taxable income exceeded £24,300, a deduction of £300 was made off every income in order to arrive at the taxable amount. A supertax was also levied on the annual incomes of individual persons only, which exceeded £2,500 averaged over the two years preceding 30th June, 1916, subject to a scale of abatement applied to such incomes which did not exceed £7,500.

The following rates of taxation were fixed by the *Income Tax Act*, in respect of incomes received during the year ended 30th June, 1916:—

## (i) Normal tax—

- (a) On every taxable amount which did not exceed £24,000—1s. increased by  $\frac{1}{20}$  d. for every £1 of taxed amount.
- (b) On every taxable amount which exceeded £24,000—2s. per £1.

## (ii) Supertax—

- (a) On every supertaxed income which did not exceed £48,000—1s., increased by  $\frac{1}{20}$  d. for every £1 of taxed amount.
- (b) On every supertaxed income which exceeded £48,000—3s. per £1.

**8. Income Tax Consolidation Act.**—The collection of income tax for years subsequent to 1916-17 has been governed by the Income Tax (Consolidation) Act of 1917, amended by Act No. 39 of 1919, Act No. 45 of 1920, and Act No. 29 of 1921. For the tax year 1921 the following taxes are imposed:—

A. Normal tax.

B. Supertax.

C. Dividend tax.

Returns under the Act are required as follows in respect of:—

**A. NORMAL TAX** from—

- (1) Every person whose income for the year of assessment exceeded £300.
- (2) Every person who is the representative of any person whose income for the year of assessment exceeded £300.
- (3) The public officer of every company.

**B. SUPERTAX** from—

Every individual whose income as hereafter defined exceeded £2,500 during the year of assessment.

**C. DIVIDEND TAX** from—

The public officer of every company showing the amount of dividends distributed by such company after the 1st July, 1916.

Taxes under the above three descriptions are required to be levied in respect of the year of assessment, at the rates and subject to the abatements enumerated below. The general provisions of the Act are, however, applicable to any levy imposed by Parliament for any subsequent year.

(i) *Rates.*—The rates of taxation are as follows:—

**A. NORMAL TAX.**—On each taxable amount—

- (a) In the case of companies, for each £1 of taxable amount, *one shilling and sixpence*;

Provided that in the case of companies wherein (i) not more than ten of the largest shareholders hold 90 per cent. of the shares; (ii) restrictions are imposed upon the right to transfer shares; and (iii) no invitation has been issued to the public to subscribe for any shares or debentures, the rate chargeable is that applicable to persons other than companies:

- (b) In the case of persons other than companies—

- (i) when the taxable amount does not exceed £24,000, for each £1 of taxable amount, *one shilling and as many two-thousandths of a penny* as there are pounds in that amount;

- (ii) when the taxable amount exceeds £24,000, for each £1 of taxable amount, *two shillings*.

**B. SUPERTAX.**—On each supertaxable amount (in addition to the Normal Tax)—

- (i) When the amount subject to supertax does not exceed £24,000, for each £1 of such amount, *one shilling and as many five-hundredths of one penny* as there are pounds in that amount;

- (ii) when the amount subject to supertax exceeds £24,000 for each £1 of such amount, *five shillings*.

**C. DIVIDEND TAX.**—On the taxable amount—

- (1) In respect of companies whose principal business is gold mining a rate of *one shilling and sixpence* for every pound of the taxable amount of such dividend.

- (2) In respect of companies whose principal business is diamond mining, a rate of *one shilling and sixpence* for every pound of the taxable amount of such dividend.

- (3) In respect of all other companies a rate of *one shilling* for every pound of the taxable amount of such dividend.

(ii) *Taxable Amounts.*—The following provisions of Act No. 29 of 1921 define the taxable amounts in respect of each tax:—

**A. NORMAL TAX.**—The taxable amount of any income is the amount remaining after deducting from any taxable income abatements as follows (a taxable income being one exceeding £300 after deducting all admissible allowances other than abatements):—

- (1) In the case of any person (other than a company)—

- (a) In respect of every taxpayer, a sum of £300;

- (b) any sum, not exceeding £50 paid by the taxpayer during the period in respect of which a return is made, as premiums upon policies under which he, his wife, or his minor children are insured against death, accident, or sickness;

- (c) any fees or subscriptions, not exceeding £10 in the aggregate, paid by the taxpayer during the period in respect of which a return is made to any friendly or benefit society;

- (d) the sum of £50 for each child or step-child of the taxpayer maintained by him, who was or would have been, if he had lived, under the age of eighteen years on the last day of the year of assessment in respect of which, or any portion of which, the assessment is made ;
- (e) a sum of £10 for each dependent of the taxpayer ;

The total of the allowances applicable to any person under the last two preceding sub-sections is subject to reduction as follows :—

- (a) in the case of every taxpayer—
- (i) who during any portion of the period in respect of which the assessment is made was married ; or
  - (ii) who during the whole of the period in respect of which such assessment is made, was widowed or divorced, but maintained during any portion of that period a child of his own or a step-child who was, or would have been had he lived, under the age of eighteen years on the last day of the year of assessment in respect of which, or portion of which, the assessment is made :
- the reduction is to be by £1 for every completed £10 by which the taxable income of such person exceeds £600, or, when the period assessed is less than twelve months, by which it exceeds so much of £600 as is proportionate to the period assessed.
- (b) in the case of all other persons to whom paragraph (a) of this sub-section does not apply, the reduction is to be by £1 for every completed pound by which the taxable income of any such person exceeds £300, or, when the period assessed is less than twelve months, by which it exceeds so much of £300 as is proportionate to the period assessed.

(2) In the case of companies there is no abatement.

- (3) In any case in which the period taxable is less than one year, any abatements allowable in accordance with this section are proportionately reduced.

Section 16 of the principal Act provides for the exemption of certain revenues, e.g. public moneys, railway and harbour revenue, revenues of building and friendly societies, certain revenues of mutual life insurance companies, and profit-sharing societies, revenues of ecclesiastical and educational institutions, war pensions, salaries of servants of the Imperial Government, foreign consuls, Union Government officers stationed in the United Kingdom, certain mining profits already taxed, and certain dividends and other moneys.

- B. SUPERTAX.—Income subject to supertax is an amount received by or accrued to or in favour of any individual and exceeding in the aggregate £2,500 in the twelve months, the amount being determined as follows :—

The aggregate to be taken is of—

- (1) The taxable income of the individual as determined for Normal Tax purposes.
  - (2) Any dividends or debenture interest which although derived from sources within the Union or deemed to be within the Union were excluded in the computation of such taxable income ; and
  - (3) Any profits of mining taxable under the *Mining Taxation Act*, received by or accruing to or in favour of such individual during the year of assessment.
- From such aggregate are to be deducted any losses and outgoings, not being losses or outgoings of a capital nature incurred by such individual within the Union in the production of any dividends or debenture interest described above.

Where the income subject to the supertax does not amount to £5,000 there must be deducted from such income the sum of £2,500 diminished by one pound for every pound by which the income subject to supertax exceeds £2,500. The amount remaining after such deduction has been made is the amount subject to supertax.

Where the income, subject to the supertax, amounts to £5,000 or over, such income is the amount subject to supertax.

- C. DIVIDEND TAX.—All dividends distributed by companies after the 1st July, 1916, are liable to taxation subject to specified exemptions, and to the following abatements :—

Where the aggregate dividends, distributed in any accounting period liable to taxation, do not exceed £5,000, there is to be deducted from the amount of such dividends an abatement at the rate of £2,500 per annum. Provided that the abatement so allowed is to diminish by £1 for every pound by which the aggregate dividends so distributed exceed £2,500. The sum determined after deduction of any such abatement is the taxable amount.

Companies which are chargeable with normal tax at the rate applicable to persons other than companies, are exempt from the payment of dividend tax.

(iii) *Summary of Assessments—all Taxation.*—The subjoined tables give the number and value of assessments of income tax under the various Acts named.

(a) **NUMBER OF ASSESSMENTS FOR NORMAL TAX, SUPERTAX, DIVIDEND TAX AND EXCESS PROFITS DUTY MADE SINCE THE INCEPTION OF UNION INCOME TAX.**

HEADING.	NORMAL TAX.			SUPER-TAX.	DIVIDEND TAX.	GRAND TOTAL.
	Individuals.	Companies.	TOTAL.	Individuals.	Companies.	
Act No. 28 of 1914.....	5,538	614	6,152	—	—	6,152
Act No. 23 of 1915.....	44,121	912	45,033	—	—	45,033
Act No. 35 of 1916.....	47,190	1,124	48,314	1,139	—	49,453
Act No. 41 of 1917.....	53,593	1,344	54,937	1,650	332	56,928
Act No. 26 of 1918.....	66,146	1,166	67,312	2,208	377	70,197
Act No. 39 of 1919.....	78,896	1,308	80,404	2,346	386	83,136
Act No. 45 of 1920.....	55,595	1,751	54,776	2,694	273	57,743
<b>TOTAL.....</b>	<b>310,079</b>	<b>8,179</b>	<b>357,258</b>	<b>10,046</b>	<b>1,368</b>	<b>368,672</b>

(b) **VALUE OF ASSESSMENTS FOR NORMAL TAX, SUPERTAX, DIVIDEND TAX, AND EXCESS PROFITS DUTY MADE SINCE THE INCEPTION OF UNION INCOME TAX.**

HEADING.	NORMAL TAX.			SUPER-TAX.	DIVIDEND TAX.	GRAND TOTAL.
	Individuals.	Companies.	TOTAL.	Individuals.	Companies.	
Act No. 28 of 1914.....	£ 176,881	£ 326,583	£ 497,464	£ —	£ —	£ 497,464
Act No. 23 of 1915.....	833,137	525,640	1,368,777	—	—	1,368,777
Act No. 35 of 1916.....	1,030,650	788,135	1,818,785	334,101	—	2,152,886
Act No. 41 of 1917.....	1,341,909	1,081,248	2,423,217	566,598	864,411	3,854,226
Act No. 26 of 1918.....	1,789,113	1,165,876	2,994,989	825,871	938,987	4,659,847
Act No. 39 of 1919.....	1,886,865	1,155,139	3,042,301	681,205	1,009,731	4,733,237
Act No. 45 of 1920.....	1,773,243	1,277,573	3,050,816	788,461	1,037,102	4,876,579
<b>TOTAL.....£</b>	<b>8,841,858</b>	<b>6,254,491</b>	<b>15,096,349</b>	<b>3,196,236</b>	<b>3,850,231</b>	<b>22,142,816</b>

(iv) *Assessments of Income Tax (Normal).*—The table given hereunder shows the number of payers of income tax as assessed during the year ended 30th June, 1921, the amount of taxed incomes, and of tax paid in the Union and each Province:—

**NORMAL TAX.—NUMBER OF ASSESSMENTS, AMOUNTS OF TAXED INCOMES, AND AMOUNT OF TAX IN THE UNION AND EACH PROVINCE, IN RESPECT OF THE YEAR ENDED 30th JUNE, 1920.**

PROVINCE.	NUMBER OF TAXPAYERS.			AMOUNT OF TAXED INCOMES.			AMOUNT OF TAX PAYABLE.		
	Individuals.	Companies.	Total.	Individuals.	Companies.	Total.	Individuals.	Companies.	Total.
Cape of Good Hope.....	16,403	258	16,761	£ 16,887,857	£ 10,066,455	£ 26,954,312	£ 618,109	£ 498,842	£ 1,116,951
Natal.....	6,304	164	6,468	6,977,413	1,988,944	8,966,357	283,198	97,277	380,475
Transvaal.....	24,909	603	25,512	21,734,111	13,410,633	35,144,744	793,910	663,154	1,367,064
Orange Free State... ..	5,979	56	6,035	5,574,627	880,825	5,955,452	168,026	18,300	186,326
<b>UNION...</b>	<b>53,595</b>	<b>1,181</b>	<b>54,776</b>	<b>51,174,008</b>	<b>25,846,857</b>	<b>77,020,865</b>	<b>1,773,243</b>	<b>1,277,573</b>	<b>3,050,816</b>

(v) *Assessments of Normal Tax Classified.*—The tables given hereunder show the classifications of assessments (a) according to the amount of taxed incomes, (b) according to sources of income, (c) according to sources of income in respect of individuals, and (d) according to districts, where the total amount of tax paid in the district exceeded £10,000 :—

(a) **NORMAL TAX.—ASSESSMENTS CLASSIFIED ACCORDING TO AMOUNT OF TAXED INCOMES, YEAR ENDED 30th JUNE, 1920.\***

SCALE OF TAXED INCOME.	NUMBER OF TAXPAYERS.			AMOUNT OF TAXED INCOMES.			AMOUNT OF TAX PAID.		
	Individuals.	Companies.	Total.	Individuals.	Companies.	Total.	Individuals.	Companies.	Total.
£ 301-400	8,529	121	8,650	2,956,605	39,012	2,995,617	41,146	513	41,659
401-500	5,238	91	5,329	2,322,300	41,852	2,364,158	72,347	1,027	73,374
501-600	6,903	50	6,943	3,837,860	27,911	3,865,770	64,104	745	64,849
601-700	9,285	40	9,325	6,368,477	25,538	6,393,815	78,632	726	79,358
701-800	5,210	45	5,255	3,885,150	34,042	3,919,192	82,726	1,105	83,831
801-900	3,038	27	3,065	3,080,022	22,903	3,102,925	77,331	751	78,082
901-1,000	2,715	36	2,751	2,573,783	34,447	2,608,230	73,071	1,199	74,270
1,001-1,250	4,276	81	4,357	1,742,495	90,068	1,832,563	150,319	3,382	153,701
1,251-1,500	2,604	41	2,645	3,543,977	55,986	3,599,963	120,509	2,192	122,701
1,501-2,000	2,592	63	2,655	4,464,438	112,837	4,577,275	177,000	4,713	181,713
2,001-2,500	1,345	58	1,403	3,001,261	130,399	3,131,660	190,189	5,061	195,250
2,501-3,000	748	38	786	2,036,581	100,857	2,137,438	93,277	4,506	97,783
3,001-5,000	978	115	1,093	3,089,961	448,416	4,118,377	185,001	20,591	205,592
5,001-10,000	403	139	542	2,710,822	975,700	3,686,522	161,157	46,737	207,894
10,001-20,000	108	05	203	1,306,851	1,376,770	2,767,021	102,815	67,303	170,118
Over £20,000	33	111	174	1,589,370	22,330,349	23,919,719	157,466	1,116,422	1,273,888
<b>TOTAL.....</b>	<b>53,595</b>	<b>1,181</b>	<b>54,776</b>	<b>51,174,008</b>	<b>25,840,857</b>	<b>77,020,865</b>	<b>1,773,243</b>	<b>1,277,573</b>	<b>3,050,816</b>

\* Compiled to 30th June, 1921.

(b) **NORMAL TAX.—TAXED INCOMES FOR THE UNION, CLASSIFIED ACCORDING TO SOURCES, YEAR ENDED 30th JUNE, 1920.**

Year of Collection.	SOURCE OF INCOME.							
	Trade and Manufacture.	Banking and Insurance.	Mining.	Employment and Professions.	Farming.	Investments.	Miscellaneous.	Total.
<b>INDIVIDUALS.</b>								
1914-15	£ 3,680,177	—	—	£ 3,139,029	£ 582,097	£ 2,185,434	£ 481,669	£ 10,068,406
1915-16	7,289,479	—	15,509	13,181,446	1,765,966	4,146,435	276,374	26,675,209
1916-17	9,158,249	—	24,866	13,732,103	1,796,178	4,223,313	60,991	28,995,790
1917-18	11,892,301	—	145,140	15,859,300	3,820,556	4,480,139	21,855	35,734,291
1918-19	14,207,869	—	89,885	19,840,066	5,412,228	4,719,097	10,806	44,280,761
1919-20	13,822,769	—	265,025	25,722,725	6,732,979	5,197,933	44,384	51,685,515
1920-21	14,645,070	—	379,928	22,591,017	8,049,042	5,458,708	50,237	51,174,008
<b>COMPANIES.</b>								
1914-15	£ 2,635,497	£ 1,524,452	£ 919,031	—	£ 226,898	£ 518,124	£ 164,228	£ 5,988,230
1915-16	3,332,040	1,807,142	689,926	—	332,711	541,054	7,789	6,075,662
1916-17	5,880,128	1,649,296	837,168	—	453,804	628,061	—	9,448,547
1917-18	6,755,275	1,494,826	*6,666,384	—	418,805	637,046	16,122	15,988,458
1918-19	8,636,277	2,205,483	10,100,482	—	517,314	555,781	—	21,925,337
1919-20	7,417,204	1,981,656	11,962,819	—	86,961	646,773	1,662	22,097,075
1920-21	7,004,441	2,097,882	15,455,912	—	536,037	750,934	1,051	25,846,857
<b>TOTAL.</b>								
1914-15	£ 6,315,674	£ 1,524,452	£ 919,031	£ 3,139,029	£ 808,995	£ 2,703,558	£ 645,897	£ 16,056,636
1915-16	10,621,519	1,807,142	705,435	13,181,446	2,098,677	4,687,489	284,163	32,885,871
1916-17	15,038,377	1,649,296	862,034	13,732,193	2,250,672	4,851,374	60,991	38,444,937
1917-18	18,147,576	1,494,826	*6,811,524	15,859,300	4,245,361	5,128,185	37,977	51,722,749
1918-19	22,844,146	2,205,483	10,100,367	19,840,066	5,929,542	5,275,088	10,806	66,206,098
1919-20	21,039,973	1,981,656	12,227,844	25,722,725	6,819,940	5,844,406	46,046	73,682,590
1920-21	21,649,517	2,097,882	15,835,840	22,591,017	8,585,679	6,203,642	51,288	77,020,865

\* Profits from Gold and Diamond Mining assessed for first time under Income Tax Act.



(c) **NORMAL TAX.—TAXED INCOMES OF INDIVIDUALS, CLASSIFIED IN PROVINCES, ACCORDING TO SOURCES, IN RESPECT OF YEAR ENDED 30th JUNE, 1920.\***

SOURCE OF INCOME.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	TOTAL.
	£	£	£	£	£
Trade (excepting Liquor Trade)	4,490,596	2,277,068	5,707,501	1,068,418	13,633,583
Liquor Trade.....	326,729	182,728	426,702	104,330	1,040,489
Mining.....	268,808	493	122,488	2,590	394,389
Legal Profession.....	451,295	167,856	534,723	213,082	1,371,956
Medical Profession.....	340,993	97,784	403,308	112,178	954,193
Other Professions.....	355,582	124,922	312,349	97,812	990,645
Public Service.....	1,163,731	590,855	2,358,563	354,532	4,478,731
Other Employment.....	3,685,786	1,569,333	8,995,020	547,530	14,797,669
Farming.....	3,439,418	1,138,702	1,067,599	2,605,401	8,251,120
Rents.....	723,867	376,560	974,167	214,049	2,888,643
Interest.....	1,715,702	458,522	733,854	269,438	2,177,514
Other than above.....	10,864	6,855	26,403	6,592	50,714
<b>TOTAL.....</b>	<b>£ 16,973,311</b>	<b>7,000,628</b>	<b>21,852,672</b>	<b>5,601,001</b>	<b>51,427,642</b>

\* Excluding losses in one trade set off against income from other sources.

(d) Particulars are given hereunder as to the number of assessments of individuals, amount of taxed incomes, and amount of tax paid in districts in which more than £10,000 was paid in Income Taxes, during the year ended 30th June, 1921:—

(d) **NORMAL TAX.—NUMBER OF ASSESSMENTS OF INDIVIDUALS, AMOUNT OF TAXED INCOMES, AND AMOUNT OF TAX PAID IN DISTRICTS IN WHICH MORE THAN £10,000 WAS PAID IN INCOME TAXES, DURING THE YEAR ENDED 30th JUNE, 1921.**

DISTRICT.	Number of Assessments.	Amount of Taxed Incomes.	Amount of Tax Payable.
		£	£
<b>Cape of Good Hope—</b>			
Albany (Grahamstown).....	309	326,517	11,114
Cape Town (including Wynberg).....	3,903	4,997,114	205,514
East London.....	870	952,133	31,146
Kimberley.....	1,720	1,514,399	54,951
King William's Town.....	325	374,755	18,828
Malmesbury.....	291	320,183	10,321
Port Elizabeth.....	1,192	1,440,345	62,370
Queenstown.....	377	395,177	14,040
<b>Natal—</b>			
Durban.....	3,138	3,928,751	180,954
Inanda (Verulam).....	112	187,298	10,855
Pietermaritzburg.....	969	945,779	32,384
<b>Transvaal—</b>			
Benoni.....	1,300	912,009	21,843
Boksburg.....	915	594,272	14,224
Germiston.....	1,613	1,074,601	27,507
Johannesburg.....	10,238	10,596,320	392,219
Krugersdorp.....	1,793	1,160,613	27,533
Middelburg.....	442	373,951	11,636
Pretoria.....	3,405	2,769,893	83,963
Springs.....	685	469,475	11,746
<b>Orange Free State—</b>			
Bloemfontein.....	1,268	1,157,213	36,326
Harris-smith.....	314	362,929	12,484
Kroonstad.....	508	465,778	13,712

(vi) *Supertax, Dividend Tax, and Excess Profits Duty.*—The tables hereunder give particulars as to the number of assessments and tax paid (a) as Supertax, (b) as Dividend Tax, and (c) as Excess Profits Duty, the taxes being assessed as for the year ended June, 1919, and collected or compiled up to 30th June, 1920.

(a) **SUPERTAX.—NUMBER OF ASSESSMENTS, AMOUNT OF SUPERTAXABLE INCOMES, AND AMOUNT OF SUPERTAX PAYABLE IN THE UNION AND IN EACH PROVINCE, YEAR ENDED 30th JUNE, 1920.**

PROVINCE.	Number of Taxpayers.	Amount of Super-taxable Incomes.	Amount of Super-tax Payable.
		£	£
Cape of Good Hope.....	981	5,321,877	208,091
Natal.....	409	2,865,857	219,358
Transvaal.....	1,099	5,258,917	239,255
Orange Free State.....	205	858,528	31,734
UNION.....	2,694	14,305,209	788,461

(b) **DIVIDEND TAX.—PARTICULARS OF COLLECTIONS FOR THE PERIODS ENDED 30th JUNE, 1920 AND 1921, IN RESPECT OF THE TAX YEARS ENDED 30th JUNE, 1919 AND 1920.**

SOURCE OF INCOME.	TAX COLLECTION, YEAR 1919-20.			TAX COLLECTION, YEAR 1920-21.		
	Amount of Dividends on which Tax is paid.	Rate of Tax per £1.	Amount of Tax.	Amount of Dividends on which Tax is paid.	Rate of Tax per £1.	Amount of Tax.
	£	s. d.	£	£	s. d.	£
Gold Mining Companies.....	6,529,203	2 0	612,545	8,167,262	2 0	757,729
Diamond Mining Companies.....	4,652,851	1 6	348,904	2,788,158	1 6	208,961
Other Companies—Mining and Industrial.....	6,662,312	1 0	307,825	7,670,326	1 0	360,671
TOTAL.....	17,844,456	—	1,269,334	18,623,746	—	1,327,361

(c) **EXCESS PROFITS DUTY.—NUMBER OF ASSESSMENTS, AMOUNT OF EXCESS PROFITS, AND AMOUNT OF EXCESS PROFITS DUTY PAYABLE IN THE UNION AND IN EACH PROVINCE, COMPILED TO 30th JUNE, 1921, IN RESPECT OF THE TAX YEAR ENDED 30th JUNE, 1920.**

PROVINCE.	NUMBER OF DUTY-PAYERS.			AMOUNT OF EXCESS PROFITS.			AMOUNT OF EXCESS PROFITS DUTY PAYABLE.		
	Total.	Indi-vid-u-als.	Com-pan-es.	Total.	Indi-vid-u-als.	Com-pan-es.	Total.	Indi-vid-u-als.	Com-pan-es.
				£	£	£	£	£	£
Cape of Good Hope.....	308	208	100	1,551,398	549,552	1,001,846	775,699	274,776	500,923
Natal.....	169	134	35	817,654	208,568	609,086	408,827	104,284	304,543
Transvaal.....	506	398	108	1,133,140	438,438	694,702	596,579	219,219	347,351
Orange Free State.....	82	67	15	60,748	48,078	21,670	34,874	24,039	10,835
UNION....	1,065	807	258	3,571,940	1,244,636	2,327,304	1,785,979	622,318	1,163,652

**9. Death and Succession Duties.**—Act No. 29 of 1922 makes provision for a duty to be levied in respect of the estate of every person dying on or after 1st July, 1922. Estate duty is charged at the following rates:—

Dutiable Amount.	Rate per cent.	Dutiable Amount.	Rate per cent.
Up to £2,000.....	$\frac{1}{4}$	£50,000— £75,000.....	9
£2,000— £3,000.....	1	£75,000— £100,000.....	10
£3,000— £5,000.....	2	£100,000— £200,000.....	11
£5,000—£10,000.....	3	£200,000— £300,000.....	12
£10,000—£15,000.....	4	£300,000— £400,000.....	13
£15,000—£20,000.....	5	£400,000— £500,000.....	14
£20,000—£30,000.....	6	£500,000— £750,000.....	15
£30,000—£40,000.....	7	£750,000—£1,000,000.....	16
£40,000—£50,000.....	8	£1,000,000 and over.....	17

The Act further provides for the levy, in the case of any person becoming entitled to property, of a succession duty as follows:—

Degree of Relationship of Successor to Predecessor.	Rate of duty upon Dutiable Amount of Succession.
	Per cent.
Where the successor is the direct descendant or ascendant of the predecessor.....	2
Where the successor is the brother or sister of the predecessor.....	4
Where the successor is the descendant of the brother or sister of the predecessor.....	6
Where the successor is otherwise related to the predecessor or is a stranger in blood or is an institution.....	10

Provision is made for the valuation of the property when the succession consists of limited interests therein, and for the refund of a proportionate amount of the duty paid should the succession lapse and the interest pass to another. The following are exempt from succession duty:—

- Any succession accruing from any predecessor to his surviving spouse;
- any succession accruing to any public institution of a charitable, educational, or ecclesiastical nature, or required to be devoted wholly to charitable, educational, or ecclesiastical purposes of a public nature or accruing to a public institution, which has for its purposes the advancement of science or art;
- any succession accruing to any provincial administration or municipality or other local authority.

**10. Native Taxes.**—Hut tax is levied on natives in the Cape of Good Hope at 10s. per hut, in Natal at 14s. per hut, and in a small area of the Orange Free State at £1 per hut. In the Transvaal there is a poll tax of £2 levied annually on each adult male native, with a further tax of £2 per wife on every native with more than one wife. Native farm labourers and natives in municipal locations are allowed a reduction of £1 each in respect of their tax liability. In the Orange Free State there is a poll tax of £1 levied annually on each adult coloured person. The subjoined table gives the total amount collected from natives in the various Provinces during the financial year 1920-21.

#### HUT TAX AND POLL TAX COLLECTIONS, FINANCIAL YEAR 1920-21.

TAX.	PROVINCE.				
	Cape of Good Hope.	Natal	Transvaal	Orange Free State.	TOTAL.
Hut Tax.....	£ 112,449	£ 219,695	£ —	£ —	£ 332,144
Poll Tax.....	—	—	420,877	73,843	494,720
TOTAL.....£	112,449	219,695	420,877	73,843	826,864

11. **Postal Revenue.**—Particulars are given below of postal receipts and telegraph and telephone revenue in the Union for six financial years (1st April to 31st March):—

**UNION POSTAL REVENUE, FINANCIAL YEARS 1915-16 TO 1920-21.**

DESCRIPTION OF REVENUE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Postage.....	798,722	834,655	868,279	912,318	1,074,188	1,298,139
Commission (Money Orders and Postal Orders).....	40,056	40,273	41,392	38,330	51,678	34,277
Rents of Private Boxes and Bags	26,491	27,800	29,767	32,716	35,838	43,872
Ocean Mail Service.....	105,761	146,279	153,163	137,889	141,033	125,201
Miscellaneous Postal Revenue..	67,635	14,382	75,224	55,556	68,018	71,701
Telegraphs.....	390,210	342,311	380,024	417,964	475,231	529,518
Telephones.....	333,502	382,853	425,752	461,872	523,641	682,431
<b>TOTAL.....£</b>	<b>1,762,377</b>	<b>1,788,563</b>	<b>1,973,601</b>	<b>2,056,645</b>	<b>2,360,627</b>	<b>2,785,139</b>

12. **Revenue Collected for Provinces.**—Particulars are given below of revenue collected by Departments of the Union Government on behalf of the Provinces, and passed through the account of the Commissioner for Inland Revenue, for a series of financial years (1st April to 31st March).

**REVENUE COLLECTED FOR PROVINCES, FINANCIAL YEARS 1916-17 TO 1920-21.**

PROVINCE.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
Cape of Good Hope.....	348,555	399,383	506,258	764,732	933,232
Natal.....	85,397	114,133	148,845	191,197	205,123
Transvaal.....	720,545	804,222	840,976	1,656,304	1,599,580
Orange Free State.....	156,266	193,816	207,182	305,081	312,268
<b>TOTAL.....£</b>	<b>1,310,863</b>	<b>1,511,554</b>	<b>1,703,261</b>	<b>2,917,314</b>	<b>3,050,203</b>

**§ 2. Expenditure of the Union.**

1. **Ordinary Expenditure of the Union.**—The subjoined table gives the total expenditure of the Union Government charged against the Consolidated Revenue Fund (excluding, however, subsidies to Provincial Administrations. See page 843), during each financial year (1st April to 31st March) from 1910. Expenditure is also shown (a) per head of the total population, and (b) per head of the European population only.

**ORDINARY EXPENDITURE OF THE UNION, AND EXPENDITURE PER HEAD OF THE POPULATION, FINANCIAL YEARS 1910-11 TO 1921-22.**

YEAR.	Public Debt.	Posts, Telegraphs, and Telephones.	General Government.	Total Ordinary Expenditure.	Per Head of Population.	Per Head of European Population.
	£	£	£	£	£ s. d.	£ s. d.
1910-11*.....	3,531,067	1,168,576	6,254,200	10,953,843	2 4 9†	10 9 5†
1911-12.....	4,648,058	1,491,204	7,095,243	13,234,505	2 4 2	10 6 9
1912-13.....	4,675,629	1,565,529	7,562,368	13,743,526	2 5 1	10 10 8
1913-14.....	4,911,948	1,658,097	7,719,607	14,289,652	2 6 0	10 14 11
1914-15.....	4,928,735	1,649,524	7,381,490	13,959,749	2 4 2	10 6 1
1915-16.....	5,484,374	1,655,705	6,938,811	14,078,890	2 3 10	10 4 1
1916-17.....	6,286,020	1,703,016	7,501,797	15,490,833	2 7 4	11 0 7
1917-18.....	6,398,537	1,821,128	8,119,099	16,338,764	2 9 1	11 8 8
1918-19.....	6,719,992	2,074,938	9,480,788	18,284,718	2 14 0	12 11 6
1919-20.....	6,911,030	2,387,362	11,464,558	20,762,950	3 1 9	14 1 3
1920-21.....	7,315,878	3,344,475	14,928,365	25,588,718	3 14 11	17 1 3
1921-22.....	7,786,542	3,059,678	14,550,514	25,396,734	3 13 1	16 13 5

\* 10 months.

† 12 months.

2. **Classified Summary of Ordinary Expenditure (Union).**—The subjoined table gives the various classes of ordinary expenditure by the Union Government, and the amount expended (exclusive of Provincial services) for each of six financial years (1st April to 31st March):—

**CLASSIFIED ORDINARY EXPENDITURE OF THE UNION (EXCLUSIVE OF PROVINCIAL SERVICES) FOR THE FINANCIAL YEARS 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
General Government.....	1,162,513	1,213,015	1,353,235	1,719,282	2,574,408	3,405,395
Law, Order, and Protection....	3,517,338	3,902,251	4,064,749	4,477,618	5,150,690	6,813,429
Higher Education, Science, etc..	139,272	149,204	166,090	181,888	231,686	339,172
Public Health, Medical, Lepers, Mental Disorders, and Poor Relief.....	402,962	433,709	473,571	780,070	733,555	892,297
Lands and Agriculture.....	726,101	765,219	958,596	1,096,690	1,252,621	1,627,496
Mines and Industries.....	161,600	180,586	206,487	235,549	294,877	370,576
Public Works.....	468,434	496,555	528,501	584,351	670,621	812,422
Posts, Telegraphs, and Tele- phones.....	1,655,705	1,703,016	1,821,128	2,074,938	2,387,362	3,344,475
Native Affairs.....	287,593	287,446	308,767	343,210	414,995	499,922
Miscellaneous.....	73,998	73,812	59,103	61,524	*142,010	137,656
Public Debt.....	5,484,374	6,286,020	6,398,537	6,719,992	6,911,030	7,315,578
<b>TOTAL.....£</b>	<b>14,078,890</b>	<b>15,490,833</b>	<b>16,338,764</b>	<b>18,284,718</b>	<b>20,762,950</b>	<b>25,588,718</b>

\* Including Special Incremental Pay.

3. **General Government.**—Particulars are given below of the various classes of expenditure upon the general government of the Union for six financial years (1st April to 31st March), and in the series of tables which follow are given for the same period details of each class of expenditure enumerated hereunder:—

**EXPENDITURE—GENERAL GOVERNMENT, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Governor-General.....	22,762	21,180	21,208	22,827	24,804	26,543
Legislature.....	108,893	73,541	98,813	95,001	124,734	146,757
Prime Minister.....	7,156	7,413	7,593	9,028	28,134	32,043
Interior.....	47,113	52,495	58,187	52,146	52,813	73,207
Treasury.....	217,096	224,951	239,075	278,236	318,843	454,146
Audit.....	40,114	43,123	55,313	62,574	65,743	83,780
High Commissioner, London...	25,863	27,576	30,034	37,321	54,791	72,709
Printing and Stationery.....	173,082	233,100	245,755	312,471	328,031	454,055
Pensions and Gratuities.....	497,332	505,352	571,653	765,640	1,565,174	1,969,654
Commissions, etc.....	17,007	14,405	12,051	17,438	29,719	38,680
Census and Statistics.....	6,385	7,879	13,163	66,600	41,047	49,421
<b>TOTAL.....£</b>	<b>1,162,513</b>	<b>1,213,015</b>	<b>1,353,235</b>	<b>1,719,282</b>	<b>2,574,408</b>	<b>3,405,395</b>

(i) *The Governor-General.*—In terms of Section 10 of the *South Africa Act*, the salary of His Excellency the Governor-General payable by the Union Government is fixed at £10,000 per annum. The subjoined table gives particulars of expenditure under the vote for the Governor-General for six financial years (1st April to 31st March):—

**EXPENDITURE—GOVERNOR-GENERAL, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	15,201	15,497	15,358	16,047	16,237	17,392
Travelling.....	4,476	2,593	2,790	3,654	4,171	4,660
Entertainment.....	2,500	2,500	2,500	2,500	2,500	3,016
Incidental Expenses.....	585	590	650	1,226	1,890	1,395
<b>TOTAL.....£</b>	<b>22,762</b>	<b>21,180</b>	<b>21,208</b>	<b>22,827</b>	<b>24,804</b>	<b>26,543</b>

(ii) *The Legislature.*—The subjoined table gives particulars of expenditure on the Parliament of the Union, the Senate, and House of Assembly separately, the joint Houses and also on the registration of voters and Parliamentary elections, for six financial years (1st April to 31st March):—

**EXPENDITURE ON LEGISLATION (INCLUDING REGISTRATION OF VOTERS AND ELECTIONS), 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
<b>THE SENATE.</b>						
	£	£	£	£	£	£
Salaries, Wages, and Allowances	5,233	5,501	5,921	6,260	6,846	7,574
Allowances to Senators.....	20,361	10,472	14,957	14,970	15,116	16,970
Incidental Expenses.....	90	674	158	178	367	1,825
Reporting, etc.—Hansard.....	—	—	418	499	1,122	643
<b>TOTAL.....£</b>	<b>25,684</b>	<b>16,647</b>	<b>21,454</b>	<b>21,007</b>	<b>23,451</b>	<b>27,018</b>
<b>HOUSE OF ASSEMBLY.</b>						
	£	£	£	£	£	£
Salaries, Wages, and Allowances	10,000	10,848	12,324	18,513	19,677	25,078
Allowances to Members.....	49,065	32,979	47,768	47,529	42,259	65,348
Incidental Expenses.....	655	503	1,321	2,478	2,400	3,974
<b>TOTAL.....£</b>	<b>59,819</b>	<b>44,330</b>	<b>61,413</b>	<b>68,520</b>	<b>64,336</b>	<b>94,400</b>
<b>JOINT PARLIAMENTARY EXPENDITURE.</b>						
	£	£	£	£	£	£
Salaries, Wages, and Allowances	2,688	3,187	3,571	—	—	—
Hansard.....	2,280	—	—	—	—	—
Incidental Expenses.....	667	875	771	—	—	—
<b>TOTAL.....£</b>	<b>5,835</b>	<b>4,062</b>	<b>4,342</b>	—	—	—
<b>TOTAL PARLIAMENTARY EXPENDITURE.</b>						
	£	£	£	£	£	£
Salaries, Wages, and Allowances	18,020	19,536	21,816	24,773	26,523	32,652
Allowances, Senators and Mem- bers.....	69,426	43,451	62,725	62,499	57,375	82,324
Hansard.....	2,280	—	418	499	1,122	643
Incidental Expenses.....	1,612	2,052	2,250	2,656	2,827	5,799
Registration of Voters and Elec- tions.....	17,465	8,502	11,604	4,574	36,887	25,330
<b>GRAND TOTAL.....£</b>	<b>108,803</b>	<b>73,541</b>	<b>98,813</b>	<b>95,001</b>	<b>124,734</b>	<b>146,757</b>

(iii) *Prime Minister.*—Particulars are given hereunder of expenditure for six financial years (1st April to 31st March) on the Department of the Prime Minister:—

**EXPENDITURE—PRIME MINISTER, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	6,296	6,450	6,623	6,961	7,180	8,100
Transport.....	633	538	773	1,603	3,405	1,703
Incidental Expenses.....	227	425	487	524	1,015	510
Contributions towards Expenses of League of Nations' Secre- tariat.....	—	—	—	—	16,234	20,000
Expenses of Delegation to Geneva.....	—	—	—	—	—	1,370
<b>TOTAL.....£</b>	<b>7,156</b>	<b>7,413</b>	<b>7,893</b>	<b>9,028</b>	<b>28,134</b>	<b>32,043</b>

(iv) *Interior.*—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure under the vote for the Department of the Interior, exclusive of expenditure on Statistics, Museums, Libraries, Art Galleries, etc., Astronomy, Registration of Voters and Parliamentary Elections, Public Service Commission, Printing and Stationery, Public Health, Lepers and Lunatics, particulars in regard to which are given separately hereunder:—

**EXPENDITURE—INTERIOR, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>General Administration—</i>						
Salaries, Wages, etc.....	23,886	26,478	33,141	26,680	27,461	31,180
Transport.....	390	747	1,374	945	1,336	2,487
Incidental Expenses.....	284	419	881	216	780	876
<i>Immigration and Asiatic Affairs—</i>						
Salaries, Wages, etc.....	12,784	12,608	12,572	14,232	15,722	21,457
Transport.....	1,027	994	903	1,077	1,232	648
Repatriation of Asiatics.....	7,123	10,212	8,400	8,007	4,686	17,255
Repatriation of Destitute Europeans, and Assisted Immigration.....	—	—	—	—	—	—
Grants-in-Aid (Indian Trust). Incidental Expenses.....	1,619	1,037	916	1,029	1,020	1,161 3,147
<b>TOTAL.....£</b>	<b>47,113</b>	<b>52,495</b>	<b>58,187</b>	<b>52,146</b>	<b>52,813</b>	<b>78,207</b>

(v) *Treasury.*—Particulars are given hereunder of expenditure for six financial years (1st April to 31st March) on the administration of the Treasury of the Union, including the Departments of the Commissioner for Inland Revenue and Taxes and the Commissioner of Customs and Excise:—

**EXPENDITURE—TREASURY, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Treasury—</i>						
Salaries, etc.....	35,551	31,742	35,840	42,380	50,189	78,180
Transport.....	1,011	627	1,449	1,240	1,325	2,361
Incidental Expenses.....	2,970	4,495	1,214	602	1,213	19,164
<i>Inland Revenue and Taxes—</i>						
Salaries, etc.....	36,992	41,378	50,309	65,157	77,775	108,284
Transport.....	978	1,649	1,451	1,402	1,947	1,903
Incidental Expenses.....	1,512	1,878	2,148	1,764	2,819	3,474
<i>Customs and Excise—</i>						
Salaries, etc.....	131,061	135,023	138,205	156,319	172,958	226,819
Transport.....	3,217	3,935	3,891	3,790	4,033	5,114
Uniforms.....	1,590	1,322	1,532	2,525	3,108	4,881
Incidental Expenses.....	2,214	2,902	2,976	2,997	3,276	3,966
<b>TOTAL.....£</b>	<b>217,096</b>	<b>224,951</b>	<b>230,075</b>	<b>278,236</b>	<b>318,843</b>	<b>451,146</b>

(vi) *Audit.*—Particulars are given hereunder for a period of six financial years (1st April to 31st March) as to expenditure on the Department of the Controller and Auditor General of the Union, and the salaries of Provincial Auditors, which are paid by the Union Government:—

**EXPENDITURE—AUDIT, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Controller and Auditor General—</i>						
Salaries, etc.....	36,403	38,039	49,450	56,166	59,387	75,467
Transport.....	1,902	2,375	3,047	3,244	2,928	4,185
Incidental Expenses.....	224	173	213	247	296	449
<i>Provincial Audit—</i>						
Salaries.....	1,585	2,536	2,803	2,917	3,132	3,679
<b>TOTAL.....£</b>	<b>40,114</b>	<b>43,123</b>	<b>55,313</b>	<b>62,574</b>	<b>65,743</b>	<b>83,780</b>

(vii) *High Commissioner, London.*—Particulars are given hereunder for a period of six financial years (1st April to 31st March) as to expenditure on the office of the High Commissioner for the Union in London, including the office of the Trade Commissioner:—

**EXPENDITURE—HIGH COMMISSIONER, LONDON, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>High Commissioner—</i>						
Salaries, Wages, etc.....	17,839	10,013	24,148	29,188	36,685	48,213
Transport.....	94	69	71	447	766	1,051
Rent.....	2,430	2,430	2,880	2,993	3,641	5,050
Incidental Expenses.....	2,431	2,592	2,935	4,693	13,669	18,395
<i>Trade Commissioner—</i>						
Salaries, Wages, etc.....	1,732	1,484	}	.	.	.
Transport.....	409	303				
Rent.....	450	450				
Advertising, etc.....	95	98				
Incidental Expenses.....	193	237				
TOTAL.....£	25,663	27,576	30,034	37,321	54,761	72,709

\* Included in High Commissioner's expenditure.

(viii) *Printing and Stationery.*—Particulars are given hereunder for six financial years (1st April to 31st March) as to expenditure on salaries and wages, supplies, and other expenses of the Printing and Stationery Department of the Union Government:—

**EXPENDITURE—PRINTING AND STATIONERY, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	69,801	67,977	75,516	87,907	98,024	126,077
Transport.....	63	59	116	97	199	125
Printing, Paper, and Material.	23,092	37,193	60,769	82,171	76,211	94,621
Contract Printing and Binding.	25,146	37,259	40,572	36,895	56,721	92,421
Stationery Supplies.....	36,809	47,352	47,727	52,779	69,245	72,784
Advertising in Newspapers....	11,063	10,984	13,132	12,243	16,170	17,159
New Plant.....	254	620	244	948	2,096	10,400
Plant, Maintenance, and Running	1,151	1,325	1,556	1,559	2,502	2,424
Transport of Supplies and Incidental Expenses.....	5,703	5,492	—	5,048	6,523	9,315
Stores—Adjustment of Standard Stock Account.....	—	26,839	6,123	32,724	—	28,729
TOTAL.....£	173,082	235,100	245,755	312,471	328,631	454,055

(ix) *Pensions and Gratuities.*—Particulars are given hereunder as to expenditure incurred by the Union Government during a period of six financial years (1st April to 31st March) on Pensions and Gratuities:—

**EXPENDITURE—PENSIONS AND GRATUITIES, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Superannuation Allowances....	113,058	126,820	127,359	130,327	138,142	151,604
Invalid Allowances.....	63,638	64,760	66,940	73,397	78,771	79,986
Compensation Allowances.....	138,420	133,311	128,828	126,698	121,362	120,770
War Allowances.....	44,300	47,658	107,908	290,444	755,535	1,273,037
Miscellaneous Allowances.....	23,257	26,762	23,973	32,944	30,025	34,340
Contributions to Pensions and Provident Funds.....	114,659	106,041	116,647	111,830	130,439	169,036
Estimated Deficit on Transvaal Administrative and Clerical Service Pension Fund.....	—	—	—	—	250,000	—
Cost of Living Additional Allowance.....	—	—	—	—	—	140,291
TOTAL.....£	497,332	505,352	571,653	765,640	1,505,174	1,969,054



Details of civil and war pensions for which the Union Government was responsible at 30th September, 1920, and 1921, are given in the subjoined tables :—

**PARTICULARS OF PENSIONS AT 30th SEPTEMBER, 1920 AND 1921.**

DETAILS.	AT 30th SEPTEMBER, 1920.		AT 30th SEPTEMBER, 1921.	
	No.	Amount.	No.	Amount.
<b>CIVIL PENSIONS.</b>				
		£		£
Male Pensioners.....	3,614	434,618	3,743	459,785
Female Pensioners.....	605	27,274	625	32,059
<b>TOTAL.....</b>	<b>4,219</b>	<b>£461,892</b>	<b>4,368</b>	<b>£491,844</b>
<b>WAR PENSIONS.</b>				
		£		£
Pensions in respect of pre-1914 S.A. Wars—				
Disability Pensions.....	2,163	95,303	3,177	132,005
Widows and other Dependents' Pensions.....	1,009	57,538	1,419	79,757
Pensions in respect of the 1914-18 War—				
Disability Pensions.....	6,927	343,261	6,726	363,482
Widows' and other Dependents' Pensions.....	3,829	209,458	4,304	358,539
Coloured Members of the Cape Corps, Cape Auxiliary Horse Transport Corps, Cape Coloured Labour Regiment, and Coloured Drivers of the South African Field Artillery—				
Disability Pensions.....	381	8,804	317	9,200
Widows' and other Dependents' Pensions.....	299	9,152	358	16,681
<b>TOTAL.....</b>	<b>14,608</b>	<b>£723,516</b>	<b>16,331</b>	<b>£953,664</b>

The following table represents the results of an analysis of data relating to civil pensions as given in the Controller and Auditor General's Report in respect of the period ended 30th September, 1920, and shows approximately the Provincial allocation of the persons in receipt of pensions from the Union Government. In the case of pensions classed under the heading "Union" the pensioners had been awarded a pension for reasons not connected with any Provincial or former colonial administration :—

**ANALYSIS OF CIVIL PENSIONS HELD AT 30th SEPTEMBER, 1920.**

LOCAL DISTRICT.	MALES.		FEMALES.		TOTAL.	
	No.	Amount.	No.	Amount.	No.	Amount.
		£		£		£
Cape.....	2,296	247,210	451	13,607	2,747	260,817
Natal.....	521	95,317	59	6,405	580	101,722
Transvaal.....	550	69,255	46	4,018	596	67,273
Orange Free State.....	129	23,465	8	484	137	23,949
Union.....	113	5,371	41	2,700	159	8,131
<b>TOTAL.....</b>	<b>3,614</b>	<b>£434,018</b>	<b>605</b>	<b>£27,274</b>	<b>4,219</b>	<b>£461,892</b>

(x) *Commissions.*—The expenditure shown under the heading of Commissions includes the salaries of the members of the Public Service Commission and staff, together with incidental expenses, as shown in the subjoined table. Other Commissions include Statutory

Parliamentary, and Departmental Commissions of the Union Government. Details of expenditure are given hereunder for six years (1st April to 31st March):—

**EXPENDITURE—COMMISSIONS, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Commissions.....	11,040	9,421	6,784	11,548	22,882	29,374
Public Service Commission....	5,967	4,984	5,267	5,890	6,837	9,306
<b>TOTAL.....£</b>	<b>17,007</b>	<b>14,405</b>	<b>12,051</b>	<b>17,438</b>	<b>29,719</b>	<b>38,680</b>

(xi) *Census and Statistics.*—Particulars are given hereunder for six financial years (1st April to 31st March) as to expenditure under the heading of Census and Statistics. The service includes the registration of births, deaths, and marriages in the Union.

**EXPENDITURE—CENSUS AND STATISTICS, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	6,193	7,825	11,346	30,848	31,186	38,867
Transport.....	37	14	282	196	384	368
Incidental Expenses.....	155	40	1,535	35,556	9,477	10,186
<b>TOTAL.....£</b>	<b>6,385</b>	<b>7,879</b>	<b>13,163</b>	<b>66,600</b>	<b>41,047</b>	<b>49,421</b>

4. *Law, Order, and Protection.*—The subjoined table gives particulars of expenditure in the Union for six financial years (1st April to 31st March) on Law, Order, and Protection. The series of tables following give details in regard to expenditure under the various classes for the same period:—

**EXPENDITURE—LAW, ORDER, AND PROTECTION, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Justice.....	69,108	66,177	66,660	67,525	69,806	85,372
Superior Courts.....	180,736	177,446	179,788	191,382	209,046	237,502
Magistrates' Courts and Offices	428,013	416,902	433,139	467,382	500,243	626,213
Registry of Deeds.....	26,850	27,078	29,336	32,975	37,406	55,354
Police.....	1,305,743	1,368,218	1,490,874	1,759,636	2,042,242	3,496,327
Prisons and Reformatories.....	506,888	536,485	555,952	658,718	771,327	1,077,861
Defence *.....	1,000,000	1,309,885	1,300,000	1,300,000	1,520,530	1,264,716
<b>TOTAL.....£</b>	<b>3,517,338</b>	<b>3,902,251</b>	<b>4,064,749</b>	<b>4,477,618</b>	<b>5,150,600</b>	<b>6,844,420</b>

\* Including contributions to H.M. Navy and Imperial Troops.

(i) **EXPENDITURE—JUSTICE, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Administration—</i>						
Salaries, Wages, etc.....	31,926	29,938	51,104	54,741	59,812	74,433
Transport.....	2,294	2,002	2,669	2,620	2,759	3,282
Legal Expenses.....	13,933	12,176	12,494	9,810	6,860	7,267
Incidental Expenses.....	298	151	303	354	465	440
<i>Attorney-General—</i>						
Salaries, Wages, etc.....	17,366	17,501				
Incidental Expenses.....	669	449				
<i>Patents, Trade Marks, and Companies—</i>						
Salaries, Wages, etc.....	3,581	3,752				
Incidental Expenses.....	31	118				
<b>TOTAL.....£</b>	<b>69,108</b>	<b>66,177</b>	<b>66,660</b>	<b>67,525</b>	<b>69,806</b>	<b>85,372</b>

\* Included in Administration.

## (ii) EXPENDITURE—SUPERIOR COURTS, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Establishments—</i>						
Salaries.....	130,608	128,999	130,891	140,305	148,676	173,320
Transport.....	8,336	2,649	1,888	2,637	3,522	3,587
Circuit Travelling.....	5,830	5,986	6,340	6,098	6,572	7,246
Incidental Expenses.....	1,797	1,428	2,651	1,800	1,910	2,283
<i>Supreme and High Courts—</i>						
Witnesses, etc.....	7,982	4,581	4,206	3,852	5,416	5,131
Juries.....	4,423	4,195	3,725	3,811	4,418	4,638
Service of Process.....	4,961	3,725	3,517	4,005	5,889	6,555
Barristers.....	392	214	142	374	572	534
Casual Interpreting, etc.....	636	475	373	482	837	642
<i>Circuit Courts—</i>						
Witnesses, etc.....	5,547	8,354	8,345	9,576	10,663	10,910
Juries.....	5,296	6,174	6,003	6,194	6,998	6,737
Service of Process.....	6,363	7,602	7,568	7,995	9,552	10,842
Barristers.....	2,675	2,801	3,744	3,697	4,225	4,623
Casual Interpreting, etc.....	290	263	395	556	796	544
<i>Miscellaneous.....</i>	—	—	—	—	—	—
TOTAL.....£	180,736	177,446	179,788	191,382	209,046	237,592

## (iii) EXPENDITURE—MAGISTRATES, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Establishments—</i>						
Salaries, Wages, etc.....	351,337	344,618	354,712	394,991	413,693	524,036
Transport.....	23,808	22,392	26,157	26,357	31,205	37,487
Liquor Licensing Courts.....	483	1,102	516	614	833	771
Incidental Expenses.....	2,580	2,526	4,014	3,475	3,762	4,586
<i>Administration of Justice—</i>						
Witnesses.....	35,741	34,633	35,364	31,396	39,173	47,758
Medico-Legal.....	9,637	8,256	8,018	7,304	8,332	8,284
Casual Interpreting.....	2,008	1,645	1,887	1,786	1,807	1,545
Incidental Expenses.....	2,419	1,790	1,871	1,559	1,438	1,746
TOTAL.....£	428,013	416,962	433,139	467,382	500,243	626,213

## (iv) EXPENDITURE—DEEDS REGISTRY, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	26,680	26,899	29,129	32,406	36,842	54,521
Transport.....	82	69	94	355	283	471
Incidental Expenses.....	88	110	113	214	281	362
TOTAL.....£	26,850	27,078	29,336	32,975	37,406	55,354

## (v) EXPENDITURE—POLICE, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	1,086,609	1,118,870	1,215,259	1,475,894	1,715,085	*2,058,232
Transport.....	27,900	25,444	25,248	27,044	35,999	70,251
Clothing.....	42,276	48,726	75,239	66,527	84,797	115,640
Equipment.....	10,052	10,683	14,879	10,880	12,920	21,003
Forage.....	44,816	55,108	62,883	66,110	75,910	149,692
Special Escorts, etc.....	17,320	17,404	15,441	15,167	17,323	24,981
Saddlery, Harness, etc.....	15,637	16,118	17,085	18,325	23,546	34,524
Purchase of Horses, etc.....	10,467	17,539	11,561	10,929	7,988	12,721
Medical.....	18,154	20,872	24,761	29,943	28,546	28,311
Ferriery and Veterinary.....	5,198	7,141	8,615	8,300	8,381	10,970
Fuel, Light, etc.....	2,264	3,063	4,272	5,159	4,421	7,170
Detective Services.....	20,292	21,349	18,618	17,782	20,991	19,556
Grant to Recreation and Benevolent Fund.....	2,302	2,742	2,405	1,896	2,277	3,143
Incidental Expenses.....	2,447	3,159	3,608	5,740	4,058	38,810†
Special Constables—Stock Diseases.....	—	—	—	—	—	1,323
<b>TOTAL.....£</b>	<b>1,305,743</b>	<b>1,368,218</b>	<b>1,499,874</b>	<b>1,759,630</b>	<b>2,042,242</b>	<b>3,490,327</b>

\* Including salaries £278,980, Members of S.A.M.R. seconded to S.A.P.

† Including £34,438 Contingent Services for Members of S.A.M.R. seconded to S.A.P.

## (vi) EXPENDITURE—PRISONS, REFORMATORIES, AND INDUSTRIAL SCHOOLS, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<b>Administration—</b>						
Salaries, Wages, etc.....	15,413	14,964	13,901	15,908	18,419	23,120
Incidental Expenses.....	136	105	221	218	73	220
<b>Prisons and Gaols (Staff)—</b>						
Salaries, Wages, etc.....	260,503	281,864	289,885	348,502	430,068	503,539
Transport.....	11,124	12,081	12,166	11,899	12,260	14,803
Quarters and Rations.....	15,923	15,821	16,001	17,210	10,857	†
Uniform and Equipment.....	6,213	6,772	6,599	15,870	13,827	24,016
Medical.....	1,992	2,199	2,690	3,407	3,134	3,119
Incidental Expenses.....	707	613	654	1,016	784	1,037
<b>Prisons and Gaols (Inmates)—</b>						
Transport.....	18,272	19,119	16,548	17,344	20,077	27,632
Rations and Fuel.....	78,963	78,684	79,772	80,855	88,341	114,568
Clothing and Bedding.....	16,542	20,778	24,358	25,367	32,873	59,701
Medical.....	6,846	5,589	5,811	8,042	6,678	8,404
Equipment.....	12,219	17,828	15,071	24,452	19,184	32,358
Gratuities and Aid.....	5,082	4,829	4,960	4,563	4,716	4,421
Incidental Expenses.....	748	1,074	1,003	1,420	809	582
<b>Reformatories—</b>						
Salaries, Wages, etc.....	15,767	17,859	19,785	24,547	30,062	43,062
Transport.....	1,795	1,603	1,534	1,742	2,057	2,578
Rations, Clothing, Medical, etc.....	8,380	9,702	12,116	11,053	11,522	16,818
Equipment.....	2,193	3,159	3,277	3,464	4,180	5,770
Incidental Expense.....	360	336	271	328	179	352
<b>Industrial Schools—</b>						
Salaries, Wages, etc.....	5,935	6,937	7,277	10,049	14,540	22,320
Transport.....	751	1,022	900	1,493		
Rations, Clothing, and Medical	6,088	7,976	10,293	13,703	31,163	43,852
Equipment.....	1,438	2,641	2,840	6,850		
Incidental Expenses.....	170	216	255	532		
Grants*.....	4,328	4,704	7,074	8,854	15,524	32,600
<b>TOTAL.....£</b>	<b>506,888</b>	<b>536,485</b>	<b>555,952</b>	<b>658,718</b>	<b>771,327</b>	<b>1,077,861</b>

\* Grants to Certified Institutions and maintenance of children under the Children's Protection Act, 1913.

† Now included in new rates of pay.

5. **Higher Education and Science.**—The subjoined table gives particulars of expenditure in the Union for six financial years (1st April to 31st March) on Higher Education and Science. The Union Government deals only with Higher Education, the Provincial administrations being charged with the care of primary and secondary education. Particulars as to the expenditure on Higher Education are given in Chapter VI, § 1.

**EXPENDITURE—HIGHER EDUCATION AND SCIENCE, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Higher Education.....	110,288	116,088	133,482	152,285	198,824	208,221
Libraries and Museums.....	22,524	26,934	26,420	25,155	27,879	34,068
Meteorology and Astronomy...	6,460	6,182	6,188	4,448	4,983	6,883
<b>TOTAL.....£</b>	<b>139,272</b>	<b>149,204</b>	<b>166,090</b>	<b>181,888</b>	<b>231,686</b>	<b>339,172</b>

6. **Public Health and Poor Relief.**—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure by the Union Government on Public Health, Medical Administration, Lepers, Mentally Disordered Persons, and Poor Relief. General Hospitals are controlled by the Provincial administrations, which also administer Poor Relief (see C. below).

**EXPENDITURE—PUBLIC HEALTH, ETC., 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Public Health and Medical...	112,198	121,865	133,973	376,096	234,066	245,409
Mental Hospitals and Leper Institutions—						
Robben Island.....	60,568	61,760	64,410	77,831	86,156	104,071
Other Mental Hospitals...	167,119	182,885	205,850	249,555	311,643	420,081
Other Leper Institutions...	52,847	56,943	58,073	74,034	84,452	101,648
Miscellaneous Expenditure..	10,230	10,250	10,358	10,810	17,298	20,188
Poor Relief.....	—	—	—	1,350	—	—
<b>TOTAL.....£</b>	<b>402,962</b>	<b>433,709</b>	<b>473,571</b>	<b>789,676</b>	<b>733,555</b>	<b>892,297</b>

7. **Lands and Agriculture.**—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure by the Union Government on Agriculture and Forests, the administration and survey of Lands and on Irrigation and Water-boring. Further tables give details in regard to expenditure under these various heads:—

**EXPENDITURE—AGRICULTURE, LANDS, AND IRRIGATION, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Agriculture.....	456,183	476,567	581,784	665,162	738,230	956,077
Forestry.....	95,055	106,827	131,285	152,590	171,004	236,805
Lands.....	49,092	55,166	73,963	85,447	110,460	134,497
Survey.....	44,494	39,339	42,726	47,306	61,986	84,369
Irrigation.....	79,767	87,320	128,338	146,185	167,941	216,308
<b>TOTAL.....£</b>	<b>725,101</b>	<b>765,219</b>	<b>958,596</b>	<b>1,096,690</b>	<b>1,252,621</b>	<b>1,627,496</b>

## (i) EXPENDITURE—AGRICULTURE, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Agriculture—</i>						
Salaries, Wages, etc.....	255,857	267,551	296,860	344,590	381,865	504,957
Transport.....	47,059	48,509	57,443	57,284	66,743	95,742
Grants.....	2,194	2,069	4,515	5,829	7,640	10,611
Experimental Field Work and Miscellaneous.....	77,835	84,919	141,188	157,779	164,772	185,248
<b>TOTAL.....£</b>	<b>382,945</b>	<b>403,048</b>	<b>500,006</b>	<b>565,492</b>	<b>620,820</b>	<b>796,558</b>
<i>Agricultural Education—</i>						
Salaries.....	33,231	32,676	35,690	42,416	40,138	66,530
Transport.....	3,265	3,213	3,903	4,606	4,991	6,031
Scholarships and Bursaries...	2,904	1,793	1,491	2,605	4,849	8,177
Experimental.....	545	537	601	643	489	933
Maintenance.....	33,048	33,281	37,689	42,969	54,023	68,928
Miscellaneous.....	246	2,019	2,404	6,231	3,920	8,920
<b>TOTAL.....£</b>	<b>73,238</b>	<b>73,519</b>	<b>81,778</b>	<b>90,670</b>	<b>117,410</b>	<b>159,519</b>
<b>GRAND TOTAL.....£</b>	<b>456,183</b>	<b>476,567</b>	<b>581,784</b>	<b>665,162</b>	<b>738,230</b>	<b>956,077</b>

## (ii) EXPENDITURE—FORESTRY, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	38,316	40,546	46,606	58,693	68,672	89,077
Transport.....	8,489	8,363	7,725	9,387	10,558	12,606
Nurseries and Plantations.....	40,713	38,388	50,571	55,349	56,137	70,922
Forest Protection and Develop- ment.....	5,523	6,152	5,301	6,934	7,637	11,430
Uniforms.....	911	564	1,675	997	1,918	2,034
Incidental Expenses.....	1,103	2,186	1,608	1,561	4,478	3,608
Relief of Distress.....	—	10,628	17,799	19,169	21,604	41,128
<b>TOTAL.....£</b>	<b>95,055</b>	<b>106,827</b>	<b>131,285</b>	<b>152,590</b>	<b>171,004</b>	<b>236,805</b>

## (iii) EXPENDITURE—LANDS, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	35,314	39,067	42,649	51,830	62,366	87,330
Transport.....	3,884	5,078	6,854	7,023	8,237	10,255
Fencing and Maintenance of Crown Land.....	3,202	806	7,006	8,808	18,504	18,566
Land Board.....	1,808	3,885	6,099	5,941	9,757	9,386
Miscellaneous.....	5,374	5,400	11,355	11,064	11,596	*8,960
<b>TOTAL.....£</b>	<b>49,602</b>	<b>55,166</b>	<b>73,963</b>	<b>85,447</b>	<b>110,460</b>	<b>134,497</b>

\* Including £5,329 for relief of distress.

## (iv) EXPENDITURE—SURVEY, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	31,538	30,124	33,440	38,495	42,520	57,674
Transport.....	472	518	648	502	746	758
Government Surveys.....	12,126	8,255	8,144	7,793	7,824	13,039
Incidental Expenses.....	358	442	496	516	985	838
Employment of European La- bourers on Land Settlements..	—	—	—	—	12,921	17,000
<b>TOTAL.....£</b>	<b>44,494</b>	<b>39,339</b>	<b>42,726</b>	<b>47,306</b>	<b>64,986</b>	<b>89,309</b>

## (v) EXPENDITURE—IRRIGATION, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	33,308	33,300	38,536	47,516	48,149	72,576
Transport.....	8,012	7,922	10,334	9,416	8,725	12,508
Surveys.....	7,246	14,429	21,042	17,430	25,785	37,000
Maintenance of Government Irrigation Works.....	7,131	6,567	7,397	9,047	6,718	13,832
Equipment of Horses.....	219	351	—	—	—	—
Boring.....	21,724	22,978	43,624	45,291	66,248	62,642
Hydrographic Survey.....	—	—	4,366	5,056	5,455	6,405
Miscellaneous.....	2,132	1,775	3,539	12,429	8,861	5,845
TOTAL.....£	79,767	87,320	128,838	146,185	167,941	210,808

8. *Mines and Industries.*—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure by the Union Government through the Mines and Industries Department, including the cost of administration, and expenditure on development and contribution towards expenditure incurred in the prevention of miners' phthisis:—

## EXPENDITURE—MINES AND INDUSTRIES, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Salaries, Wages, etc.—</i>						
Administration.....	7,440	7,809				
Mining Commissioners.....	32,384	28,228				
Mining Titles and Townships	15,903	14,582				
Engineering.....	52,836	51,240	126,920	146,096	170,379	219,954
Geological Survey.....	6,341	4,997				
Labour and Industries.....	2,453	2,813				
Miners' Training School.....	3,515	2,737				
Boring for Minerals.....	1,140	450				
District Mining Development..	5,189	1,596	4,662	5,559	4,443	10,498
Miners' Phthisis.....	10,691	37,252	43,619	44,659	64,745	80,359
Transport and Miscellaneous Expenses.....	23,708	28,882	31,286	38,335	55,310	59,765*
TOTAL.....£	161,600	180,586	206,487	235,549	294,877	370,376

\* Includes £1,805 for Relief of Distress.

9. *Public Works.*—The subjoined table gives particulars of expenditure for six financial years (1st April to 31st March) by the Union Government on the administration of the Public Works Department, the Engineering and Architects Staff, and on Public Works and Roads and Bridges. These works last named are principally under the control of the Provincial administrations.

## EXPENDITURE—PUBLIC WORKS, 1915-16 TO 1920-21.

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	123,816	123,220	133,170	161,009	190,140	252,740
Transport.....	14,804	15,374	17,036	17,968	21,814	27,538
Plant and Stores.....	3,054	3,552	12,038	3,435	11,914	13,190
Rent, Rates, Insurance, Water, and Light.....	185,057	177,218	172,993	189,433	194,462	218,011
New Works and Buildings.....	40,290	54,013	57,189	66,412	75,785	96,974
Maintenance, Works, and Build- ings.....	97,225	119,438	126,409	138,697	165,381	161,396
Bridges—Maintenance and Minor Works.....	52	68	185	426	415	177
Incidental.....	4,106	3,670	5,581	6,971	10,710*	9,398†
TOTAL.....£	468,434	496,555	528,501	584,351	670,621	812,422

\* Including £6,054 for Peace Celebrations.

† Including £3,757 for Relief of Distress.

10. **Posts, Telegraphs, and Telephones.**—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure in the Union on the Postal, Telegraph, and Telephone services of the Union:—

**EXPENDITURE—POSTS, TELEGRAPHS, AND TELEPHONES, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.....	1,205,243	1,237,464	1,354,847	1,005,656	1,805,788	2,561,332
Transport.....	22,772	22,133	29,444	32,846	39,870	56,905
Uniforms.....	7,717	10,102	11,215	18,592	13,134	43,839
Commission on Telephone Transactions.....	2,261	2,149	—	—	—	—
Conveyance of Mails.....	324,100	323,510	323,384	328,888	334,804	498,492
Subsidy and Subscriptions.....	9,577	9,707	876	965	896	1,670
Maintenance of Telegraphs and Telephones.....	47,728	50,676	49,250	42,265	63,450	82,153
Purchase and Maintenance of Transport.....	11,331	16,925	14,322	15,652	19,767	29,434
Technical Furniture and Fittings.....	1,034	2,494	2,305	3,751	4,145	12,005
Postage Stamps.....	3,345	3,267	5,091	7,729	20,737	15,278
Telegraph and Telephone Stores.....	5,975	4,999	4,992	999	1,132	1,469
Postal Stores and Supplies.....	11,805	16,906	18,986	14,644	16,080	37,041
Incidental Expenses.....	2,817	2,594	5,516	2,951	7,469	4,767
<b>TOTAL.....£</b>	<b>1,655,705</b>	<b>1,703,016</b>	<b>1,821,128</b>	<b>2,074,938</b>	<b>2,387,362</b>	<b>3,344,475</b>

11. **Native Affairs.**—The subjoined table gives for six financial years (1st April to 31st March) particulars of expenditure by the Union Government on the administration of the Native Affairs Department, and on the various services connected therewith:—

**EXPENDITURE—NATIVE AFFAIRS, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Salaries, Wages, etc.—						
Administration.....	12,514	12,356	204,667	231,479	263,835	21,592 138,616 187,944
Native Labour Department.....	73,805	73,747				
District Administration.....	112,421	112,009				
Transport—			25,321	25,230	28,353	889 11,598 26,599
Administration.....	599	694				
Native Labour Department.....	5,576	5,786				
District Administration.....	16,711	16,329				12,376
Maintenance of Compounds.....	4,205	3,822	4,528	4,931	4,615	12,376
Uniform (Native Police).....	1,299	1,805	2,537	2,480	4,220	4,421
Administration of Justice.....	5,907	5,004	5,473	5,372	6,005	6,069
Subsidies, etc., to Chiefs and Headmen.....	20,309	21,150	23,089	24,716	25,734	21,956 4,400 46,814
Promotion of Welfare of Natives.....	1,267	1,546				
Fencing, Dipping Tanks, etc.....	27,617	25,498				
Registration of Native Births in Natal.....	2,144	2,000	—	—	—	1,995
Native Land Committees.....	—	—	6,727	—	—	—
Incidental Expenses—			6,950	8,200	14,312	2,541 503 4,109
Administration.....	92	146				
Native Labour Department.....	658	462				
District Administration.....	2,469	4,492				4,109
Relief of Distress in Native Areas.....	—	—	—	—	24,140	7,590
<b>TOTAL.....£</b>	<b>287,593</b>	<b>287,446</b>	<b>308,767</b>	<b>343,210</b>	<b>414,095</b>	<b>499,922</b>



12. **Public Debt.**—The subjoined table gives for six financial years (1st April to 31st March) particulars as to expenditure by the Union Government on the Public Debt :—

**EXPENDITURE—PUBLIC DEBT, 1915-16 TO 1920-21.**

SERVICE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	₹	₹	₹	₹	₹
Interest.....	4,873,050	5,654,831	5,815,866	6,185,316	6,365,600	6,780,953
Management.....	22,460	22,832	23,961	23,104	27,078	35,529
Redemption.....	588,864	608,357	560,710	511,572	498,253	499,396
<b>TOTAL.....£</b>	<b>5,484,374</b>	<b>6,286,020</b>	<b>6,398,537</b>	<b>6,719,992</b>	<b>6,911,030</b>	<b>7,315,878</b>

13. **Salaries, Wages, and Allowances.**—The following table gives the expenditure on salaries, wages, and allowances in all Union Government Departments for a period of years :—

**EXPENDITURE—TOTAL SALARIES, WAGES, AND ALLOWANCES PAID IN GOVERNMENT DEPARTMENTS, 1910-11 TO 1920-21.**

Department.	*Average 1910-11 to 1913-14.	1914-15.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	₹	₹	₹	₹	₹	₹	₹
Agriculture.....	322,220	208,324	289,088	300,227	332,550	387,006	430,803	571,487
Adult.....	46,558	38,743	37,988	40,575	52,053	59,083	62,519	79,146
Census and Statistics.....	35,995	7,297	6,193	7,825	11,346	30,848	31,186	38,867
Deeds Registry..	25,429	20,496	26,680	26,899	29,129	32,406	36,842	54,521
Science.....	280,351	2,671,045	4,215,151	2,431,087	2,364,735	2,214,251	513,988	540,010
Forestry.....	34,209	37,566	38,316	40,546	40,000	58,693	68,672	89,077
Governor-General's Office†	6,015	5,348	5,201	5,497	5,358	6,047	6,237	7,392
High Commissioner.....	21,688	18,278	19,571	21,367	24,148	29,188	36,685	48,213
Interior.....	48,595	40,587	36,670	39,086	45,713	40,812	43,183	52,637
Irrigation.....	29,270	37,472	33,303	33,300	38,536	47,516	48,149	72,576
Justice.....	50,037	54,008	52,873	51,281	51,194	54,744	59,812	74,433
Lands.....	29,300	30,020	35,334	39,007	42,649	51,839	62,366	87,330
Legislature†.....	18,943	18,426	18,020	19,536	21,816	24,773	26,523	32,652
Magistrates.....	329,927	350,613	351,337	344,618	354,712	394,991	413,693	524,036
Mines and Industries.....	119,279	127,842	122,012	112,856	126,920	146,996	170,379	219,954
Native Affairs...‡	197,504	195,313	198,740	198,112	204,667	231,479	263,835	348,152
Police.....	999,997	1,002,855	1,086,609	1,118,870	1,215,259	1,475,894	1,715,085	2,958,232
Posts, Telegraphs, etc.....	1,028,914	1,188,475	1,205,243	1,237,494	1,354,847	1,605,656	1,865,788	2,501,332
Prime Minister...‡	6,596	6,189	6,296	6,450	6,628	6,901	7,480	8,460
Printing and Stationery.....	73,179	72,443	69,801	67,077	75,516	87,967	98,924	126,077
Prisons and Reformatories....	252,728	298,555	306,618	321,624	331,038	399,066	493,689	682,041
Public Health...‡	57,367	62,081	64,214	65,757	68,090	80,427	88,018	140,632
Public Works...‡	145,689	159,642	124,840	123,220	134,170	161,000	190,140	252,740
Superior Courts...‡	134,001	132,525	130,008	128,909	130,891	140,305	148,676	173,320
Survey.....	31,333	32,117	31,538	30,124	33,440	38,495	42,520	57,674
Treasury.....	206,147	193,592	203,604	208,143	224,414	263,856	300,922	413,283
<b>Total.....£</b>	<b>4,531,331</b>	<b>7,111,861</b>	<b>8,713,854</b>	<b>7,020,507</b>	<b>7,326,325</b>	<b>8,070,185</b>	<b>7,225,514</b>	<b>10,215,174</b>

\* From 1st June, 1910.

† Excluding salary of Governor-General (£10,000).

‡ Excluding allowances paid to Senators and Members of the House of Assembly.

14. **Parliamentary Appropriations.**—The following tables give (i) in summary, and (ii) in certain detail, appropriations of Parliament in respect of expenditure of the Union,

for a period of two years, subsequent to the period covered by the tables given in the preceding paragraphs of this section, which contain only the audited and final figures:—

(i) **COMPARATIVE CLASSIFIED SUMMARY OF UNION APPROPRIATIONS, EXCLUDING RAILWAYS AND HARBOURS, 1921-22 AND 1922-23.**

HEADING.	APPROPRIATION.		HEADING.	APPROPRIATION.	
	1921-22.	1922-23.		1921-22.	1922-23.
	£	£		£	£
I. General Government	3,061,818	3,022,707	VIII. Posts, Telegraphs, and Telephones...	3,091,878	2,837,876
II. Law, Order, and Protection.....	8,161,784	5,357,254	IX. Native Affairs Department.....	457,384	432,650
III. Education, Science, etc.....	368,862	387,326	X. Provincial Administrations.....	4,640,000	4,213,000
IV. Public Health, Medical, Lepers, and Mental Hospitals..	896,314	865,519	XI. Miscellaneous Grants and Expenses....	†199,329	87,834
V. Lands and Agriculture.....	1,551,534	1,338,380	XII. Public Debt.....	7,682,820	8,572,402
VI. Mines and Industries	*642,218	*701,492	<b>TOTAL.....£</b>	<b>29,543,829</b>	<b>28,717,827</b>
VII. Public Works.....	789,890	811,387			

\* Including Unemployment Expenditure 1921-22, £300,000; 1922-23, £450,000.

† Including Adjustment of Salaries, 1921-22, £75,108.

(ii) **DETAILS OF UNION APPROPRIATIONS, 1921-22 AND 1922-23.**  
[I to X in Table (i) above.]

HEADING.	APPROPRIATION.		HEADING.	APPROPRIATION.	
	1921-22.	1922-23.		1921-22.	1922-23.
	£	£		£	£
<b>I. GENERAL GOVERNMENT—</b>			<b>III. EDUCATION, SCIENCE, ETC.—</b>		
(a) His Royal Highness the Governor-General.	26,271	25,791	(a) Education (including Grants).....	320,645	342,327
(b) Legislature (including Electoral Expenses)	140,554	123,199	(b) Libraries, Museums, etc. (including Grants).....	36,313	33,235
(c) Prime Minister.....	72,363	34,429	(c) Meteorology and Astronomy.....	11,904	11,764
(d) Interior.....	63,518	78,948	<b>TOTAL.....£</b>	<b>368,862</b>	<b>387,326</b>
(e) Treasury (including Customs Excise and Revenue).....	444,864	439,639			
(f) Audit.....	78,300	77,718	<b>IV. PUBLIC HEALTH, MEDICAL, LEPEES, AND MENTAL HOSPITALS—</b>		
(g) High Commissioner, London.....	85,729	74,641	(a) Public Health and Medical.....	278,669	254,049
(h) Printing and Stationery	350,650	298,599	(b) Lepers.....	123,902	110,040
(i) Pensions and Gratitudes	1,607,000	1,772,000	(c) Mental Hospitals.....	493,743	501,430
(j) Commissions and Committees.....	29,377	35,329	<b>TOTAL.....£</b>	<b>896,314</b>	<b>865,519</b>
(k) Census and Statistics..	157,792	62,214			
<b>TOTAL.....£</b>	<b>3,061,818</b>	<b>3,022,707</b>	<b>V. LANDS AND AGRICULTURE—</b>		
			(a) Lands, Administration, and Survey.....	182,808	175,893
<b>II. LAW, ORDER, AND PROTECTION—</b>			(b) Agriculture and Forests (including destruction of vermin and preservation of game).....	1,152,432	1,008,803
(a) Justice.....	80,340	78,662	(c) Irrigation and Water Boring.....	216,294	153,684
(b) Superior Courts.....	223,928	218,269	<b>TOTAL.....£</b>	<b>1,551,534</b>	<b>1,338,380</b>
(c) Divisional Courts and Offices, i.e. Magistrates.....	586,050	550,293			
(d) Registrar of Deeds....	50,628	49,734			
(e) Police.....	2,894,220	2,625,440			
(f) Prisons and Reformatories.....	985,969	919,010			
(g) Defence.....	1,340,049	915,846			
<b>TOTAL.....£</b>	<b>8,161,784</b>	<b>5,357,254</b>			

(ii) DETAILS OF UNION APPROPRIATIONS, 1921-22 AND 1922-23  
[I TO X IN TABLE (i) ABOVE]—continued.

HEADING.	APPROPRIATION.		HEADING.	APPROPRIATION.	
	1921-22.	1922-23.		1921-22.	1922-23.
	£	£		£	£
<b>VI. MINES AND INDUSTRIES—</b>			(b) Uniforms, Technical Furniture, Stores, Incidental Expenses, Subsidies, etc. . . . .	113,420	73,170
(a) Administration . . . . .	17,229	17,420	(c) Conveyance of Mails . . . . .	412,000	451,000
(b) Industries . . . . .	20,543	17,354	(d) Maintenance of Telegraphs and Telephones . . . . .	140,900	130,150
(c) District Offices (Mining Commissioners) . . . . .	46,099	45,657	(e) Purchase and Maintenance of Transport . . . . .	14,600	10,000
(d) Mining Titles and Townships . . . . .	22,306	21,478			
(e) Engineering . . . . .	98,708	95,193	<b>TOTAL . . . . . £</b>	<b>3,091,878</b>	<b>2,837,876</b>
(f) Geological Survey . . . . .	11,189	11,658			
(g) White Labour . . . . .	332,437*	481,309*			
(h) Factories . . . . .	15,657	15,873			
(i) General Mining Development . . . . .	1,000	1,000			
(k) Filling in Abandoned Shafts . . . . .	100	100			
(l) Trading Stand Licences . . . . .	1,100	1,100			
(m) Miners' Training Schools . . . . .	6,500	5,500			
(n) Miners' Phthisis . . . . .	97,148	73,650			
(o) Assistance to Diggers . . . . .	4,200	4,200			
<b>TOTAL . . . . . £</b>	<b>642,216</b>	<b>791,492</b>			
			<b>IX. NATIVE AFFAIRS DEPARTMENT—</b>		
			(a) Salaries, Wages, and Allowances (including Subsistence and Transport) . . . . .	362,334	340,750
			(b) Subsidies and Allowances to Chiefs and Headmen, and Promotion of the Welfare of Natives (Natal and Zululand) . . . . .	32,100	31,700
			(c) Administration of Justice . . . . .	5,500	5,500
			(d) Maintenance of Compounds, Fencing, Water Supplies, and Dipping Tanks in Native Areas . . . . .	45,800	44,100
			(e) Uniforms and Incidental Expenses . . . . .	9,150	8,350
			(f) Relief of Distress in Native Areas . . . . .	500	250
			(g) Registration of Native Births and Deaths (Natal) . . . . .	2,000	2,000
			<b>TOTAL . . . . . £</b>	<b>457,984</b>	<b>432,650</b>
<b>VII. PUBLIC WORKS—</b>					
(a) Salaries, Wages, etc. . . . .	231,490	185,987			
(b) Transport . . . . .	24,000	22,000			
(c) Plant and Stores . . . . .	4,300	3,300			
(d) Rent, Rates, Insurance, Water, and Light . . . . .	228,300	202,300			
(e) New Works and Buildings . . . . .	95,000	89,000			
(f) Maintenance of Works and Buildings . . . . .	202,000	241,000			
(g) Bridges—Maintenance and Minor Works . . . . .	600	600			
(h) Incidental . . . . .	4,200	4,200			
<b>TOTAL . . . . . £</b>	<b>789,890</b>	<b>811,387</b>			
			<b>X. PROVINCIAL ADMINISTRATIONS—</b>		
			(a) Salaries and Allowances . . . . .	9,000	9,000
			(b) Cape of Good Hope . . . . .	1,758,000	1,576,000
			(c) Natal . . . . .	640,000	584,000
			(d) Transvaal . . . . .	1,596,000	1,455,000
			(e) Orange Free State . . . . .	637,000	589,000
			<b>TOTAL . . . . . £</b>	<b>4,040,000</b>	<b>4,213,000</b>
<b>VIII. POSTS, TELEGRAPHS, AND TELEPHONES—</b>					
(a) Salaries, Wages, and Allowances (including Subsistence and Transport) . . . . .	2,410,958	2,178,556			

\* Including Unemployment Expenditure, 1921-22, £300,000, and 1922-23, £450,000.

## C. REVENUE AND EXPENDITURE OF PROVINCES.

## § 1. Financial System of Provinces.

1. **General.**—There is a provincial revenue fund in every Province, into which all revenues raised or received by the Province are paid. Appropriations are effected by Ordinance of the Provincial Council. It is only under the authority of such an Appropriation Ordinance that any withdrawal from the Fund can take place. The provincial accounts are audited in each case by an auditor appointed and paid by the Union Government.

## § 2. Ordinary Revenue of Provinces.

1. **Sources of Revenue.**—From the date of the constitution of the Union (31st May, 1910) until the 31st March, 1913, after which date the *Financial Relations Act*, No. 10 of 1913, became operative, the total revenue of the Provinces was derived from subsidies issued by the Union Government [see Section A (8) of this Chapter]. Section 5 of that Act provides for an annual subsidy from the Union Government amounting to one-half of the estimated ordinary expenditure for the year.\* In the case of Natal and the Orange Free State a special annual grant was provided for by Section 5 (i) (b) of the Act, under which each of these two Provinces receives £100,000 in addition from the Union Treasury. Certain other sources of revenue within each Province were made available from the 1st April, 1913, particulars of which are contained in the tables relating to revenue collections (par. 3 hereunder).

2. **Total Revenues of Provinces.**—The subjoined tables give for a series of financial years (1st April to 31st March) from 1913-14 (i) the total amount of the Union Government subsidy, and (ii) the total revenue collected in the case of each Province:—

(i) **SUBSIDIES OF UNION GOVERNMENT TO PROVINCES—FINANCIAL YEARS 1913-14 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	£	£	£	£	£
1913-14.....	862,000	361,000	629,000	341,000	2,193,000
1914-15.....	917,208	351,142	657,804	357,279	2,283,433
1915-16.....	859,000	329,000	555,482	326,146	2,069,628
1916-17.....	935,161	354,328	710,999	345,029	2,345,517
1917-18.....	1,047,441	383,777	781,811	398,406	2,611,435
1918-19.....	1,140,875	441,656	992,063	453,831	3,028,425
1919-20.....	1,444,000	531,995	1,167,586	510,000	3,653,581
1920-21.....	1,701,000	621,909	1,539,000	615,999	4,477,998

(ii) **REVENUE COLLECTIONS OF EACH PROVINCE—FINANCIAL YEARS 1913-14 TO 1920-21.**

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	£	£	£	£	£
1913-14.....	405,848	118,486	602,218	162,638	1,289,190
1914-15.....	316,688	99,923	527,329	114,145	1,058,085
1915-16.....	333,784	105,390	564,994	130,398	1,134,566
1916-17.....	366,289	124,665	720,257	203,455	1,423,666
1917-18.....	426,344	172,160	875,895	248,650	1,723,049
1918-19.....	698,226	223,287	915,733	256,507	2,093,763
1919-20.....	1,014,809	277,053	1,740,187	373,105	3,405,194
1920-21.....	1,227,862	318,687	1,693,217	357,000	3,596,766

3. **Details of Revenue Collections and Total Revenue.**—The subjoined tables give (i) the total sum under each head of revenue collected for all Provinces during five financial years (1st April to 31st March) from the coming into operation of the *Financial Relations Act*, No. 10 of 1913, together with revenue provided by the Union Government subsidy;

\* Reduced for the financial year 1922-23 to nine-tenths of the subsidy payable under Act No. 10 of 1913 in respect of the year 1921-22; the subsidy for financial years after 1922-23 not to be increased by more than 3 per cent. over the amount to which each Province was entitled for the preceding year (Act No. 5 of 1922).

and (ii) details of ordinary revenue received by each Province for the same period. In the Transvaal a special source of revenue exists in the pass fees paid by natives. In the Cape, Natal, and Transvaal Provinces there are taxes on totalizators. The Cape and Natal Provinces obtain revenue from an entertainments tax, and in the Orange Free State some revenue is derived from auction dues. In the Cape Province a considerable revenue is obtained from the property tax. With these exceptions the revenue collected may be grouped under the main heads of (a) transfer duty, (b) liquor licences, (c) general licences, including trading and vocational licences, motor licences (except in the Transvaal, where the requirement was declared *ultra vires*), and various other licences, including those for dogs, game, and fisheries; and (d) miscellaneous departmental receipts of which school and educational fees make up a considerable part, and hospital fees some further part.

(i) **DETAILS OF ORDINARY PROVINCIAL REVENUE, ALL PROVINCES,  
1916-17 TO 1920-21.**

CLASSIFICATION.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
<i>Revenue Collections—</i>					
Transfer Duty.....	316,904	411,863	553,890	969,102	947,127
Licences, Liquor.....	133,175	113,640	429,597	652,675	792,769
Licences, General.....	437,346	325,632			
Departmental Receipts (Educa- tional and Hospital Fees, etc.).....	117,733	210,945	216,326	268,019	326,194
Pass Fees, Natives (Transvaal)	362,726	342,576	343,193	352,457	352,037
Entertainment Tax.....	2,655	9,372	56,907	79,706	94,011
Totalizator Tax (Cape, Natal, and Transvaal).....	37,074	60,109	132,929	150,230	170,720
Auction Dues (Orange Free State).....	15,913	26,047	35,008	50,559	62,343
Fines and Forfeitures.....	—	87,083	32,985	47,202	41,967
Provincial Property Tax (Cape)	—	—	158,206	196,587	193,547
Miscellaneous Taxes (Trans- vaal).....	—	105,773	133,812	628,637	552,285
Corporation and Company Tax (Cape).....	—	—	—	—	34,525
Wheel Tax (Orange Free State)	—	—	—	—	19,341
<b>TOTAL COLLECTIONS...£</b>	<b>1,423,668</b>	<b>1,723,049</b>	<b>2,093,758</b>	<b>3,405,134</b>	<b>3,590,706</b>
<b>UNION GOVERNMENT SUB- SIDY.....</b>	<b>2,345,517</b>	<b>2,611,435</b>	<b>3,028,425</b>	<b>3,053,581</b>	<b>4,477,998</b>
<b>TOTAL REVENUE.....£</b>	<b>3,769,185</b>	<b>4,334,484</b>	<b>5,122,178</b>	<b>7,058,715</b>	<b>8,074,704</b>

(ii) **DETAILS OF ORDINARY PROVINCIAL REVENUE IN EACH PROVINCE,  
1916-17 TO 1920-21.**

(a) CAPE OF GOOD HOPE.

HEADS OF REVENUE.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
<i>Revenue Collections—</i>					
Transfer Duty.....	137,177	165,593	250,229	422,969	397,208
Licences, Liquor.....	49,156	49,799	48,615	48,682	47,583
Licences, Trade and Voca- tional, Motor, Dog, Game, etc.....	146,617	145,493	145,994	211,135	358,436
Tax on Totalizator and Betting	9,102	12,548	14,292	20,190	29,520
Tax on Entertainments.....	2,655	2,517	40,522	58,218	62,171
Fines and Forfeitures.....	—	*20,744	5,137	4,161	3,700
Departmental Receipts.....	21,592	29,650	35,231	52,567	101,172
Provincial Property Tax.....	—	—	158,206	196,587	193,547
Corporation and Company Tax	—	—	—	—	34,525
<b>ALL REVENUE COLLECTIONS</b>	<b>366,289</b>	<b>426,344</b>	<b>698,220</b>	<b>1,014,800</b>	<b>1,227,862</b>
<b>Union Government Subsidy [Sec. 5 (1), Act No. 10, 1913]</b>	<b>915,161</b>	<b>1,047,441</b>	<b>1,140,875</b>	<b>1,441,000</b>	<b>1,761,000</b>
<b>TOTAL.....</b>	<b>1,301,450</b>	<b>1,473,785</b>	<b>1,839,101</b>	<b>2,455,800</b>	<b>2,928,862</b>

\* Represents approximate amount for five years.

(ii) DETAILS OF ORDINARY PROVINCIAL REVENUE IN EACH PROVINCE,  
1916-17 TO 1920-21—continued.

## (b) NATAL.

HEAD OF REVENUE.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
<i>Revenue Collections—</i>					
Transfer Duty.....	37,732	62,494	78,421	116,717	121,805
Licences, Liquor.....	2,809	4,389	53,119	53,562	56,335
Licences, General.....	47,212	49,258			
Tax on Entertainments.....	—	6,855	16,385	21,488	25,043
Fines and Forfeitures.....	—	—	2,241	2,433	3,514
Totalizer Tax.....	—	—	18,593	21,460	23,337
Departmental Receipts (Education, Hospital Fees, etc.).....	36,912	49,164	54,528	61,393	85,995
<b>ALL REVENUE COLLECTIONS.....</b>	<b>124,665</b>	<b>172,160</b>	<b>223,287</b>	<b>277,053</b>	<b>318,687</b>
Union Government Subsidy (Sect. 5 (1), Act No. 10, 1913).....	230,098	261,854	316,844	405,083	497,999
Union Government Special Grant [Sect. 5 (1) (b), Act No. 10, 1913].....	100,000	100,000	100,000	100,000	100,000
Union Government Special Grant.....	24,230	21,923	24,812	26,912	24,000
<b>TOTAL.....£</b>	<b>478,993</b>	<b>555,937</b>	<b>664,943</b>	<b>809,048</b>	<b>940,686</b>

## (c) TRANSVAAL.

HEAD OF REVENUE.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
<i>Revenue Collections—</i>					
Transfer Duty.....	94,953	106,668	132,709	262,406	267,274
Licences, Liquor.....	69,228	65,714	64,356	70,954	64,551
Licences, General.....	162,509	64,183	42,468	184,336	204,350
Departmental Receipts (Education, Hospital Fees, etc.).....	11,869	77,081	76,800	86,293	94,056
Native Pass Fees.....	362,726	342,576	343,193	352,457	352,037
Miscellaneous Taxes.....	—	105,773	133,812	628,037	552,285
Racing Taxes.....	27,972	47,561	100,044	117,580	126,863
Fines and Forfeitures.....	—	66,339	22,351	37,604	31,801
<b>ALL REVENUE COLLECTIONS.....</b>	<b>729,257</b>	<b>875,895</b>	<b>915,733</b>	<b>1,740,167</b>	<b>1,693,217</b>
Union Government Subsidy (Sect. 5 (1), Act No. 10, 1913).....	710,999	781,811	992,063	1,167,586	1,539,000
<b>TOTAL.....£</b>	<b>1,440,256</b>	<b>1,657,706</b>	<b>1,907,796</b>	<b>2,907,753</b>	<b>3,232,217</b>

## (d) ORANGE FREE STATE.

HEAD OF REVENUE.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
<i>Revenue Collections—</i>					
Transfer Duty.....	47,042	77,108	92,531	167,070	160,840
Licences, Liquor.....	11,982	23,747	11,858		
Licences, General.....	81,148	66,698	63,187	83,706	58,856
Departmental Receipts (Education, etc.)	47,370	55,050	49,767		
Auction Dues.....	15,913	26,047	35,908	50,559	62,343
Fines and Forfeitures.....	—	—	3,256	3,104	2,952
Wheel Tax.....	—	—	—	—	10,341
Entertainment Tax.....	—	—	—	—	7,397
<b>ALL REVENUE COLLECTIONS.....</b>	<b>203,455</b>	<b>248,650</b>	<b>256,507</b>	<b>378,105</b>	<b>357,000</b>
Union Government Subsidy (Sect. 5 (1), Act No. 10, 1913).....	245,020	298,406	353,831	410,000	515,999
Special Grants by Union Government [Sect. 5 (1) (b), Act No. 10, 1913].....	100,000	100,000	100,000	100,000	100,000
<b>TOTAL.....£</b>	<b>548,484</b>	<b>647,056</b>	<b>710,338</b>	<b>883,105</b>	<b>972,999</b>

### § 3. Ordinary Expenditure of Provinces.

1. **Classification of Provincial Expenditure.**—The tables contained in this section give particulars of ordinary expenditure from 1910 in each Province and in all Provinces under the main heads of (i) General Administration, comprising miscellaneous expenditure on various provincial services, (ii) Education in respect of which 70 per cent. of the total expenditure of the Provinces is incurred, (iii) Hospitals and Poor Relief, and (iv) Roads, Bridges, and Works. Expenditure prior to the 1st April, 1913, was covered by grants of the Union Government, and from that date has been met in each case from the Provincial revenues derived from the sources described in the preceding section of this Chapter.

Chapter II, Section 4, gives particulars as to the functions of Provincial Administrations and the various services for which the administrations are responsible.

2. **Total Expenditure and Expenditure per Head.**—The tables given below contain particulars as to the total ordinary expenditure in each Province from 1910, and the expenditure per head of the mean total population and the mean European population:—

#### ORDINARY EXPENDITURE OF THE PROVINCES, AND EXPENDITURE PER HEAD OF THE POPULATION, 1910-11 TO 1920-21.

##### (i) Total Ordinary Expenditure.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	£	£	£	£	£
1910-11*	669,862	338,224	1,057,340	205,874	2,271,300
1911-12	930,624	376,099	1,200,069	376,775	2,883,567
1912-13	1,239,581	490,008	1,422,209	511,189	3,662,987
1913-14	1,142,206	451,001	1,251,372	476,557	3,324,136
1914-15	1,204,251	448,193	1,207,055	486,643	3,346,142
1915-16	1,202,054	439,096	1,257,255	406,109	3,305,705
1916-17	1,286,038	477,089	1,425,584	519,973	3,708,684
1917-18	1,477,354	532,474	1,633,262	611,961	4,255,051
1918-19	1,840,026	669,780	2,014,282	688,622	5,212,710
1919-20	2,278,370	803,770	2,452,886	853,026	6,388,052
1920-21	2,930,559	1,024,120	3,366,552	1,087,025	8,417,256

\* Ten Months.

##### (ii) Average Expenditure per Head of Mean Population.

YEAR.	CAPE OF GOOD HOPE.		NATAL.		TRANSVAAL.		ORANGE FREE STATE.		ALL PROVINCES.	
	Total Population.	European Population.	Total Population.	European Population.	Total Population.	European Population.	Total Population.	European Population.	Total Population.	European Population.
	s. d.	£ s. d.	s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	s. d.	£ s. d.
1910-11	6 4	1 7 11	6 10	4 5 7	0 15 6	3 1 11	0 9 7	1 8 4	9 3	2 3 5
1911-12	7 3	1 11 11	6 3	3 16 2	0 14 2	2 16 9	0 14 3	2 3 0	9 7	2 5 1
1912-13	9 6	2 2 0	8 0	4 15 6	0 16 4	3 5 3	0 18 11	2 17 11	12 0	2 16 2
1913-14	8 8	1 18 3	7 3	4 4 8	0 14 1	2 15 11	0 17 3	2 13 8	10 8	2 10 0
1914-15	9 0	1 19 11	7 0	4 1 3	0 13 3	2 12 3	0 17 4	2 14 5	10 7	2 9 5
1915-16	8 11	1 19 5	6 9	3 17 0	0 13 5	2 12 11	0 16 3	2 11 10	10 6	2 8 9
1916-17	9 5	2 1 8	7 2	4 0 9	0 14 11	2 18 5	0 17 10	2 17 5	11 2	2 12 10
1917-18	10 9	2 7 4	7 11	4 7 4	0 16 8	3 5 2	1 0 7	3 7 2	12 9	2 19 6
1918-19	13 2	2 18 4	9 9	5 6 5	1 0 1	3 18 5	1 2 9	3 15 1	15 5	3 11 8
1919-20	16 0	3 11 5	11 8	6 4 0	1 4 5	4 13 8	1 8 1	4 12 1	19 0	4 6 6
1920-21	21 4	4 11 2	14 7	7 13 4	1 12 10	6 5 11	1 15 1	5 16 3	24 7	5 12 3

3. **Classified Summary of Ordinary Expenditure.**—The subjoined tables give summaries of the total ordinary expenditure of the four Provincial administrations from 1910-11:—

## CLASSIFIED ORDINARY EXPENDITURE OF THE PROVINCES, 1910-11 TO 1920-21.

## (a) ALL PROVINCES.

Year.	General Administration.	Education.	Hospitals and Poor Relief.	Roads, Bridges, Works.	Refund of Revenue.	Total.
	£	£	£	£	£	£
1910-11*	45,307	1,310,859	182,366	732,768	—	2,271,300
1911-12.	91,581	1,640,708	265,907	885,371	—	2,883,567
1912-13.	105,432	1,869,865	303,946	1,383,744	—	3,662,987
1913-14.	169,341	2,065,407	319,100	770,288	—	3,324,136
1914-15.	178,890	2,224,456	353,245	589,533	18	3,346,142
1915-16.	202,636	2,208,843	354,655	539,401	170	3,305,705
1916-17.	267,718	2,489,493	335,084	616,389	—	3,708,684
1917-18.	281,141	3,052,884	439,750	501,247	29	4,255,051
1918-19.	293,417	3,731,444	484,828	702,942	79	5,212,710
1919-20.	342,366	4,563,291	578,494	903,877	24	6,388,026
1920-21.	471,625	5,982,989	812,055	1,150,380	198	8,417,256

## (b) CAPE OF GOOD HOPE.

Year.	£	£	£	£	£	£
1910-11*	9,290	558,194	53,800	48,578	—	669,862
1911-12.	27,319	663,662	79,320	160,323	—	930,624
1912-13.	32,989	784,714	76,263	345,616	—	1,239,581
1913-14.	74,789	853,448	112,348	101,621	—	1,142,206
1914-15.	75,317	919,485	126,864	82,585	—	1,204,251
1915-16.	105,445	917,856	122,059	56,694	—	1,202,054
1916-17.	153,135	976,294	90,202	66,407	—	1,286,038
1917-18.	138,398	1,150,525	122,476	66,955	—	1,477,354
1918-19.	146,712	1,403,841	122,385	167,088	—	1,840,026
1919-20.	172,481	1,676,208	161,929	267,752	—	2,278,370
1920-21.	231,165	2,003,567	259,179	445,648	—	2,939,559

## (c) NATAL.

Year.	£	£	£	£	£	£
1910-11*	8,538	122,759	22,790	184,137	—	338,224
1911-12.	16,059	155,473	31,053	173,514	—	376,099
1912-13.	20,293	169,366	34,780	266,569	—	490,008
1913-14.	25,343	185,206	36,687	302,766	—	451,001
1914-15.	28,692	200,575	38,510	182,398	18	448,103
1915-16.	28,880	208,209	40,973	161,755	170	439,991
1916-17.	32,192	227,556	43,323	174,018	—	477,089
1917-18.	29,912	285,467	52,164	164,902	29	532,474
1918-19.	41,390	368,750	60,588	200,975	79	669,780
1919-20.	44,780	456,048	77,151	225,767	24	803,770
1920-21.	72,686	612,854	108,119	230,263	198	1,024,120

## (d) TRANSVAAL.

Year.	£	£	£	£	£	£
1910-11*	21,796	490,012	94,676	450,856	—	1,057,340
1911-12.	36,081	628,625	138,641	396,742	—	1,200,069
1912-13.	36,596	665,749	171,190	548,674	—	1,422,209
1913-14.	49,065	723,575	150,396	331,336	—	1,254,372
1914-15.	56,524	759,872	166,940	223,719	—	1,207,060
1915-16.	47,232	789,928	174,999	245,096	—	1,257,255
1916-17.	58,152	908,295	184,152	274,985	—	1,425,584
1917-18.	68,796	1,143,352	245,308	175,806	—	1,633,262
1918-19.	78,961	1,415,099	277,574	242,648	—	2,014,282
1919-20.	96,400	1,759,114	312,109	285,263	—	2,462,886
1920-21.	129,034	2,488,019	406,307	343,192	—	3,366,552

## (e) ORANGE FREE STATE.

Year.	£	£	£	£	£	£
1910-11*	5,683	139,894	11,100	49,197	—	205,874
1911-12.	12,142	192,948	16,893	154,792	—	376,775
1912-13.	15,554	250,036	21,713	223,886	—	511,189
1913-14.	20,144	303,178	19,669	133,566	—	476,567
1914-15.	20,357	344,524	20,931	100,831	—	466,643
1915-16.	21,070	352,850	16,624	75,856	—	460,400
1916-17.	24,289	377,348	17,407	100,979	—	519,973
1917-18.	24,035	473,540	19,802	94,684	—	611,961
1918-19.	26,354	545,754	24,283	92,231	—	688,622
1919-20.	28,705	671,921	27,305	125,095	—	853,026
1920-21.	38,740	878,549	38,450	131,286	—	1,087,025

\* Ten months.

4. **General Administration.**—Particulars are given below for each financial year (1st April to 31st March) since the establishment of Union of ordinary expenditure on the general administration of the four Provinces, including all ordinary services not covered by the three other main heads of Provincial ordinary expenditure, viz., Education, Hospitals and Poor Relief, and Roads and Works.



**PROVINCIAL ORDINARY EXPENDITURE—GENERAL ADMINISTRATION,  
1910-11 TO 1920-21.**

(a) ALL PROVINCES.

Year.	Salaries and Allowances.	Executive Committee and Provincial Council.	Transport.	Miscellaneous.	Fish, Game, Vermib., Weeds.	Total.
1910-11*	£ 32,486	£ 2,934	£ 1,274	£ 1,439	£ 7,174	£ 45,307
1911-12	53,035	17,192	3,133	7,969	10,222	91,551
1912-13	60,704	18,740	4,789	7,317	13,882	105,432
1913-14	61,701	18,422	5,303	65,289	18,126	169,241
1914-15	69,600	23,107	5,957	64,384	15,842	178,890
1915-16	72,655	23,825	7,689	86,549	11,918	202,636
1916-17	74,803	24,988	8,095	147,835	11,997	267,718
1917-18	89,686	21,845	8,949	130,714	9,947	261,141
1918-19	108,321	25,196	10,331	126,079	22,860	293,617
1919-20	130,879	25,253	12,410	129,716	44,108	342,366
1920-21	187,090	20,994	14,409	195,653	53,479	471,625

(b) CAPE OF GOOD HOPE.

Year.	Salaries and Allowances.	Executive Committee and Provincial Council.	Transport.	Miscellaneous.	Fish, Game, Vermib., Weeds.	Total.
1910-11*	£ 7,159	£ 324	£ 178	£ 632	£ 997	£ 9,290
1911-12	14,544	7,913	462	3,427	973	27,319
1912-13	17,249	7,802	2,398	3,470	2,070	32,989
1913-14	18,610	8,055	2,050	39,208	5,966	74,789
1914-15	24,243	6,450	3,392	36,834	4,398	75,317
1915-16	25,005	7,721	3,618	63,769	4,732	105,445
1916-17	27,855	7,897	4,156	107,457	5,770	153,135
1917-18	36,960	7,767	4,228	86,018	3,525	138,398
1918-19	45,109	7,964	4,867	73,273	15,499	146,712
1919-20	54,376	7,891	4,987	71,197	34,030	172,481
1920-21	85,084	4,580	6,606	99,991	34,904	231,165

(c) NATAL.

Year.	Salaries and Allowances.	Executive Committee and Provincial Council.	Transport.	Miscellaneous.	Fish, Game, Vermib., Weeds.	Total.
1910-11*	£ 5,820	£ 1,080	£ 118	£ 407	£ 1,113	£ 8,538
1911-12	8,215	4,199	284	1,175	2,186	16,059
1912-13	10,526	4,708	205	1,471	3,383	20,293
1913-14	8,887	4,368	191	8,465	3,937	25,843
1914-15	10,773	4,839	286	6,939	3,855	26,692
1915-16	10,853	4,809	285	8,789	4,153	28,889
1916-17	11,086	4,677	407	12,609	3,213	32,192
1917-18	13,373	3,973	413	9,060	3,073	29,912
1918-19	16,228	4,751	1,413	16,181	3,757	41,390
1919-20	17,725	5,095	1,745	16,120	4,095	44,780
1920-21	23,767	4,830	2,229	33,568	8,292	72,686

(d) TRANSVAAL.

Year.	Salaries and Allowances.	Executive Committee and Provincial Council.	Transport.	Miscellaneous.	Fish, Game, Vermib., Weeds.	Total.
1910-11*	£ 13,943	£ 1,530	£ 937	£ 322	£ 5,064	£ 21,796
1911-12	18,411	5,080	2,218	3,239	7,083	36,061
1912-13	18,212	6,230	1,858	2,049	8,247	36,596
1913-14	19,570	6,004	2,206	13,316	7,969	49,065
1914-15	22,800	7,147	2,097	16,918	7,562	56,524
1915-16	23,202	6,787	2,934	11,277	3,032	47,232
1916-17	22 391	7,294	2,556	22,899	3,012	58,152
1917-18	25,598	5,958	2,990	30,901	3,349	68,796
1918-19	31,528	7,579	2,340	33,388	3,626	78,961
1919-20	40,382	7,471	4,328	38,236	5,983	96,400
1920-21	55,207	6,663	3,907	54,090	9,167	129,034

(e) ORANGE FREE STATE.

Year.	Salaries and Allowances.	Executive Committee and Provincial Council.	Transport.	Miscellaneous.	Fish, Game, Vermib., Weeds.	Total.
1910-11*	£ 5,564	£ 41	£ 78	—	—	£ 5,683
1911-12	11,805	169	108	—	—	12,142
1912-13	14,717	328	327	182	—	15,554
1913-14	15,134	456	4,300	254	—	20,144
1914-15	11,784	4,071	182	3,693	27	20,357
1915-16	12,995	4,508	852	2,714	1	21,070
1916-17	13,471	4,920	976	4,870	2	24,239
1917-18	13,855	4,147	1,318	4,715	—	24,035
1918-19	16,396	4,992	1,211	3,837	8	26 354
1919-20	18,396	4,796	1,350	4,163	—	28,705
1920-21	23,032	4,921	1,667	8,004	1,116	38,740

\* Ten months.

**5. Expenditure of Provinces on Education.**—In accordance with the provisions of Section 85 (iii) of the *South Africa Act*, for a term of five years (1910-15) and thereafter until otherwise determined by Parliament, education, other than higher education (for which the Union Government is responsible) has been placed under the control of the Provincial administrations. No legislation has been introduced to alter this administrative

arrangement, and expenditure on education forms by far the largest item of expenditure in the Provinces. The subjoined tables give for all Provinces the ordinary expenditure on education for each financial year (1st April to 31st March) since the establishment of Union, and the distribution of expenditure under main headings in each Province for the same period. Further details in respect of expenditure on education are given in Chapter VI.

**PROVINCIAL ORDINARY EXPENDITURE—EDUCATION (OTHER THAN HIGHER EDUCATION), 1910-11 TO 1920-21.**

(a) ALL PROVINCES.

Year.	Adminis- tration and Inspection.	Training of Teachers.	Schools.	General.	Total.
	£	£	£	£	£
1910-11*	69,800	60,065	1,136,855	45,139	1,310,859
1911-12	87,082	72,211	1,421,046	60,369	1,640,708
1912-13	94,836	81,911	1,618,964	74,154	1,869,865
1913-14	100,669	91,840	1,799,187	78,711	2,069,407
1914-15	104,489	106,552	1,931,476	81,039	2,224,456
1915-16	107,366	114,537	1,964,421	82,519	2,268,843
1916-17	113,544	128,586	2,136,091	111,272	2,489,493
1917-18	187,718	136,342	2,608,079	120,745	3,052,884
1918-19	225,615	152,334	3,207,258	146,237	3,731,444
1919-20	287,164	181,221	3,956,686	138,220	4,563,291
1920-21	450,649	212,000	5,073,555	246,785	5,982,989

(b) CAPE OF GOOD HOPE.

	£	£	£	£	£
1910-11*	32,298	36,693	450,605	29,598	558,194
1911-12	39,528	43,255	543,260	37,619	663,662
1912-13	41,389	47,590	652,315	43,420	784,714
1913-14	44,752	52,662	707,714	48,320	853,448
1914-15	46,541	63,733	754,935	54,276	919,485
1915-16	49,566	72,488	740,741	55,061	917,856
1916-17	49,874	88,110	780,375	57,935	976,294
1917-18	115,691	89,497	902,340	42,997	1,159,525
1918-19	145,084	102,710	1,139,572	16,475	1,403,841
1919-20	189,366	105,444	1,363,621	17,777	1,676,208
1920-21	319,761	133,796	1,333,578	16,432	2,003,567

(c) NATAL.

	£	£	£	£	£
1910-11*	8,713	3,567	112,364	115	122,759
1911-12	9,332	4,050	142,076	15	155,473
1912-13	9,702	4,266	155,349	49	169,366
1913-14	9,659	4,579	170,950	18	185,206
1914-15	9,898	3,870	185,786	21	200,575
1915-16	10,020	4,743	193,426	20	208,209
1916-17	11,442	5,249	210,734	131	227,556
1917-18	16,336	6,645	240,180	23,306	286,467
1918-19	19,427	6,315	309,007	32,001	366,750
1919-20	26,492	12,805	368,318	48,433	450,048
1920-21	31,617	14,658	507,938	58,441	612,554

(d) TRANSVAAL.

	£	£	£	£	£
1910-11*	21,498	16,381	439,000	13,043	490,012
1911-12	25,946	19,308	563,493	19,878	628,625
1912-13	28,332	16,894	590,258	28,265	663,749
1913-14	29,516	19,433	651,998	19,628	729,575
1914-15	30,626	22,540	684,108	22,499	759,872
1915-16	30,817	23,607	717,158	18,456	789,928
1916-17	34,709	21,484	805,543	46,568	908,299
1917-18	36,479	26,257	1,040,938	39,878	1,143,352
1918-19	39,660	29,310	1,266,106	80,023	1,415,099
1919-20	49,447	45,747	1,617,963	46,855	1,759,114
1920-21	69,151	42,857	2,204,980	111,021	2,488,019

(e) ORANGE FREE STATE.

	£	£	£	£	£
1910-11*	9,291	3,425	124,795	2,383	139,894
1911-12	12,276	5,598	172,217	2,857	192,948
1912-13	15,413	11,161	221,042	2,420	250,036
1913-14	16,742	15,166	265,525	5,745	303,178
1914-15	17,424	15,400	306,557	5,143	344,524
1915-16	17,163	13,609	313,096	8,982	352,850
1916-17	17,528	13,743	339,439	6,638	377,348
1917-18	19,212	14,943	424,621	14,764	478,540
1918-19	21,444	13,999	492,573	17,738	545,754
1919-20	21,859	17,225	607,682	25,155	671,921
1920-21	29,920	20,689	767,049	60,891	878,549

\* Ten months.

6. **Expenditure on Hospitals and Poor Relief.**—Particulars are given in the subjoined tables in respect of all Provinces for each financial year (1st April to 31st March) since the establishment of Union, and in respect of each Province for the same period, as to ordinary expenditure on hospitals and poor relief. Further details in respect of these services are given in Chapters V and IX.

**PROVINCIAL ORDINARY EXPENDITURE—HOSPITALS AND POOR RELIEF, 1910-11 TO 1920-21.**

(a) ALL PROVINCES.

Year.	Salaries and Allowances.	Supplies and Services.	Poor Relief.	Total.
1910-11*	£ 18,504	£ 145,059	£ 18,203	£ 182,306
1911-12	23,546	210,634	31,727	265,907
1912-13	25,679	242,697	35,570	303,946
1913-14	26,814	255,422	36,864	319,100
1914-15	23,536	274,305	55,404	353,245
1915-16	19,985	276,906	57,764	354,655
1916-17	23,795	255,153	56,136	335,084
1917-18	23,208	352,382	64,160	439,750
1918-19	119,044	308,978	61,811	489,833
1919-20	105,886	401,388	71,220	578,494
1920-21	129,669	523,017	99,369	752,055

(b) CASE OF GOOD HOPE.

Year.	£	£	£	£
1910-11*	5,201	38,066	9,933	53,800
1911-12	6,355	57,807	15,158	79,320
1912-13	7,472	54,075	13,816	75,363
1913-14	7,786	90,928	13,634	112,348
1914-15	7,859	100,676	18,329	126,864
1915-16	7,985	94,875	19,199	122,059
1916-17	7,897	61,509	20,796	90,202
1917-18	9,862	92,858	20,256	122,976
1918-19	11,131	86,543	24,711	122,385
1919-20	13,424	119,809	28,696	161,929
1920-21	19,988	189,025	50,166	259,179

(c) NATAL.

Year.	£	£	£	£
1910-11*	5,176	17,614	—	22,790
1911-12	6,610	24,543	—	31,053
1912-13	6,744	26,276	1,760	34,780
1913-14	7,144	27,984	1,559	36,687
1914-15	6,939	30,025	1,546	38,510
1915-16	7,154	32,122	1,697	40,973
1916-17	7,914	33,879	1,530	43,323
1917-18	9,724	40,858	1,582	52,164
1918-19	11,412	47,284	1,890	60,586
1919-20	15,439	59,586	2,126	77,151
1920-21	19,116	86,666	2,337	108,119

(d) TRANSVAAL.

Year.	£	£	£	£
1910-11*	5,393	84,425	4,858	94,676
1911-12	7,192	121,807	9,642	138,641
1912-13	7,714†	153,721	9,755	171,190
1913-14	7,886†	129,197	13,313	150,396
1914-15	8,346†	131,929	26,665	166,940
1915-16	4,846†	142,396	27,757	174,999
1916-17	7,984†	150,957	25,211	184,152
1917-18	4,122†	208,661	32,525	245,308
1918-19	75,105†	177,864	24,605	277,574
1919-20	77,023†	208,279	26,807	312,109
1920-21	90,565†	282,346	33,396	406,307

(e) ORANGE FREE STATE.

Year.	£	£	£	£
1910-11*	2,734	4,954	3,412	11,100
1911-12	3,489	6,477	6,927	16,893
1912-13	3,749	7,725	10,239	21,713
1913-14	3,999	7,313	8,357	19,669
1914-15	392	11,675	8,864	20,931
1915-16	—	7,513	9,111	16,624
1916-17	—	8,808	8,599	17,407
1917-18	—	10,005	9,797	19,802
1918-19	—	13,678	10,605	24,283
1919-20	—	13,714	13,591	27,305
1920-21	—	24,980	13,470	38,450

\* Ten months.

† Rietfontein and Tzaneen Hospitals only.

: All Hospitals.

7. **Expenditure on Public Works and Roads.**—Particulars are given in the subjoined tables in respect of all Provinces, for each financial year (1st April to 31st March) since the establishment of Union, and in respect of each Province for the same period, as to ordinary expenditure by Provincial administrations on Public Works, Roads and Bridges. Further details as to Roads and Bridges are given in Chapter XXI.

**PROVINCIAL ORDINARY EXPENDITURE—PUBLIC WORKS AND ROADS, 1910-11 TO 1920-21.**

Year.	Super- vision.	Rents, Rates, Water, Insurance, Light, Furniture, etc.	WORKS.		ROADS AND BRIDGES.		Miscel- laneous.	Total.
			New.	Main- tenance.	New.	Main- tenance.		
1910-11*	£ 9,612	£ 65,428	£ 267,300	£ 57,963	£ 89,976	£ 242,489	£ —	£ 732,768
1911-12	18,510	92,487	269,700	71,235	153,628	279,811	—	885,371
1912-13	30,057	99,331	563,344	67,624	277,741	345,197	450	1,383,744
1913-14	34,901	112,823	28,848	68,438	170,975	353,274	1,029	770,288
1914-15	37,523	98,178	20,105	35,832	132,226	264,806	863	589,533
1915-16	36,516	99,346	8,151	35,230	68,291	285,153	6,804	539,401
1916-17	39,488	107,960	9,450	57,794	94,713	291,639	15,345	616,389
1917-18	41,708	3,370	1,693	4,634	101,469	321,676	26,697	501,247
1918-19	49,671	3,160	894	4,077	95,590	419,764	129,777	702,942
1919-20	60,688	5,902	3,390	10,831	135,967	462,696	224,403	903,877
1920-21	84,186	7,891	3,803	21,004	146,945	509,936	376,624	1,150,389

(a) ALL PROVINCES.

Year.	£	£	£	£	£	£	£	£
1910-11*	—	—	—	1,988	16,464	30,126	—	48,578
1911-12	7,035	—	62,118	1,377	49,195	49,598	—	160,323
1912-13	7,169	—	227,330	840	77,810	32,460	—	345,615
1913-14	8,738	—	560	1,890	46,728	43,705	—	101,821
1914-15	8,313	—	256	533	39,384	34,079	—	82,585
1915-16	7,140	—	321	852	8,303	40,078	—	56,604
1916-17	7,334	—	435	1,148	17,270	40,220	—	66,407
1917-18	8,296	—	119	1,167	10,331	48,051	—	65,955
1918-19	8,898	—	527	1,036	11,441	36,907	108,270	167,088
1919-20	12,274	—	459	2,667	17,345	39,242	195,804	267,732
1920-21	16,037	—	1,506	11,343	18,315	43,885	352,562	445,648

(b) CAPR OF GOOD HOPE.

Year.	£	£	£	£	£	£	£	£
1910-11*	—	6,918	68,257	16,040	37,603	55,321	—	184,137
1911-12	—	9,825	34,231	27,844	30,115	71,199	—	173,514
1912-13	6,735	8,761	53,636	16,024	70,528	110,485	—	265,569
1913-14	7,658	9,606	6,597	14,955	53,636	111,313	—	201,765
1914-15	10,614	7,821	5,277	8,915	62,659	97,112	—	182,398
1915-16	10,937	8,209	2,984	8,651	40,590	90,384	—	161,755
1916-17	11,649	9,511	4,052	7,793	43,724	97,285	4	174,018
1917-18	11,807	2,107	695	2,464	36,741	111,084	—	164,902
1918-19	14,378	1,774	292	2,386	46,320	135,915	—	200,975
1919-20	14,746	3,185	2,916	6,922	49,009	148,989	—	225,767
1920-21	19,591	5,612	2,135	6,982	41,094	154,849	—	230,263

(c) NATAL.

Year.	£	£	£	£	£	£	£	£
1910-11*	9,612	46,231	187,050	36,470	29,277	142,216	—	450,856
1911-12	11,475	61,972	112,645	37,495	29,738	152,422	—	396,742
1912-13	10,440	62,504	210,222	43,767	21,952	100,309	450	548,074
1913-14	11,007	67,925	9,057	45,773	9,826	186,872	876	331,336
1914-15	10,399	61,390	7,966	23,646	4,542	115,364	472	223,719
1915-16	10,614	63,803	1,481	22,933	10,628	133,365	2,222	245,096
1916-17	12,024	70,923	963	45,554	7,153	131,406	6,962	274,985
1917-18	11,429	915	888	1,903	10,013	137,963	13,365	175,806
1918-19	14,435	1,018	165	655	14,683	208,211	3,481	242,648
1919-20	19,136	2,194	54	1,242	18,374	238,750	5,504	285,263
1920-21	29,183	1,715	162	2,679	31,733	266,880	10,818	343,192

\* Ten months.

(ii) PROVINCIAL ORDINARY EXPENDITURE—PUBLIC WORKS AND ROADS  
IN EACH PROVINCE, 1910-11 TO 1920-21—*continued.*

Year.	Super- vision.	Rents, Rates, Water, Insurance, Light, Furniture, etc.	WORKS.		ROADS AND BRIDGES.		Miscel- laneous.	Total.
			New.	Mainten- ance.	New.	Mainten- ance.		
(c) ORANGE FREE STATE.								
1910-11*	—	12,281	11,993	3,465	6,632	14,826	—	49,197
1911-12	—	20,090	60,700	4,519	53,285	15,592	—	154,792
1912-13	5,713	28,066	63,756	6,963	107,445	11,943	—	223,886
1913-14	7,498	35,292	12,634	5,820	60,785	11,384	153	133,566
1914-15	8,197	28,967	6,666	2,718	35,641	18,251	391	100,831
1915-16	7,705	27,334	3,365	2,774	8,680	21,326	4,582	75,856
1916-17	8,481	27,526	4,000	3,299	26,566	22,728	8,379	100,979
1917-18	10,176	348	—	—	44,354	26,578	13,128	94,584
1918-19	11,980	308	—	—	23,155	38,731	18,017	92,231
1919-20	14,532	523	—	—	51,239	35,706	23,095	125,095
1920-21	19,373	564	—	—	55,783	42,322	13,244	131,286

\* Ten months.

8. **Provincial Appropriations.**—The following table gives a summary of the total appropriations of the various Provincial Councils in respect of expenditure for a period of two years subsequent to the period covered by the tables in the preceding paragraphs of this section, which contain only the audited and final figures :—

**SUMMARY OF PROVINCIAL EXPENDITURE APPROPRIATIONS, 1921-22 AND 1922-23**

Heading.	1921-22.	1922-23.
	£	£
I. General Administration.....	457,474	433,114
II. Education.....	6,851,717	6,617,163
III. Hospitals and Charitable Institutions.....	883,079	799,916
IV. Roads, Bridges, and Local Works.....	1,098,604	819,300
<b>TOTAL.....</b>	<b>£ 9,290,874</b>	<b>8,669,493</b>

**D. PUBLIC DEBT AND EXPENDITURE FROM LOANS.**

1. **Public Debt at the Establishment of the Union.**—On the 31st May, 1910, all debts and liabilities of the Colonies which were then formed into the Union were assumed by the Government of the Union. The Public Debt thus constituted amounted to £116,036,978, of which a total sum of £3,028,237 remained unexpended. Against the responsibility for this debt it must be noted that in terms of the *South Africa Act* all Crown lands, public works, and all property throughout the Union, movable or immovable, and all rights of whatever description belonging to the several Colonies at the establishment of the Union were vested in the Union Government; also all rights in and to mines and minerals, and all rights in connection with searching for, working for, or disposing of minerals or precious stones, which at the establishment of the Union were vested in the Government of any of the Colonies.

All ports and harbours, and practically the whole railway system of the country (the property of the several Colonies) became the property of the Union Government.

The table given below, representing the capital expenditure and indebtedness of the Colonies as at the 31st May, 1910, indicates under various main heads of classification

the amount of the Public Debt devolving upon the Government at the establishment of the Union.

It is, however, important to notice that the expenditure from loans, amounting to £113,008,741, shown in the subjoined table, represents only expenditure from loans which were still in existence at the establishment of the Union. In addition to such expenditure, large sums had previously been expended on similar services directly from the revenues of the several States, and also indirectly from revenue as the result of loans raised and repaid out of revenue.

**PUBLIC DEBT OF EACH PROVINCE ON 31st MAY, 1910, AT THE ESTABLISHMENT OF THE UNION, SHOWING EXPENDITURE AGAINST VARIOUS SERVICES, TOTAL DEBT, AND TOTAL DEBT PER HEAD OF POPULATION.**

SERVICE.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	£	£	£	£	£
Railways.....	29,416,758	13,978,154	15,618,448	4,091,119	64,004,479
Harbours.....	6,480,977	3,595,445	—	—	10,076,422
Posts and Telegraphs.....	539,973	367,796	319,672	30,353	1,257,794
Public Works and Buildings.....	865,806	1,289,314	1,263,954	516,975	3,926,069
Lands.....					
Agriculture.....	1,269,060	254,545	1,611,235	1,327,816	4,462,665
Irrigation.....	—	—	—	—	—
Local Works Loans.....	468,115	—	—	—	468,115
School Loans.....	1,054,316	—	—	—	1,054,316
New Territory and Liability of Territory annexed.....	266,657	700,000	2,529,911	—	3,496,568
Immigration.....	172,510	163,874	—	—	336,384
War and Defence.....	7,788,697	1,170,775	1,579,175	—	10,538,647
Repatriation.....	—	—	5,305,101	1,279,418	6,584,514
Land and Agricultural Loan Fund.....	—	157,578	2,112,692	25,000	2,295,270
Public Stores.....	2,001	—	—	—	2,001
Survey, Native Locations, Mission and other Lands, Compensation to Occupiers Location Lands..	35,016	—	—	—	35,016
Deficiency in Revenue.....	3,922,608	—	547,883	—	4,470,491
<b>TOTAL EXPENDITURE.....£</b>	<b>52,272,503</b>	<b>21,677,481</b>	<b>30,888,081</b>	<b>8,170,676</b>	<b>113,008,741</b>
Unexpended Balances.....	293,531	543,462	1,429,511	761,733	3,028,237
<b>TOTAL PUBLIC DEBT.....£</b>	<b>52,566,034</b>	<b>22,220,943</b>	<b>32,317,592</b>	<b>8,932,409</b>	<b>116,036,978</b>
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Debt per head of Total Population	23 10 2	18 17 7	20 4 2	17 18 10	19 17 10
Debt per head of White Population	90 6 7	226 17 10	82 1 7	53 0 2	93 1 0

**2. Public Debt of the Union.**—The table below gives particulars (i) of the total amount of the gross public debt of the Union, the amount of the sinking fund, and the net public debt at the close of each financial year (31st March) 1911 to 1922, and (ii) the amount of gross and net debt respectively per head of the mean total population and per head of the mean European population. Comparisons under this head with other Dominions are difficult to effect, because of the numerical preponderance of the coloured races in the Union. If it were possible to determine the relative economic position of the individual of the coloured races and the individual of the European race, it might be in reason to institute comparisons. The figures for the Union have, however, been given both for the mean total population, and the mean European population. The true means of comparison with other countries lies in figures some way between those given, probably in each case in an amount per head approximately half of that given in respect of the European population. Nevertheless, it is of interest to note the following amounts, representing for various countries the gross public indebtedness per head of the population:—

	at	£	s.	d.
New South Wales.....	30th June, 1921	78	2	11
Victoria.....	" "	63	7	3
Queensland.....	" "	104	10	8
South Australia.....	" "	97	11	11
Western Australia.....	" "	147	4	4
Tasmania.....	" "	88	11	6
Commonwealth of Australia (i.e. Average of the State Debts added to the Commonwealth Debt).....	" "	84	0	7
New Zealand (per head of European population).....	at 31st March, 1921	169	5	5
Canada (£1 = 84.8665).....	"	1919	62	5 1

The system in the Union under which the responsibility for the whole of the Public Debt is vested in the Union Government, distinguishes it from that in Australia, where each State has separate responsibility, and where the Commonwealth debt forms only a small proportion of the whole. In any comparison with Canada also differences of provincial government, differences in regard to railways and other undertakings, have to be examined, without which comparison is likely entirely to mislead. Speaking generally, apart from differences in the elements of the population, the conditions in Australia and New Zealand most nearly approximate, and afford the readiest basis of comparison.

### GROSS AND NET PUBLIC DEBT (ON 31st MARCH), 1911 TO 1922.

YEAR.	GROSS DEBT.	SINKING FUNDS.	NET DEBT.	GROSS DEBT PER HEAD.		NET DEBT PER HEAD.	
				Total Population.	European Population.	Total Population.	European Population.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.
1911...	114,236,969	5,054,020	109,182,349	19 3 1	89 12 11	18 6 2	85 13 7
1912...	117,260,534	5,780,246	111,480,288	19 6 0	90 5 5	18 7 0	85 16 5
1913...	117,828,994	6,269,194	111,559,800	19 0 11	89 0 1	18 0 8	84 5 5
1914...	126,296,250	6,939,611	119,356,639	20 1 1	93 12 11	18 19 1	88 10 1
1915...	138,210,778	7,382,961	130,827,817	21 11 4	100 12 6	20 8 4	95 5 0
1916...	150,832,734	7,981,801	142,850,933	23 2 9	107 17 4	21 18 3	102 3 2
1917...	154,582,673	8,588,213	145,994,460	23 6 3	108 12 4	22 0 5	102 11 8
1918...	160,436,840	9,222,055	151,114,775	23 16 0	110 15 11	22 8 4	104 7 2
1919...	166,367,869	9,144,035	157,223,834	24 16 7	113 2 8	23 9 4	106 18 4
1920...	173,904,818	9,856,196	164,048,622	25 10 9	116 8 0	24 1 10	109 16 1
1921...	178,607,939	11,153,198	167,454,741	25 13 3	117 13 11	24 4 0	110 6 11
1922...	191,784,936	11,575,592	180,209,434	27 5 8	124 9 1	25 12 9	116 18 10

3. **External and Internal Debt.**—Particulars are given below of the external and internal debt of the Union from 1910 to 1922, showing the amount of debt under each head, and the percentage of such amount in relation to the total debt:—

### EXTERNAL AND INTERNAL DEBT, 1910 TO 1922.

DATE.	EXTERNAL DEBT.		INTERNAL DEBT.		TOTAL DEBT.
	Amount.	Per Cent. of Total Debt.	Amount.	Per Cent. of Total Debt.	
	£		£		
31st May, 1910...	106,897,810	92·12	9,139,168	7·88	116,036,978
31st March, 1911.	103,950,241	91·00	10,286,728	9·00	114,236,969
" 1912.	103,223,341	88·10	14,037,193	11·90	117,260,534
" 1913.	102,762,700	87·22	15,066,294	12·78	117,828,994
" 1914.	111,808,560	88·53	14,487,690	11·47	126,296,250
" 1915.	123,306,421	89·22	14,904,357	10·78	138,210,778
" 1916.	131,984,773	87·50	18,847,961	12·50	150,832,734
" 1917.	131,328,802	84·86	23,253,871	15·14	154,582,673
" 1918.	126,939,352	79·12	33,497,488	20·88	160,436,840
" 1919.	125,074,173	75·18	41,293,696	24·82	166,367,869
" 1920.	123,390,311	70·95	50,514,507	29·05	173,904,818
" 1921.	123,059,063	68·89	55,548,876	31·11	178,607,939
" 1922.	128,721,583	67·11	63,063,353	32·89	191,784,936

4. **Particulars of Public Debt.**—The subjoined table gives particulars as to the public debt on the 31st March, 1921, showing the rate of interest in respect of each item of debt, the nature of the security, the months when interest is payable in each year, the dates upon which the debt is redeemable, and where the debt in each case was floated:—

**PARTICULARS AS TO THE PUBLIC DEBT OF THE UNION, 31st MARCH, 1921.**

Rate of Interest.	Nature of Security.	Amount of Debt.	Months when Interest Payable.	When Debt Redeemable.	Where Floated.
	<b>CAPE OF GOOD HOPE—</b>	£			
3	Stock.....	6,126,967	Feb. -Aug.	1933-43	London.*
3	" .....	1,976,373	Feb.-May -Aug.-Nov.	1924-44	Cape Town.*
3½	" .....	12,642,362	Jan. -July	1920-49	London.*
3½	" .....	4,068,482	Jan. -July	1930-50	Cape Town.*
4	" .....	8,395,139	April -Oct.	1916-36	London.*
4	" .....	1,401,494	April -Oct.	1916-36	Cape Town.*
4	" .....	3,386,106	June -Dec.	1923	London.*
4	" .....	190,686	June -Dec.	1923	Cape Town.*
4	" .....	1,420,800	May -Nov.	1918-48	Cape Town.
4	" .....	1,728,700	June -Dec.	1917-23	London.
4	" .....	204,685	June -Dec.	1917-23	Cape Town.*
4	Debentures.....	286,800	June -Dec.	1917-23	London.
4	" .....	58,000	June -Dec.	↑	London.
4½	" .....	80,565	Jan. -July	Not specified	Cape Town.
5	Stock.....	405,924	April -Oct.	Not specified	Cape Town.
	<b>TOTAL.....</b>	<b>£ 42,373,083</b>			
	<b>NATAL—</b>				
3	Stock.....	6,000,000	Jan. -July	1929-49	London.
3½	" .....	3,611,267	June -Dec.	1914-39	London.
3½	" .....	6,208,900	Feb. -Aug.	1933-44	London.
4	" .....	2,851,712	April -Oct.	1937	London.
4	" .....	304,350	May -Nov.	1927	London.
4	Debentures.....	42,500	May -Nov.	1926	London.
	<b>TOTAL.....</b>	<b>£ 19,018,729</b>			
	<b>TRANSVAAL AND ORANGE FREE STATE—</b>				
3	Stock.....	35,000,000	May -Nov.	1923-53	London.
	<b>TRANSVAAL—</b>				
3	Stock.....	5,000,000	Jan. -July	1958	London.
	<b>UNION—</b>				
3½	Stock.....	3,000,000	Jan. -July	1933-53	Union.
4	" .....	3,000,000	Jan. -July	1933-53	Union.
4	" .....	8,000,000	Mar. -Sept.	1943-63	London.
4	Debentures.....	4,000,000	June -Dec.	1919-24	London.
4½	Stock.....	2,082,500	Jan. -July	1920-25	London.
4½	Debentures.....	917,500	Jan. -July	—	London.
4½	" .....	8,384,000	June -Dec.	1925-45	London.
4½	" .....	1,649,900	Mar. -Sept.	1929-39	Union. †
5	Stock.....	14,933,830	May -Nov.	1921-36	Union. ‡
5	" .....	11,000,000	Mar. -Sept.	1929-39	Union. §
	<b>TOTAL.....</b>	<b>96,967,730</b>			
	<b>TOTAL FUNDED DEBT..</b>	<b>158,359,542</b>			
	<b>TEMPORARY LOANS—</b>				
3½	§ .....	2,335,780	April -Oct.	—	§
5	§ .....	2,696,470	April -Oct.	—	§
4½	Treasury Bills.....	10,200	Various dates.	Various dates	Union.
4½	" .....	3,932,950	" .....	" .....	Union.
4½	" .....	332,000	" .....	" .....	Union.
5	" .....	3,516,100	" .....	" .....	Union.
5½	" .....	2,332,926	" .....	" .....	Union.
6½	" .....	1,000,000	Discounted.	Oct., 1921	London.
7	" .....	2,000,000	" .....	June, 1921	London.
5	Union Loan Certificates	2,091,962	Various dates.	Various dates	Union.
	<b>TOTAL FLOATING DEBT £</b>	<b>20,248,397</b>			
	<b>TOTAL DEBT.....</b>	<b>£ 178,607,939</b>			

\* These stocks were originally floated in London and Cape Town. Registers are held at each centre, and the stock is transferable between the two registers at the option of the holder.

† By annual drawings from 1 per cent. cumulated sinking fund.

‡ Free of Income and Super Taxes and Excess Profits Duty.

§ Advances from Imperial Government.



5. **Rate of Interest.**—Particulars are given below as to the rates of interest payable on loans of various classes on the 31st March, 1912, and at the close of each subsequent year; together with the average rate per cent. on stock and debentures, on temporary loans, and on all loans combined:—

**RATE OF INTEREST ON LOANS, 1912 TO 1921.**

RATE OF INTEREST.	31st March, 1912.	31st March, 1913.	31st March, 1914.	31st March, 1915.	31st March, 1916.
	£	£	£	£	£
<i>Stock and Debentures—</i>					
3.....	54,112,446	54,112,446	54,112,446	54,105,113	54,105,113
3½.....	27,125,648	27,125,648	27,125,648	26,650,761	26,650,761
3¾.....	—	—	3,000,000	3,000,000	3,000,000
4.....	22,481,639	22,271,999	33,079,259	33,010,659	36,888,475
4½.....	1,871,688	1,765,788	1,250,765	1,133,665	4,024,465
5.....	581,113	581,113	419,506	119,507	419,507
TOTAL.....£	106,172,534	105,856,994	118,987,624	118,319,705	125,088,321
<i>Temporary Loans—</i>					
Nil.....	—	—	—	1,684,000	—
2½.....	—	—	—	—	—
3.....	—	—	—	—	—
3½.....	8,663,000	9,172,000	—	11,678,947	2,335,790
3½ Discount.....	2,000,000	2,000,000	—	—	—
4.....	425,000	—	3,308,626	4,160,000	145,700
4½.....	—	800,000	—	—	—
4½ Discount.....	—	—	—	2,368,126	23,262,923
4½ Discount.....	—	—	4,000,000	—	—
TOTAL.....£	11,088,000	11,972,000	7,308,626	19,891,073	25,744,413
GRAND TOTAL.....£	117,260,534	117,828,994	126,296,250	138,210,778	150,832,734
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>Average Rates per Cent.—</i>					
Stock and Debentures.....	3 7 5	3 7 5	3 8 8	3 8 7	3 9 6
Temporary Loans.....	3 9 6	3 12 4	4 12 3	3 8 7	4 8 2
All Loans.....	3 7 9	3 7 11	3 13 11	3 8 7	3 12 9

**RATE OF INTEREST ON LOANS, 1912 TO 1921—continued.**

RATE OF INTEREST	31st March 1917.	31st March 1918.	31st March, 1919.	31st March, 1920.	31st March, 1921.
	£	£	£	£	£
<i>Stock and Debentures—</i>					
3.....	54,104,946	54,104,946	54,104,946	54,104,946	54,103,340
3½.....	26,650,761	26,650,760	26,548,711	26,547,111	26,531,011
3¾.....	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000
4.....	86,746,563	85,670,914	85,507,874	85,361,572	85,270,972
4½.....	12,300,965	12,225,265	12,470,105	13,116,165	13,114,465
5.....	9,418,307	15,405,787	20,405,786	26,357,166	26,339,754
TOTAL.....£	142,221,542	147,057,672	152,037,482	158,486,960	158,359,542
<i>Temporary Loans—</i>					
Nil.....	—	—	—	—	—
2½.....	—	—	—	—	—
3.....	—	—	—	—	—
3½.....	2,335,790	2,335,790	2,335,790	2,335,789	2,335,790
4.....	—	—	—	1,150,000	—
4½.....	847,000	1,458,800	1,055,450	20,000	—
4½.....	46,200	67,500	72,200	2,961,100	10,200
4½.....	9,132,141	3,487,300	4,956,500	2,293,600	3,932,950
4½ Discount.....	—	—	—	—	332,000
4½ Discount.....	—	—	—	—	—
5.....	—	6,029,778	5,910,447	6,656,769	8,304,531
5½.....	—	—	—	—	2,332,926
6½ Discount.....	—	—	—	—	1,000,000
7 Discount.....	—	—	—	—	2,000,000
TOTAL.....£	12,361,131	13,379,168	14,330,387	15,417,858	20,248,397
GRAND TOTAL.....£	154,582,673	160,436,840	166,367,869	173,904,818	178,607,939
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
<i>Average Rate per Cent.—</i>					
Stock and Debentures.....	3 12 7	3 13 8	3 14 0	3 15 7	3 15 7
Temporary Loans.....	4 5 6	4 8 2	4 10 1	4 9 2	5 2 5
All Loans.....	3 13 8	3 15 0	3 15 11	3 16 9	3 18 7

6. **Treasury Bills.**—The Union Government issues from time to time Treasury Bills for sums of £500 and over for fixed periods of six, nine, and twelve months, through the Secretary for Finance, Pretoria, the Civil Commissioner, Cape Town, and the Receivers of Revenue at Pietermaritzburg, Durban, Bloemfontein, East London, and Port Elizabeth. The bills are negotiable and are paid on or after the date of maturity with interest at the office from which they were obtained. Interest on twelve months' bills is payable half-yearly.

#### RATES OF INTEREST ON TREASURY BILLS AT CERTAIN DATES.

Description.	10th April, 1920.	4th June, 1920.	9th July, 1920.	22nd Oct., 1920.	24th Feb., 1922.	21st April, 1922.
	%	%	%	%	%	%
6 months' bills..	4	4½	4½	4½	4	3½
9 " " "	4½	4½	3½	5	4½	4
12 " " "	4½	4½	5	5½	5	4½

7. **Annual Debt Charge.**—Particulars are given below of the amount of the annual debt charge in the Union, and the amount per head of the mean total population, and also of the European population, for seven years. The charge includes interest payments, cost of administration, and contributions to the sinking fund:—

#### ANNUAL DEBT CHARGE, 1915-16 TO 1921-22.

Heading.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.	1921-22.
	£	£	£	£	£	£	£
Debt Charge.....	5,484,374	6,286,010	6,398,538	6,710,992	6,911,030	7,315,879	7,780,542
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Per head of mean total population.	0 16 10	0 19 0	0 19 0	1 0 1	1 0 4	1 1 2	1 2 2
Per head of Euro- pean population. (mean)	3 18 5	4 8 4	4 8 5	4 11 5	4 12 6	4 16 5	5 1 1
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.
Percentage of Re- venue absorbed by Public Debt charges.....	32·92	33·72	32·42	30·73	25·70	24·65	26·95

8. **Prices of Government Stock.**—The subjoined table gives the prices of Government Stock for a period of eight years, calculated as the middle price between the highest and lowest prices in each year:—

## UNION GOVERNMENT STOCK—MIDDLE PRICES, 1914 TO 1921.

DESIGNATION OF STOCK.	1914.	1915.	1916.	1917.*	1918.*	1919.	1920.	1921.
<b>5 PER CENT.—</b>								
Union Local Registered (1921-36).....	—	—	100½	100½	102½	101½	97	98
Union Local Registered (1920-39).....	—	—	—	—	—	102	94	88
<b>4½ PER CENT.—</b>								
Cape of Good Hope.....	101½	100	98	98	97	96	(d)	—
Cape of Good Hope Loan of 1879.....	101½	99½	97	97½	95½	(b)	(b)	—
Natal, 1878.....	103	99	96	97½	99½	(c)	(c)	—
Union Debentures (1920-25).....	—	—	93	91	92½	94½	91	91
Union Inscribed (1920-25).....	—	—	93	91	92½	93½	90	90
Union Local Registered (1920-39).....	—	—	—	—	—	101	93	93
<b>4 PER CENT.—</b>								
Union of South Africa Debentures (1919-24)	—	93	89½	89½	91½	93	91	93
Union of South Africa 4 per cent. Consol- idated Stock (1943-63).....	99	95½	85	79½	81	81½	74	71
Cape Loan of 1881.....	99	96½	84½	94½	92	89½	92½	94
Cape Loan of 1882 (1917-23) Bonds.....	100	97	91½	89	91	93	92	93
Cape Ten-Year Debentures, 1917.....	100½	99	95	99½	(a)	—	—	—
Cape Loan of 1882 Stock (1917-23).....	99½	97	91½	86½	91½	83½	92	94
Cape (1883) Inscribed, 1923.....	100½	96½	91½	88½	91½	83½	91	94
Cape Consolidated Inscribed, 1916-36.....	100	96	87½	80½	82	83	79	78
Natal (1926) Debentures.....	99	—	—	—	—	81½	86½	88
Natal Consolidated Inscribed, 1927.....	100	96	90½	86½	88	90½	86½	88
Natal Consolidated Inscribed, 1937.....	101½	92½	88	80	81	82½	77	77
Natal Indian Immigration Trust Board, 1927	99½	95	90½	85½	84	89½	87½	77
<b>3½ PER CENT.—</b>								
Cape Consolidated Inscribed, 1920-49...	90	86	76½	70	70½	71½	66	63
Natal Inscribed, 1914-39.....	90	85	77	71	72½	75	68½	68
Natal Consolidated, 1934-44.....	89	85	76½	70	71½	73	66	65
<b>3 PER CENT.—</b>								
Cape Consolidated Inscribed, 1933-43....	79½	78½	68½	62½	64½	67½	61½	60
Natal Consolidated Inscribed, 1929-49....	79	77	67	61	61½	63½	58	57
Transvaal Guaranteed, 1923-53.....	91½	89	75	65	69	87½	60½	64
Transvaal Guaranteed, 1958.....	90½	88	74½	64	66	66	60	62

\* 1st January to 30th September. † 1st January to 30th June. (a) Redeemed October, 1917.  
(b) Redeemed, 1918. (c) Redeemed, 1919. (d) Redeemed April, 1920.

9. **Expenditure from Loans.**—In the subjoined table particulars are given for six years of the expenditure from loans under the main heads. The expenditure on Railways and Harbours, which amounted during the period of six years to £15,469,017, has absorbed almost half the total capital expenditure of the Union; excluding the capital expenditure of £22,914,135 on measures connected with the War.

Expenditure under the heads of Public Works and Buildings, Lands, and Local Works and School Loans, includes capital expenditure incurred by the Provincial Administrations.

## EXPENDITURE FROM LOANS, 1915-16 TO 1920-21.

LOAN VOTE.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Railways and Harbours.....	2,106,964	1,206,583	907,794	2,088,803	3,186,644	5,972,229
Public Works and Buildings.....	119,603	106,900	175,990	220,108	263,235	867,760
Telegraph and Telephone Works	158,085	108,934	90,969	62,422	388,777	490,878
Agriculture.....	37	52	44,533	29,831	10,554	30,264
Lands.....	57,113	108,624	398,122	619,371	755,720	907,483
Irrigation.....	234,918	309,942	380,879	378,007	462,914	700,379
Local Works and School Loans.	557,492	471,588	555,900	890,800	918,100	2,993,338
Land Banks.....	—	—	225,000	400,000	300,000	250,000
War Expenses.....	10,707,138	2,764,560	3,452,156	3,158,025	2,072,626	758,730
Revenue Deficit.....	2,012,465	—	—	—	—	—
Capital for Advances.....	17,000	—	—	8,000	10,000	15,000
Redemption of Debt of late S.A. Republic.....	—	—	—	—	—	—
Relief of Distress.....	—	64,583	—	—	—	—
Native Affairs.....	1,021	794	1,059	204	552	1,215
Police Stores.....	—	—	—	30,000	50,000	60,000
Forestry.....	—	—	—	37,778	41,244	45,280
<b>GRAND TOTAL.....£</b>	<b>15,971,836</b>	<b>5,142,540</b>	<b>6,232,402</b>	<b>7,932,309</b>	<b>8,460,366</b>	<b>13,092,536</b>

**10. Reproductive Debt.**—No exact statement can be given as to the proportions of the public debt of the Union which can be regarded as reproductive, or must be taken as non-productive. Similarly, no exact statement can be made as to the value of the assets of the Union. An examination of the main heads of expenditure from loans (see table in paragraph 9 of this section) does, however, make it possible to give some approximate indication as to that part of the debt which can be definitely classified as productive. At the same time it has to be noted (see also paragraph 1 of this section) that the statement of expenditure from loans takes no account of expenditure on the same objects made from revenue. Thus in the case of the Railways and Harbours, the expenditure from loan funds up to the 31st March, 1921 (audited), was £99,268,539, while the capital of the Railway Administration at the same date was £116,211,521. On £111,227,371 of this sum the Administration paid interest to the Consolidated Revenue Fund. Similarly, though in a less degree, there has been considerable expenditure from revenue in respect of Telegraphs and Telephones. Furthermore, a large part of the capital of Telegraphs and Telephones in particular, and the Post Office as a whole, is included under the head of Public Works and Buildings, the expenditure upon which met from revenue amounts to a very considerable sum.

Even were it practicable to determine precisely what portion of capital expenditure had been paid out of revenue, it would nevertheless be impossible to ascertain precisely what portion of the actual capital expenditure in the Union is productive, and what portion is non-productive. The capital invested in Railways and Harbours, Telegraphs and Telephones, and the Land Bank, can clearly be classed as productive; as also can the loans made to local authorities, and generally for irrigation and land settlement. Loans to Provinces and to educational and industrial institutions can be classed as reproductive only to the extent to which the interest charges do not fall upon the taxpayer. Thus, loans to Provinces are only reproductive to the extent of one-half of their amount, since half the interest charges are met by the Union taxpayer through the annual subsidies paid by the Union Government.

The only practical method of arriving at any clear distinction between the productive and non-productive debt is to examine the incidence of interest charges and the proportion of interest which is earned by the various objects of capital outlay, and the proportion which has to be met from taxation. By applying the proportions so ascertained to the public debt it is possible to determine how much of the debt may be regarded as paying for itself, and how much falls as a dead weight on the revenue of the Union.

The following table gives approximately the amount of interest to be met from revenue during the financial year 1920-21 :—

**INTEREST PAYABLE AGAINST REVENUE AT 31st MARCH, 1921.**

DESCRIPTION.	AMOUNT.
	£
<i>Interest on Debt outstanding, 31st March, 1921 (approximately).....</i>	7,000,000
<i>Interest Received—</i>	
From Railways and Harbours Administration.....	3,928,000
From loans and cash balances (approximately).....	672,000
Interest on Post Office Capital (say £4,000,000).....	193,000
<b>TOTAL.....</b>	<b>£ 4,793,000</b>
<b>CHARGE AGAINST UNION REVENUE.....</b>	<b>£ 2,207,000</b>

Applying to the total debt of the Union—£178,608,000—the proportions between the figures £4,793,000 and £2,207,000, as interest received into and interest charged against revenue, the following amounts are determined :—

**PRODUCTIVE AND NON-PRODUCTIVE DEBT, 31st MARCH, 1921.**

Heading.	PROPORTION.	AMOUNT.
	Per cent.	£
Productive Debt.....	(approx.) 69·0	122,295,450
Non-productive Debt.....	(approx.) 31·0	56,312,550
<b>TOTAL DEBT.....</b>	<b>100·0</b>	<b>£178,608,000</b>

It has, nevertheless, to be noted that the portion of the debt classified above as non-productive may, if viewed in one aspect, be classified otherwise. For example, in the case of public buildings, it is clear that if the Government had not erected its own buildings it would have had to hire. Therefore the very heavy expenditure on buildings, though it does not directly produce interest on the loans from which it was made, produces revenue indirectly. Again, expenditure on the war, though on the face of it non-productive, nevertheless may be viewed as of a productive character, if not immediately, at least in the later and ultimate issues with which it is connected. Thus, of the war expenditure which up to the 31st March, 1921, amounted to £39,918,667, of which £32,173,094 was incurred in connection with the present War, it has to be noted that the larger portion was expended in the conquest of South-West Africa, and that in the event of this territory being incorporated in the Union, the War expenditure might be expected to give a not inadequate return.

Similarly, other items of capital expenditure, though not directly and definitely productive, nevertheless represent expenditure on services, necessary to the Union, for which payments from revenue would in any case have to be made, and are thus indirectly and in a real sense reproductive.

**11. System of Capital Expenditure in Provinces.**—Prior to the passing of the *Financial Relations Act*, No. 10 of 1913, capital expenditure in connection with services controlled by the Provincial Administrations was covered by the general expenditure of the Union Government. In terms of section 6 (3) of the Act of 1913, however, specific issues from loans were provided for the Provinces in respect of capital or non-recurrent expenditure, defined as expenditure (whether directly or by loan to local bodies) upon the erection, construction, acquisition, extension, or improvement of any building, bridge, pont, or upon any work or undertaking of a permanent nature in relation to a matter entrusted to the Province, but not expenditure upon the construction of a road, unless authorized by the Treasury in special cases; provided that—

- (a) if the expenditure upon any such building or extension thereof does not exceed £500; or
- (b) if the expenditure upon any bridge, pont, or other such work or undertaking does not exceed £1,500, such expenditure is deemed to be normal or recurrent expenditure, except by provision of the Executive Committee of a Province on the annual estimates of expenditure, with the approval of the Treasury.

The amount which may from time to time be required by any Province for the purpose of meeting any capital or non-recurrent expenditure is to be advanced to that Province upon loan as required, in such amounts as Parliament may authorize by annual appropriation. Any such advance is to be repaid by the Province to the Treasury by equal half-yearly instalments so calculated that the whole advance and the interest thereon will be repaid within a period not less than fifteen years and not exceeding forty years. Advances made prior to the 1st July, 1921, bear interest at the rate of 5 per cent. per annum, but under the provisions of section 1 (1) of Act No. 42 of 1917 the Treasury has fixed the rate of interest on advances made on or after the 1st July, 1921, at 6 per cent. per annum. The instalments and interest aforesaid are to be treated in the *Appropriation Ordinance* and in the accounts of the Province as part of its normal or recurrent expenditure.

The amounts received by a Province for capital expenditure are paid into the Provincial Revenue Fund.

**12. Details of Capital Expenditure in Provinces.**—Table (i) below gives the total capital expenditure in each Province for a period of years (1st April to 31st March), and the total capital expenditure for the whole of that period. Table (ii) gives in respect of each Province the capital expenditure for a number of years under the main heads of expenditure. The whole of this expenditure is covered in the table contained in paragraph 9 of this section.

(i) CAPITAL EXPENDITURE OF PROVINCES, 1913-14 TO 1920-21.

Year.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	£	£	£	£	£
1913-14.....	359,203	87,541	221,197	96,360	764,301
1914-15.....	338,295	86,472	212,497	101,000	738,174
1915-16.....	184,083	52,819	86,281	65,553	388,736
1916-17.....	229,375	54,103	125,393	65,222	474,093
1917-18.....	264,611	41,989	157,092	64,190	527,882
1918-19.....	247,766	130,991	220,480	80,168	679,405
1919-20.....	216,769	172,218	344,271	170,875	934,133
1920-21.....	349,039	216,147	513,116	317,832	1,396,134
TOTAL.....£	2,219,051	842,280	1,880,327	901,200	5,902,858

(ii) CAPITAL EXPENDITURE UNDER MAIN HEADS IN EACH PROVINCE, 1913-14 TO 1920-21.

YEAR.	CAPE OF GOOD HOPE.					NATAL.		
	School Buildings.	Hospitals.	Bridges.	Other.	Total.	Buildings.	Bridges.	Total.
1913-14.	£ 205,712	£ 97,021	£ 56,470	£ —	£ 359,203	£ 54,957	£ 32,584	£ 87,541
1914-15.	189,273	102,275	46,657	—	338,205	57,845	28,627	86,472
1915-16.	110,806	56,915	14,541	1,821	184,083	31,177	21,642	52,819
1916-17.	205,095	9,782	9,012	5,486	229,375	40,310	13,793	54,103
1917-18.	236,483	21,331	6,104	693	264,611	35,093	6,806	41,899
1918-19.	213,810	26,877	7,079	—	247,766	108,875	22,116	130,991
1919-20.	182,503	46,438	13,545	4,283	246,769	129,512	42,706	172,218
1920-21.	236,053	57,700	19,153	30,133	349,039	135,339	80,808	216,147
TOTAL £	1,579,735	418,339	172,561	48,416	2,219,051	593,108	249,172	842,280

—continued.

YEAR.	TRANSVAAL.					ORANGE FREE STATE.			
	Buildings.	Bridges.	Acquisition of Land.	Grants.	Total.	Road Construction.	Buildings.	Bridges.	Total.
1913-14.	£ 180,043	£ 18,163	£ 8,226	£ 14,765	£ 221,197	£ 25,000	£ 41,775	£ 29,585	£ 96,360
1914-15.	198,873	11,104	2,520	—	212,497	15,329	83,247	2,424	101,000
1915-16.	76,450	8,122	1,709	—	86,281	37,022	27,357	1,174	65,553
1916-17.	120,177	1,841	3,375	—	125,393	41,790	23,314	118	65,222
1917-18.	126,267	—	28,225	2,000	157,092	20,420	43,770	—	64,190
1918-19.	179,928	24,823	14,509	1,220	220,480	20,467	59,701	—	80,168
1919-20.	276,536	46,993	20,742	—	344,271	49,990	107,594	13,291	170,875
1920-21.	370,758	112,582	23,776	—	513,116	59,475	225,304	33,053	317,832
TOTAL £	1,535,032	223,628	104,682	17,985	1,880,327	269,493	612,062	79,047	961,206

13. Trust Funds.—Particulars are given below for a period of years of the amounts standing to the credit of various trust funds administered by the Public Debt Commissioners. The amount is stated as at the 31st March, the last day of each financial year :—

TRUST FUNDS, 1915 TO 1921.

Fund.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
Guardians' Fund..	£ 2,338,492	£ 2,244,256	£ 2,288,705	£ 2,207,768	£ 2,275,086	£ 2,789,015	£ 3,108,953
Pension Funds*...	2,435,542	2,703,633	2,963,481	3,248,147	3,457,152	4,008,887	4,372,198
Post Office Savings Bank.....	6,528,576	6,696,665	6,963,849	7,240,609	7,753,141	7,150,476	7,018,108
Sinking Funds....	7,382,961	7,981,801	8,588,213	9,322,065	9,144,035	9,856,196	11,284,200
Railway and Harbour Administration Funds.....	4,195,167	5,701,346	7,220,693	8,439,862	8,341,274	6,405,760	5,521,408
Other Funds.....	815,018	792,983	1,331,481	1,338,762	885,099	910,351	1,803,298
TOTAL.....£	23,693,756	26,120,684	29,356,422	31,806,213	31,856,357	31,120,685	33,110,165

\* Pension Funds belonging to the Railway and Harbour Administration shown separately.

## E. PRIVATE FINANCE.

### § 1. Currency and Banking.

1. **Coinage Act.**—A Pretoria branch of the Royal Mint is established in terms of the *Mint Act*, No. 45 of 1919, and was designed to be in a position to issue coins by the end of 1922.

The *Coinage Act*, No. 31 of 1922, lays down the standard weight and standard fineness of the gold, silver, and bronze coins to be issued. The standard weight of all coins is to be the same as in Great Britain. The gold coins, the sovereign, and half-sovereign, are to be identical with the British coins of the same denomination. The silver coins, the half-crown, florin, shilling, sixpence, and threepence, and the bronze coins, the penny, half-penny, and farthing, are to bear a distinctive Union design; and the silver coins to have a fineness of eight-tenths. The standard fineness of British silver currency was formerly  $\frac{225}{1000}$  (sterling silver); and the present British coinage is one-half silver and one-half alloy.

2. **Currency and Banking Act, 1920.**—In terms of the *Public Welfare and Moratorium Act*, 1914, and its amendments, an embargo was imposed on the export of specie from the Union, and in 1920 a Select Committee of the House of Assembly, under the Chairmanship of the Minister of Finance, was appointed to investigate the effects of this measure and also to inquire into the question of modifying the existing statutory provisions in regard to currency and banking. Following on the report of the Committee, the Currency and Banking Act, No. 31 of 1920, was passed. In this Act provision was made for the issue of temporarily inconvertible gold certificates and the establishment of a Reserve Bank (see below).

A Currency Conference which was held in October, 1921, in Pretoria, with Mr. W. H. Clegg, the Governor of the South African Reserve Bank, as Chairman, reported in favour of an ultimate return to the gold standard of the same weight and fineness as before the war and against any inflation of the currency. With these objects in view the Conference made the following recommendations in a majority report:—

- (a) That the inconvertibility of the gold certificate be extended to 30th June, 1925 (but see paragraph 3 below).
- (b) That the embargo imposed on the export of gold bullion under the *Public Welfare and Moratorium Act*, 1914, and later amendments, be removed as soon as possible, and that the export and import of the precious metals in the form of bullion be freed from all restrictions.
- (c) That it be open to the public to make contracts with an express provision for payment in gold, and that, if necessary, the law be altered so as to prevent a debtor discharging his obligations (unless with the consent of the creditor) in any form of money other than that specified in the contract.
- (d) That the provisions of the *Public Welfare and Moratorium Act*, and amendments thereto, empowering the imposition of an embargo on the export of coin be not continued after 30th June, 1922.

The *Public Welfare and Moratorium Act* was allowed to lapse on 30th June, 1922, and thereafter the movement of gold to and from the Union was freed from all restrictions.

3. **Gold Certificates.**—The Currency and Banking Act, 1920, gives authority for the Treasury to receive deposits of gold coin and bullion to the value of not less than ten shillings, and to issue therefor certificates known as *gold certificates*. Such certificates may not be issued for a sum in excess of—

- (a) The face value of the gold coin presented, provided such coin is not less than the least current weight prescribed by law for such coin; and
- (b) £3. 17s. 10½d. per ounce standard for the gold bullion or light coin presented, subject to such charges as may from time to time be prescribed by regulation to cover the cost of refining and minting.

Whenever the market price of gold in the Union exceeds £3. 17s. 10½d. per standard ounce, a proclamation may be issued declaring the suspension of the redemption of gold certificates: Proclamation No. 220, 1920, 15th December, 1920. Otherwise, gold certificates are redeemable at the Treasury in gold specie on demand. Gold certificates are legal tender for the payment of any sum up to their face value. The Treasury is required to publish weekly a statement of the gold certificates issued, redeemed, and outstanding on the Saturday preceding the publication.

The Treasury may require each bank transacting business in the Union to deposit at the Treasury the whole or any portion of the gold coin held by or on behalf of such bank and receive in exchange gold certificates.

Gold certificates will be convertible into gold after 30th June, 1923, unless otherwise determined by Act of Parliament. The recommendation of the Currency Conference of 1921 on this point was not adopted.

## PARTICULARS OF THE ISSUE OF GOLD CERTIFICATES, 1920 TO 1922.

Date.	Total Value of Certificates Issued.	Value of Certificates Redeemed.	Value of Certificates Outstanding.	Gold held for Redemption of Certificates.
	£	£	£	£
18th December, 1920.....	7,200,000	—	7,200,000	7,200,000
20th March, 1921.....	8,459,000	91,933	8,367,067	8,651,117
25th June, 1921.....	8,979,550	91,933	8,887,617	8,887,617
24th September, 1921.....	9,563,565	91,933	9,471,632	9,471,632
31st December, 1921.....	10,205,006	91,933	10,113,073	10,113,073
25th March, 1922.....	10,205,006	91,933	10,113,073	10,113,073
24th June, 1922.....	10,205,006	91,933	10,113,073	10,113,073
30th September, 1922.....	10,331,006	91,933	10,239,073	10,239,073

4. **South African Reserve Bank.**—Chapters II and III of the Currency and Banking Act provide for the establishment at Pretoria of "The South African Reserve Bank." The bank management consists of a board of eleven directors, of whom three are nominated by stock-holding banks, three are elected by stockholders other than banks (one actively engaged in commerce, one in agriculture, and one in some other industry), three are Government representatives, while the Government also appoints the Governor and the Deputy-Governor of the bank. No person can be nominated as a director except as a banking representative if he is a director, officer, or employee of another bank or a member of Parliament or of a Provincial Council. All the directors must be British subjects and must reside in the Union.

The original capital of the Bank is £1,000,000, of which not more than half is to be subscribed by the stock-holding banks of the Union. The remainder is to be offered to the public at par. No stockholder other than a subscribing bank or the Treasury may hold more than £10,000 of the capital stock. If the full amount is not subscribed, the Treasury is to take up the balance. The capital of the Bank may be increased with Treasury approval, and the price of stock for that purpose may be fixed by the board with the approval of the Treasury.

Provision is made for the creation of a reserve fund which will ultimately be equal to the paid-up capital. No dividend exceeding 6 per cent. is to be paid as long as restrictions on the export of gold or on the convertibility of gold certificates are in force. Later, profits in excess of 10 per cent. dividend will be paid to the Government.

The Bank may engage in the following business:—

- i. May make and issue bank notes.
- ii. May accept money on deposit and collect money for customers.
- iii. May buy and sell or rediscount bills of exchange, promissory notes or other commercial paper not exceeding ninety days usance. A fifth of this business may be six months' bills for agricultural purposes or based on live stock.
- iv. May make loans and advances on specified securities.
- v. May effect transfers by telegram or letter, etc., to places abroad.
- vi. May buy and sell stock, etc., having not more than six months to run of the Union Government and of local authorities in the Union, may invest a sum not exceeding the paid-up capital and reserve in securities not having more than two years to run of the Union or other governments, may invest its staff and superannuation funds in Union Government securities of any currency.
- vii. May buy and sell securities for customers.
- viii. May buy, sell, and deal in precious metals.
- ix. May accept the custody and management of moneys, securities, and other articles of value.
- x. May open accounts in foreign countries and act as agent for any bank.

The Bank may not, however:—

Engage in trade or have a direct interest in any commercial or industrial undertaking except as specially provided above; purchase its own shares or the shares of any other bank or grant security upon them; advance money on mortgage or on notarial bond or cession thereof or become the owner of fixed property except for its own business premises; make unsecured loans or advances; draw or accept bills payable otherwise than on demand; accept money on deposit for a fixed term or allow interest on credit balances on current account.

The Bank has the sole right to issue bank notes in the Union for a period of twenty-five years. Certain provisions are made pending the time when the Bank is in full operation. The denominations of notes are to be prescribed by the Treasury, and the notes are to be redeemable in gold specie or gold certificates. The note issue is to be secured to an amount



of not less than 40 per cent. in gold, and the remainder in commercial paper or trade bills, and by a first charge on all the assets of the Bank. Further provision is made for the suspension of reserve requirements for certain limited periods subject to a graduated tax on the excess issue of notes. The Bank must increase its rates of interest and discount by at least the same percentage.

The Bank must hold in gold or specie a reserve of at least 40 per cent. of its deposits and bills payable in addition to the gold reserve required for bank notes (not more than one fifth of this reserve may be silver specie).

Every bank transacting business in the Union is required to hold reserve balances in the Reserve Bank equal to at least 13 per cent. of its demand liabilities in the Union other than notes, and 3 per cent. of its time liabilities to the public in the Union.

The Act came into operation on 17th December, 1920, and the Bank opened on 30th June, 1921. In December of the same year it notified the Treasury that it was in a position to issue notes. A proclamation (No. 14 of 1922) was issued declaring that on 30th June, 1922, all other banks should cease to issue or re-issue bank notes. The Treasury subsequently prescribed the following denominations of notes to be issued: 10s., £1, £5, £20, and £100. As, however, there was found to be a shortage of £1 notes the Reserve Bank at the request of the other banks actually began issuing notes in April. By the end of July the change over was practically accomplished.

Until the issue of its notes the business of the Reserve Bank was chiefly confined to granting advances to the Government and acting as a clearing-house for other banks. Since then it has been engaged in building up a rediscount business.

### SOUTH AFRICAN RESERVE BANK—LIABILITIES AND ASSETS, 1921-22.

(SUBSCRIBED CAPITAL, £1,000,000.)

#### LIABILITIES.

Date.	Capital and Reserve.	Notes.	Deposits, Bankers.	Bills Payable.	Other Liabilities.	Total Liabilities.
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
2nd July, 1921.....	233	—	5,699	—	6	5,938
24th September, 1921.....	584	—	7,003	—	23	7,670
31st December, 1921.....	1,000	—	6,520	—	60	7,580
25th March, 1922.....	1,000	—	7,416	—	89	8,505
24th June, 1922.....	1,002	2,937	6,059	—	47	10,045
30th September, 1922.....	1,002	8,193	4,932	—	88	14,215

#### ASSETS.

Date.	Gold Coin and Bullion.	Subsidiary Coin.	Gold Certificates.	Bills Discounted.	Loans and Advances to Government.	Other Loans and Advances.	Investments.	Other Assets.	Total Assets.
	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.	£1,000.
2nd July, 1921..	—	—	5,187	250	—	500	—	1	5,938
24th Sept., 1921.	—	—	5,646	—	1,400	—	600	24	7,670
31st Dec., 1921..	30	—	4,716	—	2,200	—	600	34	7,580
25th March, 1922	67	—	5,092	—	2,200	—	1,100	46	8,505
24th June, 1922.	133	—	7,199	—	2,200	81	1,000	32	10,045
30th Sept. 1922.	263	250	9,882	1,192	1,500	1,082	—	46	14,215

5. **Banking in South Africa.**—The history of banking in South Africa may be divided roughly into four periods. First came the period of district banks, coupled with a certain amount of banking business in the remoter districts conducted by private firms that issued

notes. The second period began with the founding of the London and South African Bank in 1861 and the Standard Bank of South Africa in 1862, and a policy of larger corporations with many branches gradually absorbing small institutions was pursued. The third period may be said to date from the *Cape Bank Act* of 1891 whereby the Government instituted greater control over banks, especially in regard to their note issue and the publication of returns. The fourth period, which may be regarded as the culmination of the tendencies of both the second and third periods, started with the founding of the South African Reserve Bank.

In the year 1862 there were in the Cape Colony twenty-nine banks excluding the recently founded London and South African Bank, which did not publish its returns in the Colony. The returns of those banks in that year were as follows:—

<i>Liabilities.</i>	£	<i>Assets.</i>	£
Paid-up Capital.....	940,343	Advance and Sundry Assets..	3,058,353
Reserve.....	147,998	Cash in Hand.....	286,471
Circulation.....	304,910	Other Assets.....	4,209
Deposits.....	1,955,782		
	£3,349,033		£3,349,033

It is not possible here to give anything like a history of banking in South Africa, but a few salient points may be noted. The transfer of a large amount of new capital to South Africa following on the founding of the two banks referred to above led to a speculative boom which resulted in a serious crisis in 1865 and 1866. Then came expansion, following upon the diamond rush which began in 1870. Another crisis supervened with the Transvaal secession and the Basuto war, reaching the acutest point in 1883. The proclamation of the Witwatersrand goldfield and the founding of Johannesburg in 1886 led to a mining boom, followed by a banking crisis in 1890. In 1895 a great inflow of capital from abroad occurred, but this was immediately succeeded by a period of severe depression consequent on the Jameson raid, locusts, drought, and rinderpest. As the country was slowly emerging from this crisis it was plunged into war. In 1902 the expectation of expansion and revived prosperity was not realized and a long period of depression occurred reaching its lowest point with the collapse of the diamond market in 1907. From this point a rapid recovery occurred and the Union of South Africa was inaugurated. The European war led to an unprecedented inflation of credit and currency, the effects of which were felt in the country long after the restoration of peace.

In the following tables are shown the liabilities and assets of all banks operating in South Africa since 1891, with the exception of the Banque Française de l'Afrique du Sud, which operated in the Transvaal for a few years, but the returns of which have not been fully traced. The statements contain returns of the following banks:—Standard Bank of South Africa, Limited, 1891–1921; Bank of Africa, Limited, 1891–1911 (amalgamated with the National Bank, 1912); African Banking Corporation, Limited, 1891–1919 (amalgamated with the Standard Bank, 1920); National Bank of South Africa, Limited, 1911–1921; Netherlands Bank of South Africa, Limited, 1891–1921; Natal Bank, Limited, 1891–1913 (amalgamated with the National Bank, 1914); National Bank of the Orange Free State, Limited, 1891–1913 (amalgamated with the National Bank, 1910); Worcester Commercial Bank, Limited, 1891 (amalgamated with the African Banking Corporation, 1892); Robinson South African Banking Company, Limited, 1900–1904 (liquidated, 1905); National City Bank of New York (South African Branch), Limited, 1920 (liquidated, 1921); Colonial Banking and Trust Company, Limited, 1921; and Stellenbosch District Bank, 1891–1921.

Acceptances have been omitted in accordance with returns published since 1917. It has been found impossible to disentangle the item "Money at Call or Short Notice" before the year 1917. Part of it appears to have been included as cash and part of it with "Other Assets." In the tables below it has been included since 1917 in "Other Assets." The amounts were:—

	£1,000
1917.....	4,574
1918.....	3,596
1919.....	5,339
1920.....	2,707
1921.....	7,051

In any case the transactions were chiefly outside the Union.

**STATEMENT OF LIABILITIES AND ASSETS OF SOUTH AFRICAN BANKS DURING PERIOD 1891 TO 1921 (31st DECEMBER EACH YEAR).**

**LIABILITIES.**

Year.	Capital and Reserve.	Notes.	Deposits.		Balances Due to Head Office and Branches, and other Banks.	Other Liabilities.	Total.
			Time.	Demand.			
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.	£1000.
1891	3,360	939	5,680	8,415	3,253	1,890	21,536
1892	3,393	1,057	6,666	7,577	6,409	1,450	26,532
1893	3,454	1,073	6,499	7,314	5,548	1,579	25,467
1894	3,515	1,118	7,363	8,830	4,853	1,145	26,824
1895	4,042	1,640	8,701	20,068	9,405	1,436	45,292
1896	4,435	2,047	6,813	20,183	7,066	1,907	42,451
1897	4,964	1,831	6,922	15,451	9,372	1,964	40,504
1898	5,071	1,764	7,720	13,685	9,630	2,222	40,099
1899	6,162	2,076	8,619	16,534	7,490	2,214	43,095
1900	9,253	2,335	8,698	19,582	8,055	2,412	50,535
1901	9,343	2,251	10,172	22,607	7,224	2,647	54,244
1902	9,739	2,658	15,419	31,803	10,036	4,102	73,847
1903	9,710	2,450	15,976	25,657	12,703	3,824	70,320
1904	9,969	2,128	17,791	25,304	9,991	3,356	68,539
1905	8,439	2,172	20,896	23,143	10,067	4,156	69,473
1906	8,455	2,075	20,977	20,076	9,701	4,033	65,317
1907	8,217	1,750	19,550	18,241	7,587	3,662	59,007
1908	8,222	1,807	18,412	19,132	8,282	3,096	60,951
1909	8,144	2,024	19,901	21,352	8,752	3,798	63,971
1910	7,724	2,394	19,216	23,258	10,355	4,263	67,210
1911	7,822	2,379	21,070	23,322	12,651	5,040	72,284
1912	7,932	2,401	20,726	24,725	7,575	4,850	68,209
1913	8,111	2,394	22,089	22,785	8,902	5,702	69,893
1914	8,106	2,494	21,455	23,742	7,191	5,200	68,298
1915	7,964	2,732	24,027	27,051	12,742	5,894	80,420
1916	7,990	3,432	24,379	30,907	13,646	6,876	87,230
1917	8,221	4,658	28,168	36,664	5,947	7,860	91,458
1918	8,421	6,451	32,411	45,182	5,075	8,654	106,194
1919	9,419	8,220	41,765	65,311	22,727	11,855	159,297
1920	9,756	9,489	43,615	58,717	4,987	10,741	137,295
1921	9,760	9,183	41,595	49,403	7,924	9,855	127,726

**ASSETS.**

Year.	Coin and Bullion.	Notes of other Banks.	Securities.	Bills Dis-counted.	Advances.	Balances Due by Head Office and Branches, and other Banks.	Other Assets.	Total.
1891	4,473	41	2,095	5,811	4,209	3,852	1,265	21,546
1892	4,482	105	2,094	6,179	4,990	7,229	1,473	26,552
1893	3,946	93	2,001	6,293	5,572	6,414	1,158	25,467
1894	4,413	110	2,455	6,440	5,222	6,661	1,553	26,824
1895	9,208	187	3,064	6,163	12,564	12,124	1,682	45,292
1896	9,290	238	3,495	7,926	10,693	8,817	1,972	42,451
1897	9,947	289	3,096	7,772	11,325	10,292	1,873	40,504
1898	4,894	201	2,918	7,675	11,264	11,316	1,801	40,099
1899	8,077	244	3,531	7,342	12,342	9,254	2,305	43,095
1900	8,174	301	4,480	8,027	14,579	10,090	4,288	50,535
1901	8,809	219	6,365	8,362	15,511	10,583	4,395	54,244
1902	11,172	303	7,983	12,445	22,540	14,948	4,156	73,847
1903	10,015	251	6,190	11,648	23,350	14,623	4,243	70,320
1904	9,348	277	5,826	11,516	24,185	12,998	4,389	68,479
1905	8,907	277	5,597	12,671	24,349	12,918	4,754	69,743
1906	8,110	255	5,684	11,417	23,705	11,144	4,942	65,317
1907	7,968	138	5,473	9,518	21,283	9,474	5,158	59,007
1908	8,168	248	5,929	9,784	20,039	10,231	6,552	60,951
1909	7,884	267	4,733	11,436	23,479	11,632	4,540	63,971
1910	7,769	306	4,905	11,581	25,552	12,221	4,879	67,210
1911	7,851	280	4,557	14,477	26,669	13,608	4,842	72,284
1912	8,066	328	3,782	15,440	26,704	9,779	4,110	68,209
1913	8,150	290	3,673	15,029	26,939	11,324	4,488	69,893
1914	8,372	487	4,629	11,980	29,317	9,198	4,309	68,298
1915	9,151	523	9,379	12,853	28,470	15,998	4,136	80,420
1916	6,961	532	7,740	14,398	33,878	18,445	5,276	87,230
1917	8,939	613	9,934	17,919	30,202	13,188	10,603	91,458
1918	9,337	1,028	10,773	22,059	40,449	13,770	8,778	106,194
1919	8,658	3,747	17,343	30,409	51,246	35,368	12,536	159,297
1920	12,153	1,880	8,707	30,488	60,651	13,900	9,516	137,295
1921	*15,528	1,510	10,140	24,349	59,568	14,794	10,930	127,726

\* Includes £6,518 balances in South African Reserve Bank.

6. **Banking Facilities.**—There are five banks trading in the Union.\* Of these, the Standard Bank of South Africa, Limited, has its Head Office in London, the National Bank of South Africa, Limited, in Pretoria, the Netherlands Bank of South Africa in Amsterdam, Holland, the Stellenbosch District Bank, Limited, in Stellenbosch, in the Cape Province, and the Colonial Banking and Trust Company, Limited, in Cape Town. The first two banks carry on business in all the Provinces of the Union, the Netherlands Bank of South Africa confines its operations to the Provinces of the Cape of Good Hope, Transvaal, and Orange Free State, the Stellenbosch District Bank is purely a local concern, having no branches, and the Colonial Banking and Trust Company has branches in Johannesburg and Pretoria.

Subject to the amending clauses of the Currency and Banking Act, 1920, the following laws exist to control banking :—

Transvaal Law No. 2 of 1893.  
Orange Free State Ordinance No. 20 of 1902.  
Cape Colony Act No. 6 of 1891.  
Union Act No. 7 of 1917.

Under the *Banks Act* of 1917 all banks are required to render to the Union Treasury detailed returns of their assets and liabilities within and without the Union as at the 31st March, 30th June, 30th September, and 31st December in each year, and such further returns as the Treasury may require to satisfy itself that the laws relating to bank note issues are being complied with. The position in regard to the bank note circulation in the Union is, accordingly, continuously under scrutiny by the Treasury.

In terms of section 31 of the Currency and Banking Act, 1920, all banks are required to make a monthly return showing their liabilities to the public in the Union and their cash reserves in the Union.

7. **Joint-Stock Banks.**—The subjoined statements give particulars for a number of years as to the liabilities and assets of all joint-stock banks in the Union, and for the year 1921 as to the liabilities and assets of each bank. The form of presentation is based upon that prescribed by the Union *Banks Act* of 1917, which differs in certain respects from the form adopted for previous years.

(i) **JOINT-STOCK BANKS—TOTAL LIABILITIES (31st DECEMBER), 1914, AND 1918 TO 1921.**

Heading.	1914.	1918.	1919.	1920.	1921.
Subscribed Capital.....	£ 10,407,860	£ 10,515,900	£ 11,471,800	£ 12,138,460	£ 12,158,460
Paid-up Capital.....	5,153,885	5,261,925	5,775,900	5,542,565	5,462,565
Reserve Fund.....	2,951,900	3,158,850	3,043,067	4,212,902	4,302,538
Legal Tender Notes in Circulation.....	1,172,141	2,437,042	2,839,507	2,433,913	1,774,738
Other Notes in Circulation.....	1,231,824	4,014,065	5,380,107	7,035,264	7,407,841
Government Deposits†.....	—	3,780,358	6,824,234	5,456,214	3,610,939
Savings Bank Deposits†.....	—	1,686,346	2,288,416	2,620,223	2,996,006
Deposits payable after notice or on a fixed date.....	21,854,539	32,410,680	41,765,387	43,614,758	41,594,602
Deposits on Current Account.....	23,542,435	39,716,431	56,198,731	50,840,745	42,796,039
Balances due to other Banks.....	198,448	429,860	898,582	810,232	571,350
Balances due to Head Office and Branches.....	6,992,935	4,644,768	21,827,663	4,178,146	7,352,904
Bills payable.....	1,258,401	2,390,097	3,031,315	3,271,265	1,998,399
Bills received for Collection.....	6,402,592	†	†	†	†
Other Liabilities.....	3,942,325	6,263,521	8,224,157	7,460,914	7,856,607
<b>TOTAL.....£</b>	<b>74,701,425</b>	<b>106,193,743</b>	<b>159,297,126</b>	<b>137,295,141</b>	<b>127,725,708</b>

\* A new bank, the Commercial Bank of South Africa, Ltd., was established in 1922, with Head Office in Cape Town.

† In 1917, owing to the operation of the *Banks Act*, No. 7 of that year, statistics as to Government and Savings Bank Deposits became available.

‡ Figures not published under *Banks Act* of 1917.

## (ii) JOINT-STOCK BANKS—LIABILITIES OF EACH BANK, 31st DECEMBER, 1921.

Heading.	Standard Bank of South Africa, Ltd.	National Bank of South Africa, Ltd.	Netherlands Bank of South Africa, Ltd.	Stellenbosch District Bank, Ltd.	Colonial Banking and Trust Company, Ltd.	Total.
Subscribed Capital	£ 8,916,660	£ 2,965,000	£ 240,000	£ 16,800	£ 20,000	£ 12,159,460
Paid-up Capital..	2,229,165	2,965,000	240,000	8,400	20,000	5,462,565
Reserve Fund...	2,893,335	1,300,000	49,900	29,000	31,303	4,303,538
Legal Tender Notes in Circulation.....	1,462,152	312,586	—	—	—	1,774,738
Other Notes in Circulation.....	3,026,777	4,308,208	72,671	185	—	7,407,841
Government Deposits.....	1,839,124	1,771,565	250	—	—	3,610,939
Savings Bank Deposits.....	712,035	2,100,765	14,860	10,627	157,719	2,996,006
Deposits payable after notice or on a fixed date	25,717,614	15,348,123	342,937	166,610	10,399	41,594,692
Deposits on Current Account....	22,930,290	19,140,297	615,490	84,680	25,282	42,796,039
Balances due to other Banks...	212,336	356,127	887	—	—	571,350
Balances due to Head Office and Branches.....	—	6,723,918	317,401	—	311,675	7,352,994
Bills payable.....	740,959	1,121,201	128,813	157	7,269	1,998,399
Bills received for Collection*.....	—	—	—	—	—	—
Other Liabilities..	4,600,495	3,200,634	38,199	14,478	2,801	7,856,607
<b>TOTAL.....£</b>	<b>60,364,282</b>	<b>58,650,424</b>	<b>1,321,408</b>	<b>314,146</b>	<b>575,448</b>	<b>127,725,708</b>

\* Figures not published under *Banks Act* of 1917.

## (iii) JOINT-STOCK BANKS—TOTAL ASSETS (31st DECEMBER), 1914, AND 1918 TO 1921.

Heading.	1914.	1918.	1919.	1920.	1921.
Coin and Gold Certificates in hand and in transit.....	£ 7,823,806	£ 9,034,489	£ 8,470,925	£ 12,040,051	£ 8,826,967
Bullion in hand and in Transit	548,218	252,439	186,883	112,768	182,920
Balances held in S.A. Reserve Bank.....	—	—	—	—	6,518,529
Money at Call or Short Notice.	—	3,595,977	5,339,317	2,767,409	7,050,825
Notes of other Banks.....	487,307	1,028,362	3,746,665	1,879,407	1,509,795
Balances due by other Banks..	661,739	2,006,174	4,002,463	3,022,519	2,903,410
Securities—					
(a) Union Government.....		2,355,578	2,799,679	4,101,102	4,508,528
(b) British and Colonial Government.....	4,629,632	7,700,254	13,441,215	8,113,004	3,800,586
(c) Other Securities.....		717,180	1,091,543	1,493,445	1,831,680
Bills under Discount—					
(a) Current.....	10,792,264	21,506,222	29,253,876	29,022,250	21,977,305
(b) Overdue and Unpaid.....	967,086	440,417	1,060,977	1,450,951	2,355,239
(c) Overdue and Unpaid Bills negotiated on European Firms, Overdue and Unpaid owing to the war.....	227,380	112,088	88,487	14,911	13,645
Loans and Advances other than Bills—					
(a) Secured.....	23,290,384	26,292,471	34,174,035	38,008,360	34,816,867
(b) Unsecured.....	3,707,352	11,824,760	14,882,443	20,000,773	13,268,638
Balances due by Head Offices and other Branches.....	8,185,087	11,763,720	31,366,040	10,877,822	11,790,842
Advances—					
(a) To Government.....	—	—	—	—	3,374
(b) To Public Bodies.....	2,309,541	2,331,160	2,189,202	2,640,778	2,478,624
Landed Property other than Bank Premises.....	371,919	214,440	107,010	148,761	141,016
Bank Premises, Furniture.....	1,508,692	1,619,858	1,745,373	2,113,455	2,279,214
Other Assets.....	9,182,048	3,347,236	5,284,993	4,552,345	1,458,654
<b>TOTAL.....£</b>	<b>74,701,425</b>	<b>1 06,193,744</b>	<b>159,297,127</b>	<b>137,295,141</b>	<b>127,725,708</b>

\* Included in "Other Assets."

## (iv) JOINT-STOCK BANKS—ASSETS OF EACH BANK, 31st DECEMBER, 1921.

Heading.	Standard Bank of South Africa, Ltd.	National Bank of South Africa, Ltd.	Netherlands Bank of South Africa.	Stellenbosch District Bank, Ltd.	Colonial Banking and Trust Company, Ltd.	Total.
	£	£	£	£	£	£
Coin and Gold Certificates in hand and in Transit.....	5,553,535	3 185,850	79,860	5,928	1,770	8,826,967
Bullion in hand and in Transit.....	124,515	58,405	—	—	—	182,920
Balances held in S.A. Reserve Bank.....	3,593,842	2,794,001	102,033	18,053	10,000	6,518,529
Money at Call or Short Notice.....	3,480,000	3,515,265	25,560	—	—	7 050,825
Notes of other Banks ..	878,035	610,134	13,683	919	1,022	1,500,795
Balances due by other Banks.....	1,275,913	1,480,999	100,048	22,405	23,475	2,903,410
Securities—						
(a) Union Government	2,210,356	2,123,972	174,000	—	—	4,508,528
(b) British and Colonial Governments.....	2,492,029	1,300,442	8,115	—	—	3,800,586
(c) Other Securities.....	444,501	1,005,312	81,790	—	300,077	1,831,680
Bills under Discount—	11,800,558	9,933,614	229,658	16,793	5,682	21,977,305
(a) Current.....	1,204,820	1,131,139	7,773	10,174	1,333	2,355,239
(b) Overdue and unpaid						
(c) Overdue and unpaid Bills negotiated on European Firms, overdue and unpaid owing to the war.....	13,645	—	—	—	—	13,645
Loans and Advances other than Bills—						
(a) Secured.....	10,860,238	14,177,802	532,387	148,657	88,983	34,816,867
(b) Unsecured.....	7,231,243	5,783,210	98,262	55,695	100,278	13,208,688
Balances due by Head Offices and Branches.	2,285,339	9,180,840	321,358	—	12,499	11,790,842
Advances—						
(a) To Government.....	—	3,374	—	—	—	3,374
(b) To Public Bodies.....	1,635,781	817,628	481	24,734	—	2,478,624
Landed Property other than Bank Premises..	29,524	110,800	676	—	—	141,016
Bank Premises, Furniture	1,021,545	1,201,413	41,680	6,450	8,006	2,279,214
Other Assets.....	1,219,633	200,006	12,433	4,338	22,224	1,458,654
<b>TOTAL.....£</b>	<b>66,364,282</b>	<b>58,650,421</b>	<b>1,821,408</b>	<b>314,146</b>	<b>575,448</b>	<b>127,725,708</b>

8. **Clearing-House Returns.**—On account of the fact that banking in South Africa is almost entirely confined to a few large corporations and transactions between different branches of the same bank are not put through a clearing house, the Clearing House Returns in the Union though not without considerable interest must be interpreted with caution. Clearings take place in every town in which two banks have branches and the returns of the seven chief towns are given below. Since the South African Reserve Bank commenced business clearing-house settlements throughout the country have been effected by drawing on balances with the Reserve Bank. The South African Reserve Bank is in effect the clearing-house of all the clearing-houses, and this fact must be remembered in connection with the Pretoria returns from July, 1921.

## CLEARING-HOUSE RETURNS 1913 TO 1922.

Date.	Cape Town.	Port Elizabeth.	Durban.	Pretoria.	Johannesburg.	Bloemfontein.
	£	£	£	£	£	£
1913.....	23,769,034	—	24,060,323	13,424,323	112,111,160	3,211,517
1914.....	24,393,584	9,342,800	19,535,068	10,953,854	93,407,606	2,755,797
1915.....	28,641,311	12,680,789	16,673,450	10,833,170	90,132,902	3,071,767
1916.....	34,840,874	12,232,312	22,880,654	11,701,350	118,523,609	3,229,903
1917.....	41,753,640	14,201,755	32,072,075	15,798,122	134,589,563	4,182,051
1918.....	50,060,818	17,540,798	42,524,103	10,759,192	150,639,942	5,371,570
1919.....	62,675,555	24,446,092	53,327,782	23,230,791	184,696,223	7,618,660
1920.....	83,392,260	20,038,775	62,929,900	32,383,707	240,570,144	9,231,937
1921.....	56,243,682	14,929,298	44,813,850	48,600,630	172,336,384	6,233,050
January-June, 1922.....	25,872,183	7,700,553	19,539,584	31,481,234	60,351,733	2,687,098

9. **Exchange Rates.**—Details of variation in the selling price of drafts of South Africa on London are given below at different dates:—

## EXCHANGE RATES—SOUTH AFRICA ON LONDON (SELLING PRICES).

NOTE.—Percentages shown with an italic "d" indicate discount, the others are premium.

Date.	Cable Transfer.				Sight.				30 Days.	60 Days.	90 Days.
	Under £100.	£100 and over.	Under £500.	£500 and over.	Under £100.	£100 and under £500.	Under £500.	£500 and over.			
	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.	Per cent.			
6th January, 1921...	—	—	3½	3½	—	—	3½	3½	27	2½	2½
31st January, 1921...	—	—	2	2	—	—	2	1½	1	1	1
21st February, 1921...	—	—	1½	1½	—	—	1½	1½	1	1	1
5th March, 1921.....	—	—	1	1	—	—	1	1	Par	Par	1d
16th May, 1921.....	—	—	½	½	—	—	½	½	1d	1d	1d
8th August, 1921.....	—	—	Par	Par	—	—	Par	1d	1d	1d	1d
10th December, 1921.	Par	½d	—	—	Par	½d	—	1d	1d	1d	1d
8th May, 1922.....	Par	1d	—	—	Par	1d	—	1d	1d	1d	1d
10th October, 1922...	Par	1½d	—	—	Par	1½d	—	1½d	1½d	1½d	2½d

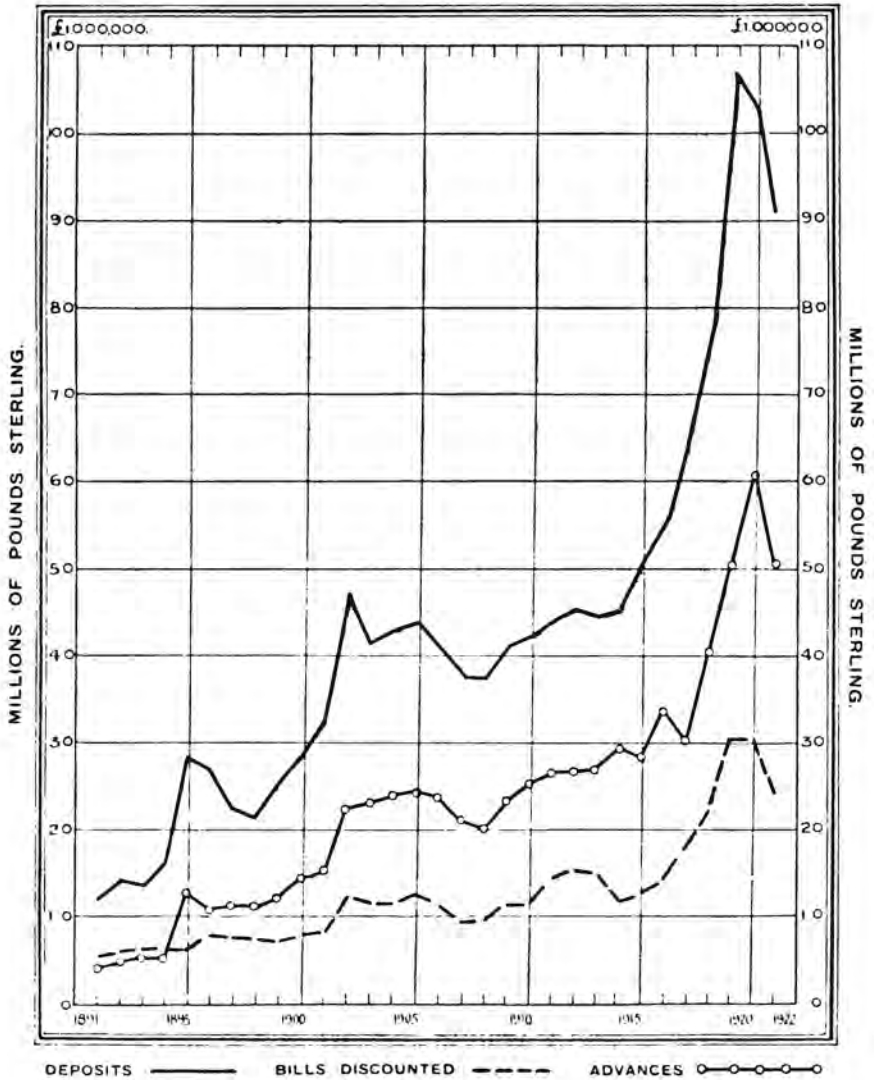
*Bank Rate of Discount.*—The South African Reserve Bank under Section 12 (3) of the *Currency and Banking Act* is obliged to "fix and publish from time to time the rates at which it will discount the various classes of bills." The first announcement made on the 29th December, 1922, fixed the following rates:—

6 per cent. for first class commercial bills of not more than 90 days' currency;

6½ per cent. for first class agricultural bills with a maturity exceeding 90 days but not exceeding six months.

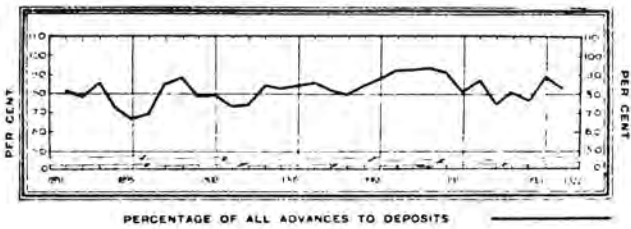
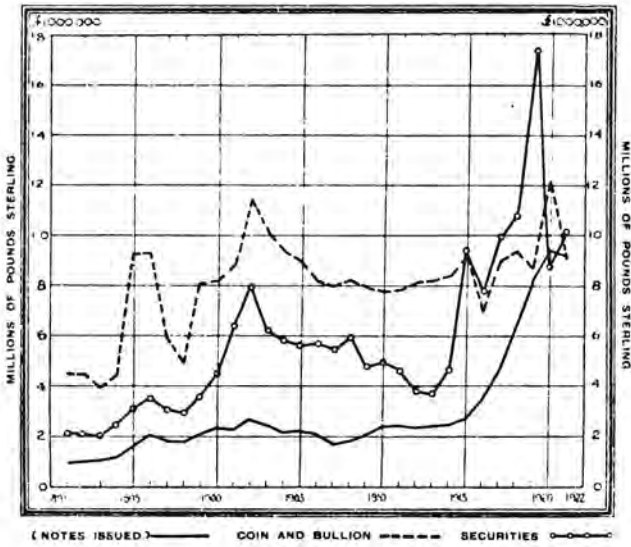
The minimum advance rate previously quoted by the other banks may perhaps be regarded as corresponding to the above rate for the period before the Reserve Bank quoted a rate. The rates for the last ten years were:—2nd February, 1913: 6½ per cent. (Coastal 6 per cent.); 1st March, 1920: 7 per cent.; 16th August, 1920: 7½ per cent.; 1st May, 1922, 7 per cent.

SOUTH AFRICAN BANKS  
(EXCLUDING SOUTH AFRICAN RESERVE BANK).

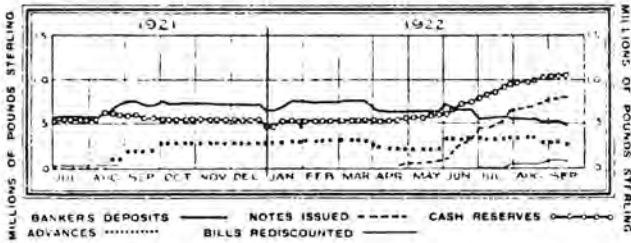




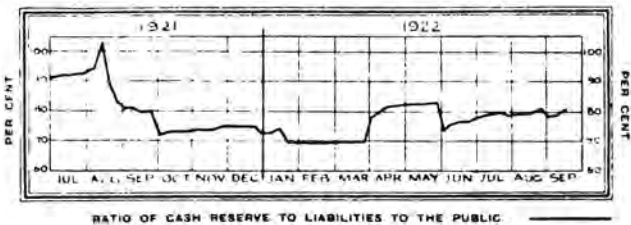
SOUTH AFRICAN BANKS  
(EXCLUDING SOUTH AFRICAN RESERVE BANK).



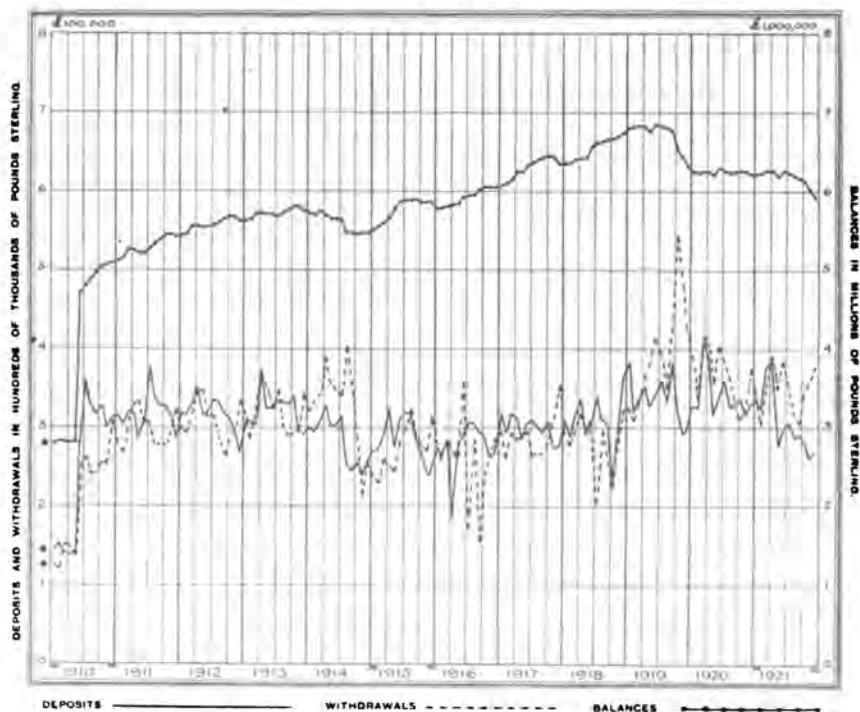
SOUTH AFRICAN RESERVE BANK.



SOUTH AFRICAN RESERVE BANK.



UNION OF SOUTH AFRICA.  
POST OFFICE SAVINGS BANK—MONTHLY TRANSACTIONS AND BALANCES.  
1910 TO 1921.



10. **Post Office Savings Bank.**—The subjoined statement shows the transactions in depositors' accounts in the Post Office Savings Bank for a period of years. Owing to considerable changes in the accounting system of the Post Office Savings Bank the Provincial classification has lost significance in this connection and only the figures for the Union as a whole are now given. Previous issues of the Year Book contained particulars of Provincial transactions from 1909-10 to 1919-20:—

**POST OFFICE SAVINGS BANK, UNION, 1909-10 TO 1921-22.**

PROVINCE AND YEAR.	DEPOSITS AND INTEREST.	WITHDRAWALS.	BALANCE DUE TO DEPOSITORS.		AVERAGE AMOUNT TO CREDIT OF EACH DEPOSITOR IN CURRENT ACCOUNT.			ACCOUNTS.		
			Current Account.	Certificate Account.	£ s. d.	No.	Opened.	Closed.	Re-maining Open.	
*1909-10..	£ 3,522,327	£ 3,114,262	£ 4,667,162	£ 778,800	22 7 3	52,038	35,689	208,720		
†1910-11..	3,121,549	2,558,858	5,229,853	898,600	23 4 5	44,677	28,159	225,238		
‡1911-12..	4,309,189	3,960,628	5,578,415	966,800	23 5 1	59,916	45,278	239,876		
1912-13..	4,371,933	4,226,923	5,723,425	950,200	23 10 5	58,596	55,154	243,318		
1913-14..	4,115,732	4,046,397	5,792,759	879,000	22 16 11	55,830	45,591	253,557		
1914-15..	3,560,972	3,625,172	5,728,560	802,400	23 0 7	46,861	51,695	248,723		
1915-16..	3,655,816	3,444,153	5,940,223	767,800	22 16 7	53,038	41,565	260,190		
1916-17..	3,747,556	3,405,374	6,282,405	670,000	22 15 5	52,279	36,571	275,904		
1917-18..	3,862,339	3,591,106	6,553,638	663,700	22 13 10	51,286	38,357	288,833		
1918-19..	4,107,832	3,688,596	6,972,875	744,900	22 15 7	52,890	35,610	306,103		
1919-20..	4,374,458	4,961,044	6,386,289	693,500	20 15 5	56,843	55,460	307,486		
1920-21..	4,353,378	4,325,397	6,414,269	610,900	20 18 4	47,454	48,285	306,655		
1921-22..	3,723,721	4,294,803	5,843,187	822,500	19 6 9	40,554	45,068	302,141		

\* From 1st July, 1909, to 30th June, 1910. † From 1st July, 1910, to 31st March, 1911.  
‡ From 1st April, 1911, to 31st March, 1912.

11. **Other Savings Banks.**—The following tables give particulars of Savings Banks operating in the Union during 1919–20 and 1920–21. The information was collected under the *Statistics Act*. The figures are exclusive of Savings Bank departments of the joint stock banks and building societies, details of which are respectively shown in the tables in paragraph 5 above and § 2 hereunder. Statistics of the Post Office Savings Bank are given in the preceding paragraph.

### SAVINGS BANKS IN THE UNION, 1919–20 AND 1920–21.

#### (a) NUMBER OF BANKS AND ACCOUNTS.

Year.	Number of Banks.	Accounts Opened During Year.	Accounts Closed During Year.	Accounts Open at End of Year.	
				Current.	Fixed Deposit.
1919–20.....	8	2,297	1,512	15,283	176
1920–21.....	9	2,720	1,678	16,047	233

#### (b) DEPOSITS AND INTEREST.

Year.	Deposits during Year.		Withdrawals.		Open at End of Year.		Interest Added.
	Current.	Fixed.	Current.	Fixed.	Current.	Fixed.	
	£	£	£	£	£	£	
1919–20.....	403,873	8,079	376,970	1,921	802,474	13,622	32,515
1920–21.....	428,247	9,729	401,136	4,372	871,879	18,779	40,232

#### (c) LIABILITIES.

Year.	Deposits with Interest.	Reserve Fund.	Other Funds.	Other Liabilities.	Total
	£	£	£	£	£
1919–20.....	810,006	211,480	51,066	1,113,380	2,191,962
1920–21.....	883,691	165,987	42,915	16,291	1,102,884

#### (d) ASSETS.

Year.	Securities		Loans.	Landed and House Properties.	Cash in Hand and on Deposit.	Other.	Total.
	Union Government.	Other.					
	£	£	£	£	£	£	£
1919–20.....	293,220	18,865	1,314,275	65,030	98,419	397,153	2,191,962
1920–21.....	135,741	20,615	815,811	27,227	82,290	18,200	1,102,884

NOTE.—Particulars of liabilities and assets of three Savings Banks are not given owing to these being merged with other business conducted by those Institutions.

12. **Union Loan Certificates.**—Act No. 20 of 1919 authorized the raising of money by means of the issue of *Union Loan Certificates*. The certificates are issued at the face value of £1, £10, and £25, at the issue price of 15s. 6d., £7. 15s., and £19. 7s. 6d., respectively, and are redeemable at their face value at the end of five years. They are obtainable at any post office in the Union that transact money order and savings bank business. No individual person is entitled to hold in certificates more than £1000 (face value). Certificates may be surrendered for payment at any time prior to the date of full maturity, the surrender value rising progressively after the expiration of twelve months from the date of issue. Interest payable on a *Union Loan Certificate* when surrendered prior to or on maturity will be exempt from Union Income Tax and Supertax.

The following table shows number of Union Loan Certificates issued and repaid.  
**NUMBER AND VALUE OF UNION LOAN CERTIFICATES ISSUED AND REPAID  
 TO 30th JUNE, 1922.**

Date.	Number.			Amount.*			Interest Paid.
	Issued.	Repaid.	Balance.	Issue.	Repaid.	Balance.	
	Units.	Units.	Units.	£	£	£	£
27th Dec., 1919....	1,481,370	13,136	1,468,234	1,148,062	10,180	1,137,882	—
27th March, 1920....	2,107,568	56,004	2,051,564	1,633,365	43,403	1,589,962	—
26th June, 1920....	2,454,805	119,662	2,335,143	1,902,474	92,738	1,809,736	—
25th Sept., 1920....	2,729,787	177,003	2,552,784	2,115,585	137,177	1,978,408	—
31st Dec., 1920....	2,926,184	272,410	2,653,774	2,267,793	211,118	2,056,675	698
26th Mar., 1921....	3,062,047	365,337	2,696,710	2,373,086	283,136	2,089,950	2,011
25th June, 1921....	3,199,870	479,534	2,720,336	2,479,899	371,654	2,108,245	4,610
24th Sept., 1921....	3,298,793	591,686	2,707,109	2,556,566	458,556	2,098,009	7,984
31st Dec., 1921....	3,420,917	708,663	2,712,254	2,651,234	548,749	2,102,485	12,347
25th March, 1922....	3,507,026	800,035	2,706,971	2,717,945	620,043	2,097,902	16,833
30th June, 1922....	3,652,000	903,662	2,748,338	2,830,300	700,338	2,129,962	22,672

\* Calculated at Issue Value of Certificates, i.e. 15s. 6d. per unit.

**13. Savings Clubs.**—The Savings Clubs Scheme is a development of the certificate issue, its object being to encourage co-operative saving among groups of employees and others. Savings Clubs can be formed by any one group of from five persons upwards, the necessary books being supplied free of charge. Each club appoints its own treasurer who accepts deposits from club members in the smallest amounts. The collective club savings are invested, as they come in, by the club treasurer in *Union Loan Certificates*, which are subsequently distributed among the members. The movement was launched experimentally in Cape Town in March, 1920, and since that date 930 Savings Clubs have been formed. It is anticipated that the scheme will be generally adopted by schools and that the adult clubs will in the course of time be largely recruited from that source.

**14. Land and Agricultural Bank.**—Particulars of the establishment and activities of the Bank are given in Chapter XIV. The subjoined table (i) gives for a series of years particulars as to the operations of the Land and Agricultural Bank, showing the number of applications for ordinary advances under Act No. 18 of 1912, the amount involved, and particulars as to applications granted and advances paid out. Tables (ii) and (iii), give further particulars as to advances paid out by the Bank:—

(i) **APPLICATIONS FOR ADVANCES, 1913 TO 1921.**

YEAR.	APPLICATIONS RECEIVED.		APPLICATIONS GRANTED.		TOTAL ADVANCES PAID OUT.		Average Amount.	Value of Securities.
	Number.	Amount.	Number.	Amount.	Number.	Amount.		
1913....	3,874	£ 2,706,994	3,091	£ 1,749,130	2,636	£ 1,530,060	£ 584	£ 3,418,670
1914....	1,268	451,329	1,025	293,084	1,097	351,361	323	818,591
1915....	401	176,354	322	131,655	291	117,365	403	262,412
1916....	2,022	1,039,496	1,715	713,030	1,254	474,378	378	970,184
1917....	2,299	1,467,758	1,997	1,060,590	1,812	337,920	518	1,906,212
1918....	2,200	1,524,739	1,953	1,167,470	1,699	948,345	558	1,856,900
1919....	2,662	1,976,221	2,338	1,495,910	1,871	1,172,530	627	2,318,487
1920....	2,978	2,463,270	2,579	1,775,440	2,016	1,421,015	705	3,037,027
1921....	2,647	1,499,871	1,978	900,330	1,713	829,410	484	2,010,774

(ii) **ANALYSIS OF ADVANCES, 1913 TO 1921.**

Year.	Over £1,500.	£1,001-£1,500.	£501-£1,000.	£251-£500.	£101-£250.	£100 and under.
1913.....	£ 374,205	£ 332,820	£ 447,310	£ 233,685	£ 114,275	£ 27,765
1914.....	19,850	28,425	80,445	143,775	63,285	18,584
1915.....	7,420	18,190	40,150	35,200	11,080	4,365
1916.....	38,170	70,465	149,400	125,665	69,828	20,850
1917.....	186,455	183,260	201,730	175,485	81,380	19,610
1918.....	235,005	193,755	278,765	151,390	70,955	18,475
1919.....	332,210	244,595	328,180	184,680	76,085	6,780
1920.....	437,860	310,750	397,185	201,335	62,025	11,860
1921.....	157,540	149,140	229,085	186,120	89,535	17,990

## (iii) PURPOSES FOR WHICH ADVANCES WERE MADE, 1913 TO 1921.

Year.	Improvements.	Purchase of Stock.	Discharge of Existing Liabilities.	Sub-Division of Land.	Establishment of Agricultural and Rural Industries.	Purchase of Land.
	£	£	£	£	£	£
1913.....	216,270	125,335	662,118	215	150	525,972
1914.....	46,831	41,564	107,057	952	—	157,060
1915.....	5,110	7,250	20,282	60	—	84,663
1916.....	53,920	47,044	128,229	265	600	244,320
1917.....	88,713	75,842	259,812	0-0	—	512,863
1918.....	51,574	62,832	420,805	390	—	412,744
1919.....	68,260	76,512	256,869	—	—	770,889
1920.....	89,581	87,481	334,195	—	—	909,758
1921.....	112,892	90,635	256,171	—	—	369,712

## § 2. Building Societies.

Statistics of building societies in the Union are collected annually under the *Statistics Act*, the first collection having taken place in respect of the year 1919-20. The tables hereunder give particulars of such societies from that year. For the purpose of the regulations under the Act the term "building society" includes all associations or organizations having for their object the purchasing, acquisition or building of houses for members of such associations or other persons. Terminable building societies are included.

The first building society in the Union was established in the Eastern Province in 1864, and in 1920-21 there were fifty-three societies.

## BUILDING SOCIETIES OPERATING IN THE UNION, 1919-20 AND 1920-21.

## (a) SHARES.

Heading.		1919-20.	1920-21.
New Shareholders during year.....	No.	5,950	6,410
Shareholders at end of year.....	No.	23,771	26,350
Shares taken up during year:—			
Contributing.....	No.	20,965	32,467
Paid-up.....	No.	5,245	4,396
Shares Matured, Withdrawn, or Cancelled during year:—			
Contributing.....	No.	14,054	15,434
Paid-up.....	No.	1,902	2,896
Total Value.....	£	524,161	809,446
Shares at end of Year:—			
Contributing.....	No.	99,596	113,251
Paid-up.....	No.	14,908	15,095
Total Value.....	£	2,603,682	2,922,649
Subscriptions on Shares during year.....	£	575,808	911,866

## (b) LOANS.

Heading.		1919-20.	1920-21.
New Loans granted during year.....	No.	4,056	3,473
Total Number of Loans at end of year.....	No.	10,230	10,893
Amount of Loans advanced during year.....	£	2,584,388	1,839,529
Amount Received in Loan Redemption during year.....	£	1,810,932	1,588,452
Total Amount owing on Loans at end of year.....	£	4,562,814	*4,839,684

\* Excluding unpaid interest.

(c) SAVINGS BANK ACCOUNTS.

Particulars.	Current Account.		Fixed Deposit.		Total.	
	1919-20.	1920-21.	1919-20.	1920-21.	1919-20.	1920-21.
Accounts opened during year..... No.	5,339	4,861	1,145	1,181	6,484	6,042
Accounts closed during year No.	3,247	3,955	1,063	967	4,310	4,622
Accounts open at end of year No.	21,037	21,994	1,524	1,709	22,621	23,763
Deposits during year..... £	2,315,589	2,294,969	567,246	542,891	2,882,835	2,867,860
Withdrawals during year..... £	2,151,818	2,263,907	460,767	546,632	2,612,585	2,809,659
Deposits at end of year..... £	1,569,733	1,565,226	584,925	576,468	2,154,658	2,141,694
Interest added during year £	59,421	72,359	22,589	30,025	82,010	102,384

(d) DIVIDENDS, REVENUE, EXPENDITURE, AND NET PROFIT.

Year.	Dividends Paid and Accrued on Shares during year.		Revenue.			Expenditure.	
	Con-tributing Shares.	Paid-up Shares.	Interest.	Other.	Total.	Working Ex-penses.	Net Profit.
	£	£	£	£	£	£	£
1919-20.....	111,636	43,109	320,403	55,608	376,011	142,142	233,869
1920-21.....	104,863	57,437	359,196	59,781	418,977	203,742	215,235

(e) LIABILITIES AND ASSETS.

Liabilities.	1919-20.	1920-21.	Assets.	1919-20.	1920-21.
	£	£		£	£
Paid-up Capital, including accrued Dividends.....	2,603,682	2,922,649	Loans.....	4,502,814	4,870,977
Deposits.....	2,154,658	2,141,694	Fixed Property.....	88,032	97,412
Reserve Fund.....	153,703	194,938	Cash on Current Account.....	71,884	108,865
Other Funds and Undi-vided Profits.....	131,251	140,503	Cash on Fixed Deposit..	371,667	362,352
Other Liabilities.....	244,152	179,664	Other Assets.....	193,109	139,992
<b>TOTAL..... £</b>	<b>5,287,446</b>	<b>5,579,508</b>	<b>TOTAL..... £</b>	<b>5,287,446</b>	<b>5,579,508</b>

## § 3. Assurance.

1. **Statistics of Insurance in the Union.**—In the following tables are given particulars obtained under the *Statistics Act* of 1914, regarding Insurance Companies in the Union or a period of years. The figures relate to every class of insurance transaction :—

## (i) PARTICULARS OF INSURANCE COMPANIES OPERATING IN UNION, 1917 TO 1921.

## (a) NUMBER OF INSURANCE COMPANIES, DATE OF ESTABLISHMENT, ETC.

DATE OF ESTABLISHMENT.	HEADQUARTERS IN.					TOTAL.
	Union.	United Kingdom.	Other British Possessions.	United States of America.	Other Foreign Countries.	
Before 1800.....	—	5	—	—	—	5
1801-1825.....	—	11	—	—	—	11
1826-1850.....	1	6	1	2	2	12
1851-1860.....	1	1	2	1	—	5
1861-1870.....	—	6	2	—	—	8
1871-1880.....	—	3	2	—	1	6
1881-1889.....	—	3	1	—	1	5
1891-1899.....	4	3	—	—	1	8
1901-1909.....	3	2	—	—	—	5
1906-1910.....	—	2	—	—	—	2
1911-1915.....	2	1	1	—	1	5
1916-1920.....	3	1	—	—	—	4
Unspecified.....	—	3	—	—	—	3
<b>TOTAL AT 31ST DECEMBER, 1921.....</b>	<b>14</b>	<b>47</b>	<b>9</b>	<b>3</b>	<b>6</b>	<b>79</b>
<b>TOTAL AT 31ST DECEMBER, 1920.....</b>	<b>18</b>	<b>45</b>	<b>9</b>	<b>3</b>	<b>5</b>	<b>80</b>
<b>TOTAL AT 31ST DECEMBER, 1919.....</b>	<b>15</b>	<b>44</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>74</b>
<b>TOTAL AT 31ST DECEMBER, 1918.....</b>	<b>15</b>	<b>44</b>	<b>8</b>	<b>3</b>	<b>4</b>	<b>74</b>
<b>TOTAL AT 31ST DECEMBER, 1917.....</b>	<b>15</b>	<b>41</b>	<b>8</b>	<b>3</b>	<b>3</b>	<b>70</b>
* BRANCHES IN UNION, 1921.....	45	66	17	1	2	131
* BRANCHES IN UNION, 1920.....	50	75	22	1	3	151
* BRANCHES IN UNION, 1919.....	44	79	17	1	1	142
* BRANCHES IN UNION, 1918.....	45	71	16	1	1	134
* BRANCHES IN UNION, 1917.....	72	67	16	1	1	157

\* Excluding head offices and agencies.

## (b) COMPARATIVE SUMMARY OF TRANSACTIONS OF INSURANCE COMPANIES IN UNION, 1919 TO 1921.

DESCRIPTION.	TOTAL TRANSACTIONS.		
	1919.	1920.	1921.
Assets in Union.....£	19,306,204	22,945,532	23,586,051
New Life Policies issued during year.....No.	31,653†	36,401	33,326
Value of New Life Policies issued during year. £	13,749,747†	16,900,834	15,425,875
Life Policies in Force at end of year.....No.	183,314†	209,406	220,008
Value of Life Policies in Force as end of year. £	77,760,134†	90,062,861	94,372,460
Value of Industrial Life Policies issued during year.....£	692,704	2,904,373	2,701,851
Premium Income—			
Life Insurance.....£	2,611,587†	3,007,012	3,108,352
Industrial Life.....£	239,854	263,371	289,349
Fire Insurance.....£	956,129	1,203,616	1,158,547
Marine Insurance.....£	138,446	147,174	115,330
Workmen's Compensation.....£	321,070	392,898	331,857
Motor cars.....£	103,897	166,863	185,860
Live Stock.....£	2,369	5,754	1,512
Other Insurance.....£	106,557	214,539	316,610
Losses—			
Fire Insurance.....£	326,541	1,157,058	967,709
Marine Insurance.....£	47,885	54,688	51,329
Workmen's Compensation.....£	156,257	180,422	181,371
Motor cars.....£	59,543	97,635	133,799
Live Stock.....£	1,147	3,283	528
Other Insurance.....£	56,701	77,941	108,692

† Excluding Industrial Life Insurance now shown separately.

## (c) SUMMARY OF TRANSACTIONS OF INSURANCE COMPANIES IN UNION, 1921.

Description.	Headquarters in					Total.
	Union.	United Kingdom.	Other British Possessions.	United States of America.	Other Foreign Countries.	
Assets in Union..... £	16,562,708	3,160,841	3,103,571	639,368	113,503	23,586,051
New Life Policies issued during year.....No.	22,220	3,579	3,923	3,505	—	33,326
Value of Life Policies issued during year..... £	10,617,617	1,807,519	1,729,797	1,270,942	—	15,425,875
Life Policies in force at end of year.....No.	133,603	32,604	37,448	16,109	304	220,008
Value of Life Policies in force at end of year.....£	50,904,478	16,265,284	14,406,338	6,031,087	106,278	94,372,460
Premium Income:—						
Life Insurance..... £	1,855,675	554,101	588,083	162,152	3,251	3,108,352
Industrial Life..... £	289,349	—	—	—	—	289,349
Fire Insurance..... £	98,387	940,461	85,326	—	28,373	1,158,547
Workmen's Compensation..... £	174,025	148,455	9,377	—	—	331,857
Motor Cars..... £	44,791	139,846	1,223	—	—	185,860
Live Stock..... £	235	887	390	—	—	1,512
Other Insurance..... £	50,310	286,399	23,152	—	6,758	316,610
Losses:—						
Fire Insurance..... £	64,099	825,672	58,658	—	19,280	967,709
Marine Insurance..... £	365	89,897	7,175	—	3,892	51,329
Workmen's Compensation..... £	122,009	55,718	3,644	—	—	181,371
Motor Cars..... £	36,000	97,208	591	—	—	133,799
Live Stock..... £	182	346	—	—	—	528
Other Insurance..... £	30,422	75,162	8,108	—	—	108,692



## (ii) LIFE INSURANCE TRANSACTIONS, 1917 TO 1921.

## (a) PREMIUM INCOME OBTAINED DURING YEAR.

Description.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
	£	£	£	£	£
Total, 1917*	1,072,507	272,341	797,985	213,363	2,356,146
Total, 1918*	1,102,777	287,008	835,117	225,710	2,450,612
Total, 1919.	1,120,036	311,620	910,006	269,925	2,611,587
Total, 1920.	1,270,564	348,210	1,036,322	354,918	3,007,012
1921—					
Assurances.....	1,165,306	327,920	902,779	322,280	2,718,335
Pure Endowments.....	154,482	55,527	99,089	60,999	370,097
Annuities.....	6,632	5,369	7,908	11	19,920
<b>TOTAL.....</b>	<b>1,326,420</b>	<b>388,866</b>	<b>1,009,776</b>	<b>383,200</b>	<b>3,108,352</b>

\* Including Industrial Life Insurance now shown separately, vide Table (iii).

(b) NEW LIFE POLICIES ISSUED AND LIFE POLICIES IN FORCE IN UNION.  
1917 TO 1921.

DESCRIPTION.	LIFE POLICIES ISSUED DURING YEAR.		LIFE POLICIES IN FORCE, 31ST DECEMBER.	
	Number.	Amount.	Number.	Amount.
1917—		£		£
Assurances*	65,328	8,325,777	254,456	64,370,764
Pure Endowments.....	82,045	2,679,590	94,689	5,094,207
<b>TOTAL.....</b>	<b>147,373</b>	<b>11,005,367</b>	<b>349,145</b>	<b>70,064,971</b>
Annuities.....	39	2,120	276	15,831
1918—				
Assurances*	121,049	11,174,006	348,126	72,152,515
Pure Endowments.....	8,419	300,928	30,010	1,471,878
<b>TOTAL.....</b>	<b>129,468</b>	<b>11,474,934</b>	<b>378,136</b>	<b>73,624,393</b>
Annuities.....	37	2,493	289	16,493
1919—				
Assurances.....	23,775	11,245,613	159,899	70,823,554
Pure Endowments.....	7,842	2,501,112	23,045	6,921,677
<b>TOTAL.....</b>	<b>31,617</b>	<b>13,746,725</b>	<b>182,934</b>	<b>77,745,231</b>
Annuities.....	36	3,022	380	23,903
1920—				
Assurances.....	26,912	13,312,192	177,549	79,567,077
Pure Endowments.....	9,445	3,585,940	31,511	10,370,449
<b>TOTAL.....</b>	<b>36,357</b>	<b>16,898,132</b>	<b>209,060</b>	<b>89,937,526</b>
Annuities.....	44	2,702	406	25,335
1921—				
Assurances.....	24,873	12,170,891	188,241	83,963,457
Pure Endowments.....	8,419	3,239,421	31,368	10,370,963
<b>TOTAL.....</b>	<b>33,292</b>	<b>15,410,312</b>	<b>219,609</b>	<b>94,334,420</b>
Annuities.....	34	15,563	450	38,040

\* Including Industrial Life Assurance.

## (iii) PREMIUM INCOME—ALL INSURANCE, OTHER THAN LIFE, 1917 TO 1921.

YEAR.	CLASS OF INSURANCE.							TOTAL.
	Fire.	Marine.	Workmen's Compensation.	Motor Car.	Live Stock.	Industrial Life.	Other.	
1917.....	£ 776,559	£ 232,783	£ 289,364	£ 79,833	£ 3,759	£ *	£ 124,135	£ 1,510,433
1918.....	868,226	324,667	297,163	81,292	3,140	*	139,782	1,704,270
1919.....	956,129	138,446	321,070	103,897	2,369	239,851	166,557	1,928,322
1920.....	1,203,616	147,174	392,888	106,863	5,754	263,371	214,539	2,394,205
1921—								
Cape of Good Hope.....	455,141	46,232	53,435	59,295	479	167,985	51,344	833,861
Natal.....	189,804	42,401	34,418	28,418	337	31,731	16,159	343,268
Transvaal.....	451,635	26,088	240,308	89,370	76	76,807	127,949	1,012,233
Orange Free State.....	61,967	618	3,606	8,777	620	12,876	5,828	94,382
TOTAL.....	1,158,547	115,339	331,857	185,860	1,512	289,349	201,280	2,283,744

\* Included in Life Insurance.

## (iv) LOSSES SUSTAINED—ALL INSURANCE, OTHER THAN LIFE, 1917 TO 1921.

YEAR.	CLASS OF INSURANCE.						TOTAL.
	Fire.	Marine.	Workmen's Compensation.	Motor Car.	Live Stock.	Other.	
1917.....	£ 224,151	£ 32,385	£ 160,374	£ 42,652	£ 1,262	£ 35,179	£ 496,003
1918.....	230,777	23,164	164,119	44,405	1,290	52,868	525,623
1919.....	326,541	47,885	156,257	59,543	1,147	56,701	648,074
1920.....	1,157,058	54,688	180,422	97,635	3,283	77,941	1,571,027
1921—							
Cape of Good Hope.....	510,779	18,207	14,741	44,503	30	30,388	618,648
Natal.....	48,867	26,342	11,173	13,543	217	3,773	103,855
Transvaal.....	310,791	6,570	154,940	66,567	228	71,574	610,679
Orange Free State.....	97,332	210	508	9,186	53	2,957	110,246
TOTAL.....	967,709	51,329	181,371	133,799	528	108,692	1,443,428

**2. Life Assurance (Cape).**—Returns from Life Assurance Companies are rendered in the Cape Province in terms of the Cape Colony *Life Assurance Act, 1891*. Returns are not received from other Provinces. No Act has yet been passed by the Union Parliament dealing with insurance. The tables given below relate only to life assurance in the Cape of Good Hope:—

## (i) GROWTH OF LIFE ASSURANCE, CAPE OF GOOD HOPE, 1897 TO 1920.

Year.	Policies in Force.	Sums Assured.	Year.	Policies in Force.	Sums Assured.
	No.	£		No.	£
1897.	31,873	12,233,313	1915.	156,148	30,727,747
1902.	57,940	16,375,640	1916.	164,942	31,723,680
1907.	83,093	21,587,957	1917.	181,512	33,852,012
1912.	114,820	26,330,401	1918.	232,387	36,091,378
1913.	136,101	28,661,711	1919.	262,606	40,856,293
1914.	147,425	30,431,277	1920.	270,523	46,094,431

## (ii) NUMBER OF LIFE ASSURANCE POLICIES IN FORCE, DATE OF GOOD HOPE, 1915 TO 1920.

Company.	1915.	1916.	1917.	1918.	1919.	1920.
<b>Foreign Companies—</b>						
African Life.....	4,569	5,202	5,857	*50,528	50,909	60,651
Alliance (see Imperial).....	2	2	2	—	—	—
Algemene Maatschappij.....	138	110	110	98	92	92
Caledonian.....	84	82	79	77	74	72
Colonial Mutual.....	5,907	5,861	6,210	6,174	6,133	6,116
Commercial Union.....	498	496	507	518	543	547
Economic.....	700	675	641	604	582	545
English and Scottish.....	304	344	200	286	—	—
Equitable of United States.....	1,643	1,557	1,426	1,320	1,245	1,178
General Life.....	2,275	1,645	1,286	1,117	1,174	1,124
General Accident, Fire, and Life.....	173	162	162	152	159	154
Gresham.....	547	445	502	453	436	454
Imperial (united with Alliance)†.....	106	177	160	130	120	125
Law Union and Rock.....	1,223	1,322	1,437	1,439	1,477	1,679
London Assurance.....	7	6	6	6	4	3
London Guarantee and Accident Company	—	—	—	—	—	10
London and Lancashire.....	236	233	261	279	342	485
Manufacturers (Canada).....	556	556	758	838	843	930
Mutual of New York.....	1,543	1,448	1,433	1,359	1,300	1,229
National Mutual, Australasia.....	4,624	5,128	5,609	5,854	6,536	7,135
New York Life.....	1,251	1,233	1,243	1,227	1,197	1,149
Norwich Union.....	3,747	3,747	4,002	3,706	3,736	3,833
North British.....	20	20	19	17	16	15
Northern.....	200	210	206	204	214	245
Royal.....	241	231	221	217	210	195
Royal Exchange.....	65	62	63	65	73	74
Standard.....	561	615	596	575	551	529
Star.....	2,727	2,670	2,614	2,534	2,804	2,691
Sun Life of Canada.....	53	54	64	65	79	179
Union‡.....	702	679	640	609	546	518
Yorkshire.....	171	185	187	182	208	218
<b>TOTAL—Foreign Companies (31).....</b>	<b>35,053</b>	<b>35,157</b>	<b>37,481</b>	<b>80,640</b>	<b>90,612</b>	<b>92,075</b>
<b>South African Companies—</b>						
African Homes Trust.....	59,357	63,211	70,984	73,087	83,332	83,436
Southern.....	9,441	9,892	10,845	11,082	12,570	13,824
S.A. Mutual.....	29,244	30,633	32,621	35,093	38,640	42,494
Federal.....	250	246	244	232	231	225
United Provident and Assurance Association	22,803	25,813	29,537	32,343	34,666	35,172
African Motherhood Endowment.....	—	—	—	—	1,153	473
S.A. National Life.....	—	—	—	—	1,402	2,824
<b>TOTAL—South African Companies (7)</b>	<b>121,095</b>	<b>129,785</b>	<b>144,031</b>	<b>151,747</b>	<b>171,994</b>	<b>178,448</b>
<b>GRAND TOTAL.....</b>	<b>156,148</b>	<b>164,942</b>	<b>181,512</b>	<b>232,387</b>	<b>262,606</b>	<b>270,523</b>

\* Includes Industrial Policies—43,380 for £781,615. Numbers for previous years omitted.

† Economic and Imperial Amalgamated with Alliance.

‡ Amalgamated with Eagle, Star, and British Dominions.

§ Now London and Scottish.

¶ Now Eagle, Star, and British Dominions.

\* Amalgamated with Commercial Union.

†† 1919 figures; 1920 not available.

(iii) LIFE ASSURANCE—CAPE OF GOOD HOPE.—SUMS ASSURED ON LIVES RESIDENT IN PROVINCE, 1915 TO 1920.

Company.	Sums Assured.					
	1915.	1916.	1917.	1918.	1919.	1920.
<b>Foreign Companies—</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>	<b>£</b>
African Life.....	1,359,684	1,554,790	1,821,699	3,027,075	3,768,953	4,371,045
Alliance.....	400	400	400	—	—	—
Algemene Maatschappij.....	38,246	26,822	26,822	22,747	22,497	22,497
Caledonian.....	85,241	34,241	34,391	33,091	31,591	30,851
Colonial Mutual.....	1,955,414	1,893,129	1,962,213	1,925,096	1,880,268	1,871,263
Commercial Union.....	279,010	288,390	288,432	291,858	312,382	317,469
Economic.....	367,157	300,677	331,320	318,909	325,567	304,265
English and Scottish.....	94,176	94,176	89,180	87,580	—	—
Equitable of United States.....	832,839	792,315	718,861	660,403	619,743	587,693
General Life.....	630,400	419,067	327,654	237,603	310,091	302,079
General Accident, Fire, and Life.....	49,834	43,770	43,730	41,871	43,836	44,303
Gresham.....	159,052	143,017	162,855	153,856	150,127	164,130
Imperial.....	87,909	81,823	72,930	68,820	63,342	59,044
Law Union and Rock.....	530,799	573,699	632,579	632,741	648,735	703,744
London Assurance.....	4,500	3,500	3,500	3,500	2,000	1,500
London Guarantee and Accident Company.....	—	—	—	—	—	4,237
London and Lancashire.....	93,235	99,706	119,673	129,757	166,207	210,107
Manufacturers (Canada).....	170,999	170,999	227,889	255,092	265,307	1,586,807
Mutual of New York.....	624,704	606,062	591,639	567,460	541,651	569,826
National Mutual of Australia.....	—	—	—	—	—	—
Asia.....	1,671,247	1,895,331	1,981,952	2,109,056	2,401,921	2,736,248
New York Life.....	543,304	536,320	543,112	547,863	538,043	516,697
Norwich Union.....	1,982,000	1,932,000	2,337,650	1,973,275	2,115,725	2,242,700
North British.....	7,990	7,900	7,640	7,140	6,890	6,690
Northern.....	60,153	62,211	65,897	77,611	88,412	92,360
Royal.....	163,580	156,257	148,499	143,334	140,530	130,854
Royal Exchange.....	30,882	22,032	23,832	24,709	29,309	32,612
Standard.....	243,448	251,948	247,692	243,340	229,690	225,690
Star.....	1,020,613	1,013,550	1,003,263	936,009	1,028,568	990,627
Sun Life Assurance Co. of Canada.....	21,400	22,775	26,625	28,425	38,525	†138,525
Union*.....	275,836	268,131	256,371	246,511	220,314	212,464
Yorkshire.....	65,870	76,820	88,118	90,368	101,618	108,318
<b>TOTAL—Foreign Companies (31).....£</b>	<b>13,417,155</b>	<b>13,476,325</b>	<b>14,167,446</b>	<b>14,953,005</b>	<b>16,100,838</b>	<b>18,421,840</b>
<b>South African Companies—</b>						
African Homes Trust.....	1,182,300	1,198,491	1,350,731	1,384,497	1,678,233	1,856,174
Southern.....	2,950,324	3,126,499	3,495,744	3,714,182	4,331,766	4,850,290
S.A. Mutual.....	12,860,418	13,540,879	14,407,631	15,565,786	17,345,013	19,183,324
Federal.....	57,991	59,391	57,573	56,322	57,622	55,772
United Provident and Assurance Association.....	279,350	322,104	372,887	417,586	477,452	544,827
African Motherhood Endowment.....	—	—	—	—	357,430	143,654
S.A. National Life.....	—	—	—	—	507,939	1,048,350
<b>TOTAL—South African Companies (7).....£</b>	<b>17,310,592</b>	<b>18,247,355</b>	<b>19,684,566</b>	<b>21,138,373</b>	<b>24,755,455</b>	<b>27,672,591</b>
<b>GRAND TOTAL.....£</b>	<b>30,727,747</b>	<b>31,723,680</b>	<b>33,852,012</b>	<b>36,091,378</b>	<b>40,856,293</b>	<b>46,094,431</b>

† Amalgamated with Alliance.  
 ‡ Amalgamated with Eagle, Star, and British Dominions.  
 § Now London and Scottish.  
 ¶ Now Eagle, Star, and British Dominions.  
 \* Amalgamated with Commercial Union.  
 †† 1919 figures; 1920 not available.

(iv) LIFE ASSURANCE—CAPE OF GOOD HOPE.—ASSETS OF COMPANIES,  
1915 TO 1920.

COMPANY.	1915.	1916.	1917.	1918.	1919.	1920.
Foreign Companies—	£	£	£	£	£	£
African Life.....	33,663	33,663	103,716	121,743	135,159	231,242
Alliance.....	221,010	221,010	221,010	—	—	—
Algemene Maatschappij.....	14,131	13,376	13,376	13,078	18,143	18,143
Caledonian.....	11,801	12,101	10,172	10,147	9,946	9,613
Colonial Mutual.....	408,527	526,066	665,290	704,474	736,687	797,900
Commercial Union.....	77,803	116,417	141,054	128,066	95,312	186,477
Economic.....	26,753	28,558	25,108	25,743	23,407	18,975
English and Scottish†.....	22,888	22,888	22,709	22,946	—	—
Equitable of United States...‡	100,995	121,363	104,190	97,713	97,778	99,816
General Life.....	31,279	30,506	30,222	30,970	27,897	28,329
General Accident, Fire, and Life.....	27,555	26,642	28,162	35,447	20,187	42,274
Gresham.....	102,905	102,000	73,555	68,776	61,465	68,593
Imperial†.....	19,380	18,679	18,825	17,984	17,463	18,259
Law Union and Rock.....	39,479	40,554	40,841	39,632	35,064	25,311
London Assurance.....	10,400	10,527	10,152	10,152	10,239	11,551
London Guarantee and Accident Company.....	—	—	—	—	—	12,835
London and Lancashire§.....	32,093	33,460	32,217	42,163	44,777	43,305
Manufacturers (Canada).....	14,133	14,133	14,975	15,979	16,247	18,294
Mutual of New York.....	113,663	117,319	66,897	62,858	58,029	55,698
National Mutual of Australasia.....	184,429	195,427	205,071	209,444	244,612	265,361
New York Life.....	29,312	27,611	35,680	37,004	39,985	45,662
Norwich Union.....	205,019	205,019	273,066	270,419	270,419	270,419
North British.....	10,657	10,201	10,229	10,645	10,679	10,789
Northern.....	37,869	40,128	53,282	60,776	63,076	100,126
Royal.....	58,610	57,988	57,097	60,062	21,660	20,355
Royal Exchange.....	11,149	12,421	12,287	11,732	12,641	36,859
Standard.....	19,693	26,891	28,351	28,043	21,934	19,411
Star§.....	153,156	141,989	136,941	120,991	130,394	116,471
Sun Life Assurance Co. of Canada.....	10,000	10,000	10,000	10,000	13,000	13,000
Union¶.....	54,175	51,394	49,612	46,405	42,867	39,642
Yorkshire.....	21,355	30,045	33,318	32,030	28,892	36,777
<b>TOTAL—Foreign Companies (31).....£</b>	<b>2,203,982</b>	<b>2,299,286</b>	<b>2,497,323</b>	<b>2,347,282</b>	<b>2,304,809</b>	<b>2,661,457</b>
South African Companies—						
African Homes Trust.....	105,956	143,110	172,274	172,610	189,927	196,161
Southern.....	885,864	1,033,578	1,219,743	1,342,036	1,498,243	1,627,499
South African Mutual.....	4,881,113	5,240,354	5,819,245	6,134,575	6,753,327	7,133,193
Federal.....	27,566	24,711	24,101	27,503	26,557	21,922
United Provident and Assurance Association.....	43,636	43,636	33,964	73,876	73,876	73,876
African Motherhood Endowment.....	—	—	—	—	27,945	27,945
S.A. National Life.....	—	—	—	—	53,077	53,077
<b>TOTAL—South African Companies (7).....£</b>	<b>5,044,135</b>	<b>6,485,389</b>	<b>7,269,357</b>	<b>7,750,600</b>	<b>8,562,952</b>	<b>9,133,673</b>
<b>GRAND TOTAL.....£</b>	<b>8,148,117</b>	<b>8,784,675</b>	<b>9,766,680</b>	<b>10,097,882</b>	<b>10,867,821</b>	<b>11,795,130</b>

† Amalgamated with Alliance.

‡ Amalgamated with Eagle, Star, and British Dominions.

§ Now London and Scottish.

¶ Now Eagle, Star, and British Dominions.

‡ Amalgamated with Commercial Union.

§ 4. Registration of Companies and Businesses.

1. Registration of Companies.—Particulars are given herunder for the Union, and for each Province, of the number of companies registered during a period of years, and the nominal capital:—

REGISTRATION OF COMPANIES, 1916 TO 1921.

(a) UNION.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
Companies Registered at 31st December—						
Total number.....	6,748	7,174	7,668	8,217	8,864	9,038
Nominal Capital.....£						135,958,123
New Companies Registered during Year—						
Number.....	461	522	607	683	803	569
Nominal Capital.....£	5,420,087	9,409,618	11,500,143	21,876,081	42,763,585	38,170,316
Increases of Capital—						
Number.....	69	00	153	154	260	162
Amount.....£	1,507,251	1,894,07	4,283,515	4,188,540	13,018,119	5,355,937
Reductions of Capital—						
Number.....	9	8	8	9	7	6
Amount.....£	277,115	862,865	906,851	395,051	423,550	338,600
Liquidations †—						
Number.....	84	96	113	134	156	248
Total Capital.....£	1,063,285	2,356,552	2,724,260	2,071,201	4,739,996	11,806,165

\* Records incomplete. No figures available for Transvaal and Orange Free State.  
 † Exclusive of liquidations in Natal, regarding which no particulars are available.  
 ‡ Records incomplete. No figures available for Transvaal.

(b) CAPE OF GOOD HOPE.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
Companies Registered at 31st December—						
Total number.....	906	985	1,090	1,221	1,360	1,380
Nominal Capital.....£	25,222,061	27,873,292	30,477,046	34,392,179	40,353,576	40,926,557
New Companies Registered during Year—						
Number.....	76	104	132	109	182	128
Nominal Capital.....£	1,235,315	3,422,893	3,063,175	3,358,460	12,151,615	6,522,025
Increases of Capital—						
Number.....	9	8	17	22	40	17
Amount.....£	404,306	122,900	175,500	899,500	3,886,357	334,000
Reductions of Capital—						
Number.....	1	1	2	—	1	2
Amount.....£	8,875	4,000	151,821	—	206,750	311,250
Liquidations—						
Number.....	30	25	27	38	43	92
Total Capital.....£	392,350	890,562	483,100	342,827	809,825	5,070,952

(c) NATAL.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
Companies Registered at 31st December—						
Total number.....	876	923	971	1,036	1,127	1,193
Nominal Capital.....£	19,540,587	20,155,819	20,486,643	22,929,578	25,440,447	26,225,089
New Companies Registered during Year—						
Number.....	45	47	48	65	91	66
Nominal Capital.....£	346,265	615,242	330,824	1,151,601	2,510,809	784,642
Increases of Capital—						
Number.....	23	23	39	12	58	47
Amount.....£	184,756	604,170	1,291,620	209,823	1,897,646	2,078,058
Reductions of Capital—						
Number.....	—	—	—	—	—	—
Amount.....£	—	—	—	—	—	—
Liquidations—						
Number.....	•	•	•	•	•	•
Total Capital.....£	•	•	•	•	•	•

\* No record.

## REGISTRATION OF COMPANIES, 1916 TO 1921—continued.

## (d) TRANSVAAL.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
<b>Companies Registered at 31st December—</b>						
Total number.....	4,611	4,884	5,217	5,528	5,844	6,988
Nominal Capital.....£						
<b>New Companies Registered during Year—</b>						
Number.....	314	342	402	401	425	326
Nominal Capital—						
Local Companies.....£	1,844,207	3,952,013	5,683,804	4,322,887	5,405,235	3,819,990
Foreign Companies.....£	837,500	1,016,500	1,284,000	10,250,933	11,556,000	11,963,734
<b>TOTAL..... £</b>	<b>2,681,707</b>	<b>4,968,513</b>	<b>6,967,804</b>	<b>14,573,820</b>	<b>17,051,235</b>	<b>15,783,724</b>
<b>Increases of Capital—</b>						
Number.....	24	48	85	107	127	77
Amount.....£	871,822	753,237	2,727,324	2,790,407	6,515,230	1,367,833
<b>Reductions of Capital—</b>						
Number.....	7	7	4	9	5	4
Amount.....£	226,883	858,865	755,030	395,051	215,300	27,350
<b>Liquidations—</b>						
Number.....	52	89	69	90	109	136
Amount.....£	1,251,435	1,457,900	1,893,660	2,529,374	3,843,671	5,842,213

\* No record.

## (e) ORANGE FREE STATE.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
<b>Companies Registered at 31st December—</b>						
Total number.....	355	382	390	432	533	562
Nominal capital.....£						59,806,477
<b>New Companies Registered during Year—</b>						
Number (Local).....	26	29	25	48	105	42
Number (Foreign).....						7
Nominal Capital (Local) £	1,156,800	463,000	1,138,250	2,792,200	11,050,010	15,046,025
Nominal Capital (Foreign) £						33,000
<b>Increases of Capital—</b>						
Number.....	9	11	12	13	26	21
Amount.....£	40,357	414,000	89,070	279,750	1,318,986	1,575,446
<b>Reductions of Capital—</b>						
Number.....	1	—	—	—	1	—
Amount.....£	41,357	—	—	—	1,500	—
<b>Liquidations—</b>						
Number.....	2	2	17	6	4	20
Total Capital.....£	19,500	8,000	347,500	99,000	26,500	893,000

\* No record.

2. **Registration of Businesses.**—Particulars are given hereunder as to the registration of businesses in Natal and the Transvaal for a period of years. No provision exists in the Cape and Orange Free State Provinces for the registration of businesses or partnerships. The Transvaal Act (No. 36 of 1909) covers a wider field than the Act in force in Natal (No. 35 of 1906), hence the difference in the proportionate number of registrations in these two Provinces.

## REGISTRATION OF BUSINESSES, 1916 TO 1921.

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
<b>Natal—</b>						
Businesses Registered.....	295	282	347	430	564	502
Businesses Abandoned.....	1	9	19	7	17	8
Changes of Firms.....	105	132	101	181	247	238
<b>Transvaal—</b>						
Businesses Registered.....	8,319	7,767	6,009	8,446	9,108	9,812
Businesses Abandoned.....	6,251	4,835	3,886	2,855	5,012	5,348
Changes of Firms.....	2,155	2,161	2,189	2,191	2,307	2,451

\* No record.

## § 5. Bonds Registration.

1. **Value of Bonds Registered.**—The following table gives the value of bonds registered and cancelled in each Province for a period of years :—

**BONDS REGISTERED AND CANCELLED, 1916 TO 1921.**

Heading.	1916.	1917.	1918.	1919.	1920.	1921.
<b>*Cape of Good Hope:—</b>	£	£	£	£	£	£
Bonds Registered—						
Immovable Property..	5,157,000	5,961,824	6,224,694	10,375,095	13,889,696	14,077,604
Bonds Cancelled.....	4,026,024	4,277,534	5,877,154	7,397,923	8,055,923	6,173,414
<b>Natal:—</b>						
Bonds Registered—						
Immovable Property..	1,216,018	1,856,635	1,922,798	2,531,423	3,987,901	4,115,025
Movable Property.....	328,762	570,046	490,090	1,013,631	1,524,221	2,366,628
<b>TOTAL.....£</b>	<b>1,544,780</b>	<b>2,426,681</b>	<b>2,428,894</b>	<b>3,545,054</b>	<b>5,512,122</b>	<b>6,481,653</b>
<b>Bonds Cancelled—</b>						
Immovable Property..	950,346	1,345,943	1,400,528	1,871,193	2,023,872	2,138,660
Movable Property.....	287,758	327,616	302,614	552,975	855,238	1,042,467
<b>TOTAL.....£</b>	<b>1,238,102</b>	<b>1,673,559</b>	<b>1,802,142</b>	<b>2,424,168</b>	<b>3,479,110</b>	<b>3,181,127</b>
<b>Transvaal:—</b>						
Bonds Registered—						
Immovable Property...	3,006,790	4,280,081	4,513,492	6,471,402	9,041,275	9,436,503
Movable Property.....	551,398	848,192	1,084,320	5,051,007	1,849,988	4,189,936
<b>*TOTAL.....£</b>	<b>3,558,188</b>	<b>5,128,273</b>	<b>5,597,821</b>	<b>11,522,409</b>	<b>10,891,263</b>	<b>13,626,439</b>
<b>† Bonds Cancelled.....£</b>	<b>2,795,214</b>	<b>3,286,474</b>	<b>2,987,692</b>	<b>3,026,530</b>	<b>4,763,825</b>	<b>5,476,330</b>
<b>Orange Free State:—</b>						
Bonds Registered—						
Special.....	1,812,863	2,411,888	2,342,342	3,543,536	5,671,146	4,138,909
Notarial.....	97,989	326,497	102,573	809,373	237,341	525,799
<b>TOTAL.....£</b>	<b>1,910,852</b>	<b>2,738,385</b>	<b>2,444,915</b>	<b>4,352,909</b>	<b>5,908,487</b>	<b>4,664,708</b>
<b>Bonds Cancelled.....£</b>	<b>1,473,616</b>	<b>1,811,640</b>	<b>2,184,179</b>	<b>2,914,314</b>	<b>3,587,458</b>	<b>1,653,360</b>

\* No record of bonds on movable property.

† Including 1916, Collateral and Surety Bonds, £124,285, and Debenture Bonds, £9,000; 1917, Collateral and Surety Bonds, £512,969, and Debenture Bonds, £344,295; 1918, Collateral and Surety Bonds, £425,628, and Debenture Bonds, £125,000; 1919, Collateral and Debenture Bonds, £3,271,548; 1920, Collateral and Debenture, £1,743,824; 1921, Collateral and Debenture Bonds, £3,675,753.

‡ Including 1916, Collateral Bonds, £237,359; 1917, Collateral Bonds, £90,559; 1918, Collateral Bonds, £10,584; 1919, Collateral Bonds, £548,048; 1920, Collateral Bonds, £782,500; 1921, Collateral Bonds, £2,034,546.



## § 6. Insolvencies.

1. Return of Insolvencies.—Particulars are given in the subjoined tables in regard to insolvencies in the Union:—

## (i) INSOLVENCIES, 1910 TO 1921.

HEADING.	NUMBER OF INSOLVENCIES.				INSOLVENTS' STATEMENTS OF ASSETS.	INSOLVENTS' STATEMENTS OF LIABILITIES.
	Voluntary Surrenders.	Compulsory Sequestrations.	Assignments and Compositions.	Total.		
(a) UNION, 1910 TO 1921.						
1910.....	484	240	75	799	£ 557,645	£ 915,642
1911.....	380	350	80	810	396,122	775,234
1912.....	482	391	72	945	441,304	764,202
1913.....	518	497	91	1,106	507,565	906,666
1914.....	811	588	103	1,502	765,079	1,297,578
1915.....	718	326	79	1,121	1,172,638	1,921,286
1916.....	537	319	49	905	956,100	1,656,876
1917.....	234	241	52	527	436,032	654,647
1918.....	171	216	12	399	399,909	657,905
1919.....	178	249	16	443	493,424	832,164
1920.....	228	401	20	649	1,123,793	1,704,393
1921.....	992	1,022	132	2,146	4,711,080*	6,666,461*

## (b) PROVINCES, 1921.

Cape of Good Hope	502	302	35	839	1,733,121	2,497,836
Natal.....	45	51	3	99	332,222	490,431
Transvaal.....	192	584	79	855	2,011,085*	2,647,781*
Orange Free State..	253	85	15	353	634,052	1,630,413
UNION.....	992	1,022	132	2,146	4,711,080	6,666,461

NOTE.—Statements of assets and liabilities exclude Transvaal for the years 1911 to 1917, and assignments and compositions in Cape Province for the years 1911 to 1916.

\* Exclusive of assets and liabilities not declared in 65 cases, which are included in the total number of insolvencies.

## (ii) INSOLVENCIES, 1918 TO 1921.—RACE AND OCCUPATIONS OF INSOLVENTS.

Year.	Euro-pean.	Asiatic.	Other Coloured.	Total.	Profes-sional.	Com-mercial.	Manufac-turers.	Agri-culture.	Wage Earners.	Miscel-laneous.
1918..	345	53	1	399	12	179	2	103	28	75
1919..	365	75	3	443	11	218	0	73	53	79
1920..	553	93	3	649	35	345	7	96	58	103
1921..	1,892	230	18	2,146	24	1,070	30	758	221	43

## CHAPTER XXIV.

### LOCAL GOVERNMENT.

#### § 1. Powers and Duties of Local Governing Bodies.

**1. Cape of Good Hope.**—Local government in the Province of the Cape of Good Hope is administered primarily by divisional councils, municipal councils, and village management boards, these bodies being under the legislative control of the Provincial Council.

(i) *Divisional Councils.*—The powers and functions of divisional councils as most recently defined are chiefly embodied in Ordinance No. 13 of 1917, and Act No. 36 of 1919, and relate to the maintenance of roads, bridges, pontoons, and ferries, and the control of outspans and trekkpaths; the destruction of noxious weeds; local rating; vehicle taxation; and public health. Divisional councils were first established in the year 1835, and the areas of their jurisdiction are the fiscal divisions of the Province.

(ii) *Municipal Councils.*—Municipal councils are empowered to act under Ordinance No. 10 of 1912 and amending Ordinances. Their functions comprise the rating of immovable property, the control of drainage, water supply and sanitation; the upkeep of burial grounds, botanical gardens, municipal roads, streets and bridges; the control of recreation grounds, and a number of other matters specified in those Ordinances. Further functions of municipal councils are set out in section 9 (7) of Act No. 23 of 1897, Ordinance No. 13 of 1917, and Act No. 36 of 1919.

(iii) *Village Management Boards.*—Village management boards are constituted under Ordinance No. 10 of 1921, and these bodies are concerned with the maintenance of public streets, the provision of water supply, the prevention or suppression of disease, the control of common lands, and similar matters. They are also affected by the provisions of Act No. 4, section 9 (7) of Act No. 23 of 1897, Ordinance No. 13 of 1917, and Act No. 36 of 1919.

(iv) *Local Board Areas.*—Local board areas may be constituted under Ordinance No. 11 of 1921 in localities adjacent to municipalities where, by reason of their proximity to such bodies, it is not considered advisable to establish village management boards. The functions of the boards are very similar to those of village management boards, and they are also affected by the provisions of Ordinance No. 13 of 1917 and Act No. 36 of 1919.

(v) *Local Areas.*—Local areas may be constituted in districts under the control of divisional councils for the regulation of water supply, the use of slaughter places, the management of burial grounds, the erection of buildings, etc. These areas are constituted under Ordinance No. 13 of 1917.

**2. Natal.**—(i) *Municipal Councils.*—In the Natal Province the municipalities are governed by Law No. 19 of 1872, Act No. 22 of 1894, and subsequent amending Acts and Ordinances. Each borough has the power to sell by public auction on freehold or leasehold its town lands, subject to the consent of the Administrator, in order to provide funds for the carrying out of any public work. Town councils also have similar powers with regard to leasing any portion of the town lands for periods not exceeding fifty years, with power to renew for similar periods. Each borough is divided into not fewer than four wards, each ward returning two town councillors who are elected by the burgesses for a period of two years, one-half of the councillors retiring annually. The mayor is elected by the councillors from among their number. Town councils are in certain circumstances empowered to raise money by mortgaging town lands, but in most instances special borrowing Acts are passed under which the flotation of loans for specific purposes on the security of the borough rates and revenues is authorized. With few exceptions licences are issued by the municipalities, which receive the licence fees, including those of liquor licences. The issue of liquor licences is controlled by licensing boards appointed under Act No. 38 of 1896. Market rights vest absolutely in the municipalities under Law No. 19 of 1872.

(ii) *Local Boards.*—The local boards are governed by Law No. 11 of 1881 and Law No. 39 of 1884, and have similar powers to those conferred on municipalities. In addition to all matters relating to the sale or lease of town lands, all new by-laws or amendments and particulars of the cancellation of existing ones, must be referred to the Administrator for approval, and in terms of Ordinance No. 12 of 1916 all municipal and township accounts are subject to annual audit by the Provincial Administration.

(iii) *Villages.*—Under the provisions of Act No. 19 of 1897 (an Act to provide for the supply of water to villages) a village may be proclaimed as coming within the operation of the Act, and the Administrator may authorize the construction of works for the supply of water, on presentation to him of a memorial signed by not fewer than three-fourths of

the resident householders of the village. Plans of such works must be filed in the office of the Surveyor-General. The capital cost of water schemes so approved is met from Union Government funds, and rates are imposed to cover the interest charges and the cost of maintaining the work. The following villages have taken advantage of this Act: Bergville, Bulwer, Impendhle, Stuartstown (Ixopo), and Howick.

**3. Transvaal.**—The Local Government Ordinance, No. 9 of 1912 (amended by Ordinances Nos. 1 of 1915, 6 of 1916, 12 of 1917, 6 of 1918, 8 of 1919, 14 of 1919, 4 of 1920, 10 of 1920, and 12 of 1921), consolidated the law relating to municipal government in the Transvaal Province. This Ordinance, a comprehensive measure defining in great detail the organization and functions of each form of local authority, provides for three grades of such authorities—town councils, village councils, and health committees. Among other main laws affecting municipal government may be mentioned the *Municipal Elections Ordinance*, No. 8 of 1912 (amended by Ordinances Nos. 2 of 1914, 10 of 1914, and 4 of 1918); the *Local Authorities Rating Ordinance*, No. 6 of 1912 (amended by Ordinances Nos. 1 of 1916 and 4 of 1917), in terms of which all local authorities are empowered to levy an assessment rate; the *Local Authorities Roads Ordinance*, No. 44 of 1904, applicable to town councils only; the *Municipal Expropriation Ordinance*, No. 64 of 1903, applicable generally to town councils only, though the provisions of sections 9 to 12 inclusive apply in the case of any arbitration proceedings in connection with any works which may be undertaken by a village council under sections 73 and 77 of Ordinance No. 9 of 1912; and the *Town Lands Ordinances* of 1904 and 1905, applicable to town and village councils.

The *Local Government Ordinance*, No. 9 of 1912 (as amended), distinguishes between the powers and duties of the bodies formerly known as major and minor municipalities, now known as town councils and village councils respectively. Formerly the powers and duties of major and minor municipalities were identical. The effect of the Ordinance was to apportion to village councils only the simpler and more elementary powers and duties given to town councils, while the more elaborate and complex powers necessary for large communities, such as those of Johannesburg and Pretoria, were separated and can now only be conferred on town councils on good cause shown. The powers and duties of village councils are similar to those of the village management boards of the Cape Province. The Ordinance provides for a simplified election procedure for village councils and abolished much of the machinery which applied to municipalities in the smaller towns under previous legislation. A form of local government by means of health committees is provided for such committees to control matters of sanitation and public health. Additional committees may be constituted from time to time, and the Administrator may by regulation render such committees responsible for the control of water-furrows, cemeteries and pounds.

**4. Orange Free State.**—The system of local government in the Orange Free State embraces municipalities and village boards of management.

(i) *Municipalities.*—As soon as a community has shown that it is ripe for the grant of somewhat further powers of local self-government than are exercisable by a village board of management it may be proclaimed by the Administrator as a municipality. The powers of town councils are similar to, but cover a much wider field than, those of village boards of management. No immovable property may be alienated by a town council without the consent of the Administrator. The accounts of councils are audited by municipal auditors who are appointed by and perform their duties on behalf of the Provincial Administration.

(ii) *Village Boards of Management.*—In the case of village boards of management the boards are given power to deal with the more necessary matters appertaining to local government, e.g. the passing of regulations relating to grazing, sanitation, pounds, etc., and the raising of loans not exceeding £1,000 for public works. Subject to the approval of the Administrator, boards are empowered to frame, amend and repeal such regulations from time to time.

(iii) *Municipal and Village Boards of Management.*—Regulations affecting coloured persons and their locations require to be approved by the Governor-General-in-Council.

## § 2. Local Governing Bodies.

**1. Municipalities.**—The following table gives a list of all municipalities proclaimed in each Province, together with particulars as to population, revenue, expenditure, rateable valuation, indebtedness, and the mileage of streets and roads. In certain cases of omission to state particulars it is to be understood that the information has not been rendered available. Steps have, however, been taken to render the furnishing of returns compulsory under the *Statistics Act*; so that more complete information will be available in succeeding years.

\* Since the compilation of these statistics, the following new municipalities have been constituted:—Barrisdale (Cape); Bethal (Transvaal); Warden and Edenville (Orange Free State).



## (i) MUNICIPALITIES OF CAPE OF GOOD HOPE, 1920-21—continued.

Name.	Population, 1921.		Revenue.	Ex- penditure.	Rateable Valuation.	Indebted- ness at End of Year.	Length of Streets and Roads.
	European.	Other.					
			£	£	£	£	Miles.
Oudtshoorn.....	5,552	5,166	43,431	41,858	995,951	145,039	42
Paarl.....	5,760	6,638	13,479	16,360	372,177	95,621	19½
Pearston.....	566	565	980	968	63,443	3,058	8
Peddie.....	389	294	943	1,175	56,610	764	5
Petrusville.....	482	374	1,011	1,011	52,158	4,024	4½
Phillipstown.....	759	522	1,503	1,729	50,061	4,903	6
Piquetberg.....	733	832	1,135	1,009	45,418	1,440	20
Port Alfred.....	1,075	1,853	3,360	3,725	160,157	4,268	25
Port Elizabeth.....	23,935	12,899	220,663	329,828	5,392,908	1,311,345	78
Porterville.....	944	481	1,603	1,966	90,004	6,027	10
Prieska.....	1,114	935	2,286	2,326	109,726	414	4
Prince Albert.....	1,148	844	1,521	1,535	114,458	3,957	41
Prince Alfred's Hamlet.....	356	280	299	311	37,159	1,148	4½
Queenstown.....	5,231	7,637	41,436	44,404	790,267	211,899	30
Richmond.....	769	805	1,301	1,099	89,570	—	20
Riversdale.....	1,474	1,409	4,391	6,051	159,714	17,638	16
Robertson.....	2,587	1,856	5,998	8,122	109,275	23,697	13
Seymour.....	151	411	1,009	997	26,221	1,334	1½
Simonstown.....	3,005	2,404	10,648	10,399	223,790	16,994	12
Somerset East.....	2,167	2,901	14,089	14,862	285,969	21,770	11
Somerset Strand.....	2,342	1,506	7,094	9,237	113,706	26,285	40½
Somerset West.....	1,505	1,473	5,385	5,347	244,816	8,157	18
Stanford.....	434	202	170	238	25,276	2,040	4½
Stellenbosch.....	3,695	3,610	18,167	19,615	815,775	27,543	21
Sterkstroom.....	971	1,043	2,527	3,133	91,415	6,237	5½
Steynsburg.....	1,222	806	3,694	4,787	131,400	6,627	5
Steylerville.....	705	622	758	783	73,589	788	7
Stutterheim.....	905	2,223	3,146	4,014	133,207	875	4½
Strydenbrug.....	414	185	433	539	31,540	959	3½
Sutherland.....	544	273	868	805	69,270	909	8½
Swellendam.....	1,619	1,324	3,334	3,692	216,058	5,073	14
Tarkastad.....	947	1,250	4,707	5,050	121,711	13,233	6½
Tulbagh.....	654	396	1,222	1,654	71,739	4,987	12
Uitenhage.....	7,815	6,399	34,101	39,019	645,641	94,460	26
Umtata.....	1,639	1,859	8,034	25,448	306,320	28,857	37
Uniondale.....	642	725	1,592	1,642	72,000	3,868	4½
Upington.....	1,259	1,364	1,668	1,421	193,570	2,525	2½
Van Rhynsdorp.....	493	313	726	675	45,098	106	—
Venterstad.....	414	547	1,211	1,586	48,032	236	5
Victoria West.....	1,016	971	3,252	2,982	192,347	5,861	6½
Vilfersdorp.....	624	138	804	703	36,005	2,370	12
Vosburg.....	396	182	700	721	28,113	667	4½
Vryburg.....	1,477	1,919	5,527	5,815	224,416	21,928	14
Walmer.....	1,339	733	4,849	5,175	257,515	8,694	28
Wellington.....	2,666	2,502	11,041	13,520	337,586	30,894	23½
Williston.....	354	375	1,047	1,112	39,033	1,070	10½
Wilowmore.....	1,093	942	2,161	2,332	103,247	2,792	4
Windsorton.....	597	1,632	1,255	1,484	28,043	109	15
Worcester.....	3,894	4,747	14,875	15,239	413,177	55,086	17
Wynberg.....	9,999	11,970	67,083	104,190	1,964,867	491,868	65

## (ii) MUNICIPALITIES OF NATAL, 1920-21.

			£	£	£	£	Miles.
Dundee.....	1,586	2,201	16,647	13,800	354,496	35,341	36
Durban.....	47,358	48,183	1,212,277	1,212,119	15,561,930	3,760,642	153
Estcourt.....	746	1,003	7,775	7,405	161,000	42,277	11
Greytown.....	1,198	2,189	20,934	20,644	298,816	59,930	21
Ladysmith.....	3,221	3,562	33,179	31,354	704,610	88,118	22
Newcastle.....	2,057	2,201	18,803	17,011	323,011	38,265	23½
Pietermaritzburg.....	17,492	17,668	276,861	307,911	3,562,300	949,937	130
Ulrecht.....	665	1,544	4,366	5,619	140,040	9,744	31
Vryheid.....	2,092	1,957	12,917	20,963	340,172	56,121	32

## (iii) TOWN COUNCILS OF TRANSVAAL, 1920-21.

Name.	Population 1921.		Revenue.	Ex- penditure.	Rateable Valuation.	Indebted- ness at End of Year.	Length of Streets and Roads.
	European.	Other.					
Barberton.....	1,048	1,621	£ 7,550	£ 7,644	£ 129,605	£ —	Miles. 39
Benoni.....	14,483	38,158	122,464	117,227	2,626,941	69,773	68½
Boksburg.....	12,416	25,563	105,732	98,008	1,778,254	39,729	66½
Brakpan.....	7,108	17,556	53,691	47,233	1,420,375	23,678	53
Ermelo.....	2,716	1,839	12,313	21,527	457,765	24,868	54
Germiston.....	15,697	26,658	128,008	125,801	1,183,455	126,660	93
Heidelberg.....	2,086	1,324	12,905	13,004	332,200	30,857	22
Johannesburg.....	150,286	132,685	2,517,141	2,572,677	34,938,490	4,002,382	770
Klerksdorp.....	3,121	2,565	22,435	23,002	286,380	27,420	25
Krugersdorp.....	13,439	20,077	107,147	110,398	2,150,816	75,068	60
Middelburg.....	2,705	2,338	13,895	13,005	466,756	19,258	28
Pietersburg.....	2,452	3,611	23,082	22,847	422,378	38,170	37
Potchefstroom.....	8,189	5,176	42,154	40,470	780,360	15,716	42½
Pretoria.....	36,675	25,359	512,123	508,792	7,621,949	1,475,007	178½
Roodepoort- Maraisburg..	7,140	16,942	48,198	48,454	1,088,169	29,486	91
Rustenburg.....	1,734	1,665	6,530	6,232	348,325	3,350	30
Springs.....	4,488	14,912	55,559	52,187	1,404,652	49,325	23
Standerton.....	2,100	1,899	14,425	12,389	393,905	20,017	36
Vereeniging.....	1,843	3,590	13,667	13,280	385,647	20,264	17
Volksrust.....	2,218	1,099	8,254	9,428	280,877	15,047	26
Witbank.....	1,919	5,193	9,204	8,063	313,592	13,096	10

## (iv) MUNICIPALITIES OF ORANGE FREE STATE, 1920-21.

			£		£		Miles.
Bethlehem.....	3,383	2,982	21,910	20,582	£ 461,797	£ 102,538	15
Bethlehem.....	1,308	1,207	2,083	1,793	118,060	50,678	7
Bloemfontein.....	17,711	18,780	269,763	208,845	2,976,517	938,264	45
Boshof.....	1,285	751	2,362	2,483	150,244	722	7½
Bothaville.....	908	511	2,045	2,506	112,807	4,568	7½
Brandfort.....	1,414	1,107	6,621	6,519	216,562	14,778	10
Clarens.....	205	100	619	654	19,261	2,800	17
Clocolan.....	1,029	832	10,230	10,960	138,834	7,170	19
Dealesville.....	459	168	863	867	26,605	1,450	4½
Dewetsdorp.....	873	732	3,082	2,330	87,183	4,767	15
Edenburg.....	840	765	1,703	1,402	—	2,594	6
Excellior.....	485	322	1,410	1,472	66,100	2,949	5
Fauresmith.....	936	1,078	2,670	2,699	107,235	2,963	10
Ficksburg.....	1,987	1,328	6,160	5,945	206,080	19,474	27
Fouriesburg.....	532	416	1,052	839	22,316	1,757	23
Frankfort.....	1,434	1,306	6,110	6,175	224,308	10,300	14
Harrismith.....	2,553	3,681	28,271	27,253	351,613	102,890	17
Hellbron.....	1,514	1,587	11,486	11,437	250,794	27,418	12½
Hobhouse.....	388	90	857	451	31,903	582	2
Hoopstad.....	326	337	365	338	33,486	1,058	3
Jacobsdal.....	374	296	786	902	43,642	3,187	4
Jagersfontein.....	1,729	2,285	5,842	5,556	184,711	3,442	6½
Kestell.....	577	511	2,493	2,880	62,157	5,425	13½
Koffyfontein.....	1,253	878	3,001	3,928	94,303	2,682	4½
Kroonstad.....	4,291	5,045	53,356	54,273	662,228	196,154	6
Ladybrand.....	2,050	1,614	6,916	6,854	264,664	11,625	22
Lindley.....	982	758	3,965	3,158	111,728	8,249	12
Luckhoff.....	361	193	561	550	27,636	2,004	7
Marquard.....	703	470	2,717	2,214	67,190	5,821	20
Memsel.....	317	358	1,515	1,672	80,430	3,615	10
Ondelaraarst.....	386	184	720	694	28,115	2,460	17½
Parys.....	2,641	1,012	14,561	16,321	281,400	43,167	35
Paul Roux.....	579	237	1,173	1,110	42,031	6,000	4½
Petrusburg.....	553	230	916	1,205	—	1,348	10
Petrus Steyn.....	496	306	1,555	1,261	65,332	1,213	11
Philippolis.....	810	506	1,394	1,777	84,745	720	4
Reddersburg.....	817	353	2,342	2,208	96,675	2,068	7½
Retz.....	1,060	1,011	5,042	5,087	210,638	2,908	12
Rosendal.....	327	103	524	535	23,803	472	10
Rouxville.....	682	650	2,611	2,445	115,948	2,648	12
Senekal.....	1,198	1,243	7,869	8,053	160,000	15,210	6½
Smithfield.....	974	684	3,952	3,708	121,959	7,411	8½
Springfontein.....	772	770	3,540	2,743	69,290	5,500	2
Steynsrust.....	529	312	2,434	2,046	62,475	6,850	9
Theunissen.....	431	674	1,226	1,540	54,716	11,421	6½
Trompsburg.....	728	466	2,616	2,206	97,231	6,935	6½
Thaba 'Nehu.....	628	83	1,911	1,941	93,868	3,810	6
Ventersburg.....	592	413	915	1,155	62,445	3,153	5½
Villiers.....	420	267	1,106	2,004	70,035	2,253	12
Vredes.....	1,425	1,653	9,613	9,084	300,666	20,247	20
Vredesfort.....	390	526	1,314	1,290	42,665	831	4½
Warden.....	598	314	618	742	66,100	389	9
Wepener.....	1,114	859	3,839	4,650	94,671	3,111	18
Winburg.....	1,243	1,826	8,479	7,882	169,338	19,613	9
Zastron.....	1,765	1,617	4,724	4,326	243,415	8,949	13

2. **Other Local Governing Bodies.**—The subjoined lists give the names of all local governing bodies in the Union, other than municipalities, which are enumerated separately in the preceding section.

**CAPE OF GOOD HOPE.**  
**VILLAGE MANAGEMENT BOARDS.**

District.	Village Management Board.	District.	Village Management Board.
Albany.....	Alcedale.	Kuruman.....	Ollifants Hoek.
".....	Salem.	Ladismith.....	Van Wyksdorp.
Alexandria.....	Alexandria.	Maclear.....	Ugie.
".....	Paterson.	Mafeking.....	Rooigrond.
Aliwal North.....	Jamestown.	Malmesbury.....	Darling.
Barkly East.....	Rhodes.	".....	Hoeijes Bay.
Barkly West.....	Boetsap.	".....	Riebeeck Kasteel.
".....	Daniels Knll.	".....	Riebeeck West.
Beaufort West.....	Merweville.	".....	Vredenburg.
Bredasdorp.....	Napier.	".....	Lang-baan.
Caledon.....	Pooles Bay.	Mossel Bay.....	Herbertsdale.
Calvinia.....	Brand Vlei.	Namaqualand.....	Garies.
".....	Loeriesfontein.	".....	Springbok.
Cape.....	Nieuwoudtville.	Oudtshoorn.....	De Rust.
".....	Glen Lily, Fairfield, and Parow.	".....	Dysseldorp.
".....	Bellville.	Peddie.....	Woodridge.
De Aar.....	Burgerville.	Philipstown.....	Willemsmit.
East London.....	Amalinda.	Port Elizabeth.....	Korsten.
".....	Malearntown.	Prieska.....	Marydale.
Fort Beaufort.....	Blinkwater.	Queenstown.....	Tylden.
George.....	Poalstsdorp.	".....	Whittlesea.
Gordonla.....	Keimoes.	Stellenbosch.....	Gordons Bay.
Hay.....	Nekkerks Hope.	Stockenström.....	Bellvale.
".....	Postmasburg.	".....	Hertzog.
Kimberley.....	Warrenton.	Swellendam.....	Zuurbrak.
".....	Ritchie.	".....	Bonnievale.
King William's Town.....	Berlin.	Tulbagh.....	Gouda.
".....	Braunschweig.	".....	Wolsley.
".....	Brokile ch.	Uniondale.....	Haarlem.
".....	Frankfort.	".....	Joubertina.
".....	Hanover.	Willowmore.....	Rietbron.
".....	Kei Road.	Worcester.....	Rawsonville.
".....	Cinnexsha.		

*Native Territories.*

Bizana.....	Bizana.	Nqamakwe.....	Nqamakwe.
Matatiele.....	Cedarville.	Port St. Johns.....	Port St. Johns.
Mount Ayliff.....	Mount Ayliff.	Qumbu.....	Qumbu.
Mount Fletcher.....	Mount Fletcher.	Tabankulu.....	Tabankulu.
Mount Frere.....	Mount Frere.	Tsolo.....	Tsolo.
Mqanduli.....	Mqanduli.		

**LOCAL AREAS UNDER ORDINANCE NO. 13 OF 1917.**

Bredasdorp.....	Armiton.	Humansdorp.....	Ferreira Town.
Caledon.....	Hawston-Middel Vlei.	".....	Jeffery's Bay.
Cape.....	Pine-lands Garden City.	".....	Karretouwe.
Carnarvon.....	Van Wyks Vlei.	Kenhardt.....	Thoronville.
Clanwilliam.....	Lamberts Bay.	King William's Town.....	Middelriet.
Cape.....	Citrusdale.	Port Elizabeth.....	Bethal-dorp.
		Simonstown.....	Fish Hoek.

**DIVISIONAL COUNCILS.**

Aberdeen.	East London.	Maclear.	Robertson.
Albany.	Elliot.	Mafeking.	Somerset East.
Albert.	Fort Beaufort.	Malmesbury.	Stellenbosch.
Alexandria.	Fraserburg.	Marasburg.	Sturkstroom.
Aliwal North.	George.	Middelburg.	Steynsburg.
Barkly East.	Glen Grey (District Council).	Molteno.	Steylerville.
Barkly West.	Gordonia.	Montagu.	Stockenström.
Bathurst.	Graaff-Reinet.	Mossel Bay.	Stutterheim.
Beaufort West.	Hanover.	Murraysburg.	Sutherland.
Bedford.	Hay.	Namaqualand.	Swellendam.
Bredasdorp.	Herbert.	Oudtshoorn.	Tarka.
Britstown.	Hope Town.	Paarl.	Tulbagh.
Caledon.	Humansdorp.	Pearston.	Uitenhage.
Calitzdorp.	Jansenville.	Peddie.	Uniondale.
Calvinia.	Kenhardt.	Philipstown.	Van Rhynsdorp.
Cape Town.	Kimberley.	Piquetberg.	Victoria East.
Carnarvon.	King William's Town.	Port Elizabeth.	Victoria West.
Catbert.	Kny-na.	Prieska.	Vryburg.
Ceres.	Komga.	Prince Albert.	Will'soon.
Clanwilliam.	Kuruman.	Queenstown.	Willowmore.
Colesberg.	Ladismith.	Richmond.	Wodehouse.
Craddock.	Langsburg.	Riversdale.	Worcester.
De Aar.			

**NATAL**  
LOCAL BOARDS.

Charlestown. Eshowe. Glencoe. Harding.	Howick. Louwsberg. Mooi River. Paulpietersburg.	Richmond. South Barrow. South Shepstone.	Stanger. Verulam. Weenen.
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**TRANSVAAL**  
VILLAGE COUNCILS.

Amersfoort. Amsterdam. Balfour. Belfast. Bloemhof. Breyten. Carolina.	Christiana. Dullstroom. Erasmus. Hendrina. Innesdale. Lichtenburg. Louis Trichardt.	Lydenburg. Machadodorp. Morgenzon. Nelspruit. Nigel. Nykström. Piet Retief.	Potgietersrust. Schweizer-Reneke. Venterdorp. Wakkerdorp. Willemsdal. Wolmaransstad. Zeerust.
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HEALTH COMMITTEES.

Alberton. Alexandra. Coligny. De la Reyville. Delmas. Druvelskloof. Eendracht.	Elsburg. Graskop. Greyfont. Hartebeestfontein No. 624. Kinross.	Koster. Leslie. Maquassi. Messina. Naboomspruit. Ottoedal.	Pilgrims Rest. Rode.m. Sabie. Trichard. Warmbaths. Witpoort.
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**ORANGE FREE STATE.**  
VILLAGE BOARDS OF MANAGEMENT.

Bultfontein. Cornelia.	Hertzogville.	Viljoens-kroon.	Waterkloof.
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3. **Statistics.**—Owing to the absence in the past of a compulsory system for the collection of detailed information in regard to local bodies, the statistics given in this section, which are derived from returns furnished by the individual local authorities, are necessarily incomplete. In the exercise of powers conferred by the *Statistics Act* of 1914, regulations were issued in 1920 making it obligatory to render these returns and ensuring full and reliable statistics in future years.

(a) *Municipal Roads and Bridges.*—The following tables show the mileage of streets and roads and the number of bridges under the control of municipalities and village management boards in the Cape, Natal, Transvaal, and Orange Free State Provinces, also the expenditure, for a series of years:—

(i) **MILEAGE OF STREETS AND ROADS AND NUMBER OF BRIDGES UNDER CONTROL OF MUNICIPALITIES AND VILLAGE MANAGEMENT BOARDS, CAPE OF GOOD HOPE, NATAL, TRANSVAAL, AND ORANGE FREE STATE, TOGETHER WITH EXPENDITURE, 1915-16 TO 1920-21.**

Heading.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
<b>Cape of Good Hope—</b>						
Streets and Roads.....miles	•	•	•	1,870	2,310	2,225
Bridges.....number	•	•	•	291	291	294
Expenditure.....£	•	•	•	192,792	245,414	267,138
<b>Natal—</b>						
Streets and Roads.....miles	572	573	573	544	559	632
Bridges.....number	33	32	45	73	72	72
Expenditure.....£	51,741	45,275	58,602	74,113	109,395	121,138
<b>Transvaal—</b>						
Streets and Roads.....miles	2,372	2,372	2,563	2,447	2,548	2,530
Bridges.....number	191	145	126	144	171	198
Expenditure.....£	203,958	209,904	233,351	249,089	288,144	339,891
<b>Orange Free State—</b>						
Streets and Roads.....miles	639	•	•	615	653	669
Bridges.....number	42	•	•	39	40	41
Expenditure.....£	27,777	•	•	38,609	36,570	43,843

\* Particulars not available.



(ii) **URBAN AUTHORITIES—MILEAGE OF ROADS AND NUMBER OF BRIDGES, WITH EXPENDITURE ON STREET AND BRIDGE CONSTRUCTION AND MAINTENANCE, 1920-21.**

Heading.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Total.
	Miles.	Miles.	Miles.	Miles.	Miles.
Length of streets macadamized, Partly constructed.....	1,103	247	621	170	2,146
On which no construction has been done.....	606	136	741	220	1,703
	511	249	1,177	279	2,216
<b>TOTAL.....</b>	<b>2,225</b>	<b>632</b>	<b>2,539</b>	<b>669</b>	<b>6,065</b>
	No.	No.	No.	No.	No.
Number of bridges for general traffic—					
Under 20-ft. span.....	149	43	138	13	343
20-ft. span and over.....	85	29	60	28	202
<b>TOTAL.....</b>	<b>234</b>	<b>72</b>	<b>198</b>	<b>41</b>	<b>545</b>
	£	£	£	£	£
Expenditure during year on street and bridge construction and maintenance.....£	267,138	121,138	339,891	43,843	772,010

(b) *Revenue, Expenditure, and Rateable Property.*—The following tables (i), (ii), (iii), (iv), (v), and (vi) give particulars of the revenue, expenditure, indebtedness, and rateable valuation of property of urban local authorities in the Cape of Good Hope, Natal, Transvaal, and Orange Free State Provinces:—

(i) **NET LOAN INDEBTEDNESS AND RATEABLE VALUATION OF PROPERTY—URBAN AUTHORITIES, 1918-19 TO 1920-21.**

Province.	Indebtedness			Rateable Value of Property.		
	1918-19.	1919-20.	1920-21.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Cape of Good Hope—						
Municipalities.....	8,773,933	9,443,415	10,275,400	51,209,847	55,292,051	57,427,944
Village Management Boards.....	4,633	8,280	11,175	1,845,372	1,878,129	2,001,310
Natal—						
Municipalities.....	4,464,569	4,551,289	5,046,375	18,765,892	20,910,876	21,446,375
Townships.....	23,952	24,047	56,143	625,089	796,909	889,129
Transvaal—						
Town Councils.....	6,136,421	5,990,081	6,125,151	54,116,517	57,824,627	58,858,891
Village Councils.....	42,645	38,312	53,920	2,599,258	2,671,671	3,119,143
Health Committees..	959	2,688	2,090	308,360	434,731	492,785
Orange Free State—						
Municipalities.....	1,364,657	1,414,706	1,714,701	8,148,893	9,209,342	10,060,206
Village Management Boards.....	313	459	308	10,527	10,757	51,420
<b>TOTAL.....£</b>	<b>20,806,082</b>	<b>21,473,877</b>	<b>23,279,263</b>	<b>137,539,755</b>	<b>149,029,153</b>	<b>154,347,203</b>

## (ii) REVENUE AND EXPENDITURE OF URBAN AUTHORITIES, 1918-19 TO 1920-21.

Province.	Revenue.			Expenditure.		
	1918-19.	1919-20.	1920-21.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Cape of Good Hope— Municipalities.....	1,818,222	2,107,975	2,388,241	1,888,806	2,171,841	2,674,652
Village Management Boards.....	16,439	21,088	18,671	15,218	18,119	19,576
Natal— Municipalities.....	1,217,050	1,486,022	1,603,759	1,200,078	1,438,316	1,728,826
Townships.....	17,662	19,891	22,187	16,780	19,509	21,862
Transvaal— Town Councils.....	3,005,316	3,341,258	3,837,077	2,986,789	3,825,546	3,870,668
Village Councils.....	60,091	84,243	92,759	55,057	71,844	85,504
Health Committees..	10,858	12,536	13,523	10,524	14,261	12,751
Orange Free State— Municipalities.....	399,853	457,359	543,727	407,564	433,422	482,550
Village Management Boards.....	928	1,410	1,158	1,264	1,203	1,143
TOTAL.....£	6,547,019	7,526,382	8,521,102	6,582,140	7,494,061	8,895,532

## (iii) PARTICULARS OF EXPENDITURE INCURRED BY MUNICIPALITIES, 1918-19 TO 1920-21.

Heading.	Union.			Provinces—1920-21.			
	1918-19.	1919-20.	1920-21.	Cape.	Natal.	Transvaal.	Orange Free State.
	£	£	£	£	£	£	£
Administration....	321,452	306,205	407,487	153,838	77,223	133,816	42,610
Sanitary.....	785,871	888,519	1,036,627	298,466	107,452	574,736	49,373
Public Health....	193,346	173,989	200,220	85,249	18,519	79,210	23,242
Streets and Bridges	473,697	658,006	743,410	264,876	117,717	317,025	43,792
Street Lighting....	92,550	96,248	111,070	44,684	14,234	46,676	5,476
Water.....	699,574	776,230	904,239	384,060	133,776	348,150	98,253
Electric Supply....	933,735	1,073,864	1,291,081	430,218	262,800	567,975	30,088
Gas Supply.....	27,557	40,157	35,952	80	—	35,862	60
Tramways.....	801,518	927,182	1,150,400	37,349	297,371	780,551	26,129
Abattoirs.....	96,196	106,583	123,831	20,435	18,174	78,625	6,597
Assize.....	8,209	10,061	12,155	923	1,954	9,278	—
Cemeteries.....	34,814	37,412	50,326	8,457	2,402	37,154	2,313
Estate.....	60,220	41,471	66,003	32,615	6,862	16,691	9,895
Fire Brigades....	93,614	110,591	142,355	38,695	20,649	79,380	3,631
Locations.....	70,849	84,458	102,296	26,582	18,033	42,768	14,913
Markets.....	127,410	149,519	193,251	44,455	42,057	71,656	5,083
Pounds.....	7,511	9,385	12,946	2,745	310	5,123	4,798
Forestry.....	24,856	45,353	44,053	9,813	20,038	8,321	5,881
Town Halls, Parks, Gardens, Recreation Grounds, Swimming Baths, Bathing and Wash Houses.....	232,419	286,946	335,816	121,233	76,254	115,259	23,070
Mayoral Allowances	14,081	15,958	17,435	4,361	2,914	8,250	1,910
Public Entertain- ments.....	15,023	26,742	21,538	5,991	6,788	7,586	1,173
Grants to Hospitals and other Insti- tutions.....	97,782	80,114	95,394	36,484	15,952	37,115	5,843
Elections.....	13,006	7,910	4,810	1,487	72	2,849	402
Valuations.....	10,844	5,173	5,088	725	1,151	2,077	535
Legal and Audit..	18,329	23,415	27,815	10,106	3,973	10,553	3,183
Insurance.....	14,205	15,431	24,784	4,930	2,107	10,923	824
Pensions and Gra- tuities.....	43,892	48,115	63,862	9,656	6,806	44,038	3,364
Police.....	37,526	59,188	74,309	94	74,215	—	—
Loan Charges— Interest.....	518,113	557,604	576,947	273,261	91,091	182,467	30,128
Redemption.....	188,536	187,956	195,373	84,487	13,234	83,457	14,195
Other Loan Charges.....	10,020	32,287	46,528	28,708	3,634	13,477	700
Native Beer.....	50,509	59,468	70,516	66	70,450	—	—
Other Expenditure	365,934	367,585	543,319	209,573	198,614	110,922	25,110
TOTAL.....£	6,483,297	7,369,125	8,754,696	2,674,652	1,726,826	3,870,698	482,550

## (iv) PARTICULARS OF REVENUE RECEIVED BY MUNICIPALITIES, 1918-19 TO 1920-21.

Heading.	Union.			Provinces—1920-21.			
	1918-19.	1919-20.	1920-21.	Cape.	Natal.	Transvaal.	Orange Free State.
	£	£	£	£	£	£	£
Rates.....	1,762,951	1,965,220	2,451,405	950,869	371,238	1,009,884	119,414
Sanitary Fees.....	512,183	583,187	639,817	84,406	12,224	495,689	47,408
Water.....	803,603	895,301	975,800	316,459	149,298	409,713	103,330
Licences.....	165,521	191,474	216,616	29,725	50,495	127,337	9,059
Abattoirs.....	93,062	104,211	115,848	23,709	18,114	66,213	7,512
Assize.....	4,493	4,710	5,222	1,268	636	3,379	—
Building Plans, Fees	6,955	10,783	9,510	84	821	8,205	400
Cemeteries.....	30,698	27,728	28,792	4,501	1,873	21,651	767
Estate.....	161,816	186,221	203,942	77,322	57,019	35,906	33,095
Fines.....	21,542	21,033	25,025	142	8,507	14,837	1,482
Fire Brigades.....	9,636	10,983	11,276	4,241	2,479	4,376	180
Locations.....	99,396	107,492	118,740	31,657	22,144	44,675	20,294
Markets.....	106,101	218,528	221,083	80,711	48,506	82,416	9,456
Pounds.....	11,387	14,448	15,999	3,941	414	6,020	5,324
Forestry.....	22,221	48,857	39,252	7,796	26,072	2,490	2,894
Town Halls, Parks, Gardens, Recre- ation Grounds, Swimming Baths, Bathing and Wash Houses.....	116,279	124,425	147,281	76,005	28,623	29,877	12,776
Interest.....	177,808	197,458	183,919	31,596	54,588	79,026	27,739
Electric Supply.....	1,034,793	1,265,335	1,376,426	434,139	260,371	606,508	75,468
Gas Supply.....	36,907	37,713	43,004	—	—	42,900	104
Tramways.....	821,745	955,771	1,020,466	28,379	200,854	710,883	20,350
Native Beer.....	56,485	60,210	67,550	—	67,550	—	—
Other Revenue.....	324,859	416,066	455,828	201,291	161,573	47,099	45,865
TOTAL.....£	6,440,441	7,387,214	8,372,804	2,388,241	1,603,759	3,837,077	543,727

## (v) PARTICULARS OF EXPENDITURE INCURRED BY URBAN AUTHORITIES OTHER THAN MUNICIPALITIES, 1918-19 TO 1920-21.

Heading.	Union.			Provinces—1920-21.			
	1918-19.	1919-20.	1920-21.	Cape.	Natal.	Transvaal.	Orange Free State.
	£	£	£	£	£	£	£
Administration.....	23,541	28,612	31,982	5,447	4,882	21,254	459
Sanitary.....	19,361	24,811	26,821	3,303	1,388	21,950	171
Public Health.....	6,184	3,322	2,941	569	141	2,231	—
Streets and Bridges	15,852	21,717	28,600	2,262	3,421	22,866	51
Street Lighting.....	401	519	781	—	500	281	—
Water.....	4,877	11,156	12,621	2,252	3,571	6,762	36
Electric Supply.....	1,692	1,625	2,384	23	699	1,662	—
Abattoirs.....	17	20	459	236	—	163	—
Assize.....	97	90	184	—	—	184	—
Cemeteries.....	565	457	569	63	75	431	—
Estate.....	1,097	5,243	4,979	484	500	3,767	228
Fire Brigades.....	31	—	—	—	—	—	—
Locations.....	469	714	697	93	—	557	47
Markets.....	119	215	239	—	11	207	21
Pounds.....	322	568	600	196	88	256	60
Forestry.....	345	395	699	157	53	489	—
Town Halls, Parks, Gardens, Recre- ation Grounds, Swimming Baths, Bathing and Wash Houses.....	1,114	1,376	2,079	107	663	1,909	—
Public Entertain- ments.....	202	424	40	—	11	29	—
Grants to Hospitals and other Insti- tutions.....	434	532	454	48	120	276	1
Elections.....	141	271	139	55	6	60	18
Valuations.....	157	380	656	18	90	548	—
Legal and Audit..	1,572	1,960	2,740	398	931	1,411	—
Insurance.....	465	395	480	20	99	361	—

(v) PARTICULARS OF EXPENDITURE INCURRED BY URBAN AUTHORITIES OTHER THAN MUNICIPALITIES, 1918-19 to 1920-21—*continued.*

Heading.	Union.			Provinces—1920-21.			
	1918-19.	1919-20.	1920-21.	Cape.	Natal.	Transvaal.	Orange Free State.
	£	£	£	£	£	£	£
Pensions and Gratuities.....	8	46	87	35	16	36	—
Police.....	160	327	189	28	161	—	—
Loan Charges—							
Interest.....	4,457	1,902	3,680	152	1,209	2,295	24
Redemption.....	4,970	4,505	3,446	208	183	3,055	—
Other Loan Charges.....	150	221	595	309	201	85	—
Native Beer.....	336	11	452	—	452	—	—
Other Expenditure	9,695	13,619	10,673	3,053	2,442	5,121	27
TOTAL.....£	98,843	124,936	140,836	19,576	21,862	98,255	1,143

## (vi) PARTICULARS OF REVENUE RECEIVED BY URBAN AUTHORITIES OTHER THAN MUNICIPALITIES, 1918-19 TO 1920-21.

Heading.	Union.			Provinces—1920-21.			
	1918-19.	1919-20.	1920-21.	Cape.	Natal.	Transvaal.	Orange Free State.
	£	£	£	£	£	£	£
Rates.....	36,112	34,705	40,725	7,135	4,961	28,629	—
Sanitary Fees.....	29,929	32,994	39,223	3,765	698	34,560	200
Water.....	6,484	8,599	11,090	988	3,784	6,228	—
Licences.....	7,361	9,100	10,864	656	2,161	7,963	84
Abattoirs.....	4	22	24	15	1	8	—
Assize.....	24	34	774	3	621	150	—
Building Plans, Fees	36	42	83	15	16	51	2
Cemeteries.....	416	332	423	6	324	293	—
Estate.....	7,636	26,078	18,111	2,153	3,602	11,812	544
Fines.....	652	714	546	44	145	340	17
Fire Brigades.....	24	—	22	—	—	22	—
Locations.....	2,980	2,102	2,501	376	—	2,633	92
Markets.....	238	444	637	32	243	378	4
Pounds.....	1,074	2,052	1,734	628	175	754	177
Forestry.....	235	1,191	653	325	208	111	9
Town Halls, Parks, Gardens, Recreation Grounds, Swimming Baths, Bathing and Wash Houses.....	793	1,071	1,810	62	719	1,029	—
Interest.....	405	591	1,445	84	369	362	—
Electric Supply.....	1,210	205	1,890	—	264	1,626	—
Native Beer.....	332	136	499	—	499	—	—
Other Revenue.....	16,633	18,660	15,313	2,384	3,597	9,303	29
TOTAL.....£	106,578	139,168	148,298	19,671	22,187	106,282	1,158

(c) *Cape Divisional Councils (including Rural Council of Cape Division).*—Particulars are given below of receipts, expenditure, etc., of Divisional Councils in the Cape Province and the Rural Council of the Cape for a period of years:—

## CAPE DIVISIONAL COUNCILS—FINANCIAL STATISTICS, 1915 TO 1920.

Heading.	1915.	1916.	1917.	1918.	1919.	1920.
	£	£	£	£	£	£
*Receipts.....	208,370	343,002	365,891	491,113	741,652	754,686
†Payments.....	292,328	346,161	369,952	461,472	745,313	822,405
‡Loan Indebtedness.....	17,310	16,458	15,964	15,283	26,278	38,227
Rateable Valuation of Property.....	100,875,841	101,760,931	102,688,753	115,987,727	119,452,343	121,720,159

\* Excluding contributions received from other Councils. † Excluding contributions made to other Councils.  
‡ Excluding bank overdrafts on current account.

(d) *Municipal Electric Lighting.*—The subjoined tables give particulars of municipal electric light and power stations for 1920-21:—

### MUNICIPAL ELECTRIC LIGHT AND POWER STATIONS, UNION, 1920-21.

#### (a) REVENUE, EXPENDITURE AND NUMBER OF EMPLOYEES.

##### CAPE OF GOOD HOPE.

Town.	Date of Establishment.	Total Capital Expenditure.	Revenue.	Expenditure.	Number of Employees.		
					European.	Coloured.	Total.
		£	£	£			
Allwal North.....	1905	32,939	3,557	6,730	4	5	9
Cape Town.....	1895	913,494	240,075	206,095	153	219	382
Ceres.....	1910	4,002	700	565	2	—	2
Cradock.....	1914	10,838	3,400	3,488	8	3	11
East London.....	1899	73,249	35,170	35,745	49	45	94
Indwe.....	1917	2,000	992	912	2	1	3
King William's Town.	1903	38,727	12,595	11,613	11	14	25
Oudtshoorn.....	1911	34,718	9,962	9,902	9	10	19
Paarl.....	1917	23,913	6,159	6,335	9	2	11
Port Elizabeth.....	1905	258,958	48,419	45,024	51	58	109
Queenstown.....	1912	20,566	7,011	7,189	6	3	9
Somerset East.....	1914	11,302	2,364	2,075	4	2	6
Stellenbosch.....	1914	16,070	4,466	4,744	8	4	12
Ultenhage.....	1907	31,625	7,952	9,103	8	4	12
Wellington.....	1914	17,078	3,293	3,796	6	5	11
Worcester.....	1916	21,502	4,546	3,578	3	3	6

##### NATAL.

Charlestown.....	1912	1,032	200	687	1	1	2
Durban.....	1897	638,327	167,040	142,413	86	170	256
Greytown.....	1904	9,030	3,882	3,874	6	6	12
Ladysmith.....	1903	25,100	8,325	8,144	16	16	31
Newcastle.....	1913	9,219	3,442	3,339	5	6	11
Pietermaritzburg.....	1896	229,187	42,075	45,877	44	46	90
Vryheid.....	1906	8,991	1,932	2,206	2	5	7

##### TRANSVAAL.

Bethal.....	1916	14,000	1,606	1,916	3	3	6
Ernelo.....	1914	8,500	3,018	2,229	4	3	7
Heidelberg.....	1915	16,880	2,411	4,747	5	3	8
Johannesburg.....	1889	1,332,209	425,938	413,126	252	580	832
Klerksdorp.....	1911	16,424	6,338	6,120	8	9	17
Krugersdorp.....	1917	49,963	15,380	14,040	10	14	24
Pletersburg.....	1916	21,933	4,794	7,464	7	10	17
Potcheitroom.....	1912	20,852	7,527	7,098	7	5	12
Pretoria.....	1892	232,542	87,808	75,170	47	63	110
Randfontein.....	1911	11,782	3,089	3,647	3	2	5

##### ORANGE FREE STATE.

Bethlehem.....	1905	13,566	6,561	5,094	10	7	17
Bloemfontein.....	1900	206,931	41,142	41,143	21	44	65
Harrismith.....	1904	25,629	4,593	4,874	5	7	12
Heilbron.....	1904	13,329	1,874	1,871	5	5	10
Kroonstad.....	1904	19,000	16,540	16,179	7	4	11
Parys.....	1912	8,924	2,143	2,486	6	—	6
Senekal.....	1915	5,941	1,496	1,493	3	2	5
Wimburg.....	1902	7,150	2,224	2,570	3	3	6

MUNICIPAL ELECTRIC LIGHT AND POWER STATIONS, UNION,  
1920-21—continued.

## (b) PARTICULARS OF PLANT, UNITS, CONNECTIONS AND CONSUMERS.

## CAPE OF GOOD HOPE.

Town.	Total Capacity of Plant.	Units Sold or Used.	Working Costs per Unit.	Number of Consumers.
	Kilowatts.	No.	d.	
Allwal North.....	275	127,665	1.4	275
Cape Town.....	8,400	20,309,877	1.54	11,339
Ceres.....	22	12,380	7.96	88
Craddock.....	100	100,505	6.46	413
East London.....	1,575	2,155,236	3.29	2,410
Indwe.....	75	50,480	4.33	120
King William's Town.....	420	557,017	3.59	905
Oudtshoorn.....	215	186,150	3.11	593
Paarl.....	150	150,102	4.04	649
Port Elizabeth.....	3,500	4,490,088	1.75	3,370
Queenstown.....	168	223,620	5.13	814
Somerset East.....	70	58,222	5.58	272
Stellenbosch.....	180	106,318	8.94	386
Uitenhage.....	270	224,871	5.48	827
Wellington.....	156	113,550	6.53	376
Worcester.....	127	188,019	2.74	460

## NATAL.

Charlestown.....	23	29,000	5.24	40
Durban.....	12,250	30,882,894	0.78	9,856
Greytown.....	118	179,664	3.40	266
Ladysmith.....	425	566,575	2.04	464
Newcastle.....	150	69,378	9.30	254
Pietermaritzburg.....	2,200	3,212,447	2.03	3,374
Vryheid.....	27	42,410	7.53	160

## TRANSVAAL.

Bethal.....	65	67,955	5.71	120
Ermelo.....	50	86,833	3.66	254
Heldelberg.....	70	62,432	9.10	219
Johannesburg.....	14,550	35,902,768	2.05	21,379
Klerksdorp.....	150	299,927	3.77	331
Krugersdorp.....	700	844,378	2.69	1,500
Pietersburg.....	130	193,319	6.18	324
Potchefstroom.....	245	231,062	5.18	685
Pretoria.....	3,300	6,715,679	1.82	5,250
Randfontein.....	120	105,016	5.42	230

## ORANGE FREE STATE.

Bethlehem.....	120	208,585	3.96	327
Bloemfontein.....	1,650	3,312,201	2.03	2,351
Harrismith.....	200	109,275	3.78	432
Hellbron.....	115	107,734	1.82	192
Kroonstad.....	180	896,064	2.90	594
Parijs.....	70	67,100	5.18	253
Senekal.....	45	50,600	3.14	143
Winburg.....	50	65,210	5.94	166

(e) *Fire Brigades.*—Particulars are given below as to fire brigades in certain municipalities of the Union in 1920-21:—

**FIRE BRIGADES, 1920-21.**

Municipality.	Number of Staff.				Number of Engines.	Number of Calls.	Revenue.	Expenditure.
	Whole-time Paid.	Part-time Paid.	Volunteers.	Total.				
Cape Town.....	73	—	—	73	12	288	£ 3,395	£ 24,150
East London.....	15	—	2	17	3	24	70	0,168
Kimberley.....	9	5	—	14	3	35	107	4,264
Port Elizabeth.....	9	5	—	14	1	22	434	3,825
Stellenbosch.....	—	—	6	6	1	3	—	14
Durban.....	32	3	—	35	9	86	2,285	17,327
Pietermaritzburg.....	5	—	12	17	1	18	265	2,484
Benoni.....	4	—	—	4	1	27	251	2,735
Bokshurg.....	2	—	15	17	4	18	442	2,052
Germiston.....	8	—	—	8	3	17	387	4,749
Johannesburg.....	80	—	—	80	13	231	2,410	59,243
Krugersdorp.....	—	1	18	19	—	21	—	1,364
Potchefstroom.....	—	8	—	8	2	8	—	438
Pretoria.....	19	—	—	19	4	37	1,104	12,774
Rooledpoort.....	—	1	14	15	1	7	99	569
Bloemfontein.....	5	8	—	13	3	44	135	2,910
Other Towns.....	8	68	113	189	10	54	135	2,650

(f) *Number of Employees, Salaries, and Wages.*—The following table gives particulars regarding the number of persons employed by all local authorities in the Union at 31st December, together with the amount of salaries and wages paid during the calendar years 1920 and 1921:—

**NUMBER OF EMPLOYEES, SALARIES, AND WAGES, 1920 AND 1921.**

Local Authorities and Provinces.	Number of Employees.			Salaries and Wages Paid.		
	European.	Other.	Total.	European.	Other.	Total.
	No.	No.	No.	£	£	£
<b>Municipalities—</b>						
Cape of Good Hope.....	3,182	8,054	11,236	702,508	575,628	1,278,136
Natal.....	1,631	4,928	6,559	581,340	180,261	761,601
Transvaal.....	3,800	8,492	12,292	1,419,806	303,920	1,723,726
Orange Free State.....	759	1,878	2,637	160,393	79,171	239,564
<b>TOTAL.....</b>	<b>9,372</b>	<b>23,352</b>	<b>32,724</b>	<b>2,864,056</b>	<b>1,138,980</b>	<b>4,003,036</b>
<b>Other Urban Authorities—</b>						
Cape of Good Hope.....	130	277	407	6,815	3,829	10,644
Natal.....	28	300	328	4,732	4,768	9,500
Transvaal.....	272	515	787	34,551	16,482	51,033
Orange Free State.....	22	7	29	1,309	162	1,471
<b>TOTAL.....</b>	<b>452</b>	<b>1,099</b>	<b>1,551</b>	<b>47,407</b>	<b>25,241</b>	<b>72,648</b>
<b>Divisional Councils—</b>						
Cape of Good Hope.....	838	6,732	7,570	129,460	226,875	356,335
<b>GRAND TOTAL, 1921.....</b>	<b>10,662</b>	<b>31,183</b>	<b>41,845</b>	<b>3,040,923</b>	<b>1,391,096</b>	<b>4,432,019</b>
<b>GRAND TOTAL, 1920.....</b>	<b>10,357</b>	<b>30,010</b>	<b>40,367</b>	<b>2,905,661</b>	<b>1,343,668</b>	<b>4,249,329</b>

§ 3. Four Principal Municipalities.

1. **City of Cape Town.**—An account of the history and development of Cape Town will be found in Chapter I. In the subjoined tables are shown the financial results of the Corporation's activities for a series of years, and general statistics are given to show the progress made in various directions since unification in 1914:—

(i) **CITY OF CAPE TOWN—GENERAL STATISTICS, 1917 TO 1920.**

Description.	1917.	1918.	1919.	1920.
Indebtedness at 31st December*.....£	4,893,693	5,157,014	5,808,345	6,271,688
<b>Sinking Fund—</b>				
Accumulations.....£	815,362	895,132	981,621	1,074,797
Repayments.....£	550,898	587,322	660,168	837,832
Balance.....£	264,464	307,810	321,453	236,965
Loans Raised.....£	68,640	343,090	737,826	556,500
<b>Capital Expenditure during year—</b>				
From Loans.....£	246,579	£ 367,207	707,085	926,020
From Revenue.....£	3,513	3,624	3,471	4,329
Unexpended Loan Balance at 31st December £	711,594	724,002	904,955	696,833
Temporary Charges on Loan Funds at 31st December.....£	70,481	188,239	249,513	365,078
<b>Balance at 1st January—</b>				
Profit.....£	12,700	10,245	149	3,585
Loss.....£	—	—	—	—
Rates †.....£	374,670	366,884	442,314	510,161
Other Revenue.....£	403,865	411,183	495,615	644,022
Expenditure.....£	771,990	797,163	934,493	1,157,007
<b>Balance at 31st December—</b>				
Profit.....£	10,245	149	3,585	761
Loss.....£	—	—	—	—
Total Valuation of Immovable Property.....£	30,000,160	30,214,786	30,256,649	30,960,356
Debt per £1 thereon.....	£0. 3s. 3d.	£0. 3s. 4d.	£0. 3s. 6d.	£0. 3s. 10d.
Rateable Valuation of Immovable Property £	21,258,295	21,425,629	23,314,741	23,885,198
Debt per £1 thereon.....	£0. 4s. 7d.	£0. 4s. 9d.	£0. 5s. 0d.	£0. 5s. 3d.
Surplus of Assets over Liabilities‡.....£	1,027,900	1,423,401	1,558,815	1,713,369

\* After deduction of available Sinking Funds.

† Including payments in lieu of Rates.

‡ Exclusive of (a) property and lands on which no expenditure is recorded, and (b) Sinking Funds.

§ Exclusive of expenditure on epidemic and purchase of stores.

(ii) **CITY OF CAPE TOWN—INDEBTEDNESS, 1920.**

(a) **LOANS, SINKING FUNDS, AND NET DEBT, 1914 TO 1920.**

YEAR.	AMOUNT RAISED.	SINKING FUNDS.			NET DEBT.†
		Accumulations.	Repayments.	Balance.	
	£	£	£	£	£
1914.....	4,994,725*	588,216	380,034	202,182	4,477,199
1915.....	75,000	664,592	426,240	238,352	4,475,823
1916.....	500,000	748,259	484,088	264,171	4,802,156
1917.....	68,640	815,362	550,898	264,464	4,893,693
1918.....	343,090	895,132	587,322	307,810	5,157,014
1919.....	737,826	981,621	660,168	321,453	5,808,345
1920.....	556,500	1,074,797	837,832	236,965	6,271,688

\* From 1883 to 1914.

† Taking into account Sinking Fund balances.



## (b) LOAN DEBT AT 31ST DECEMBER, 1920.

Rate of Interest.]	Loans.		Net Debt.*	Rate of Interest.	Loans.		Net Debt.*
	Raised.	Repaid.			Raised.	Repaid.	
%	£	£	£	%	£	£	£
6	367,230	—	367,230	4½	161,500	23,300	138,200
5½	519,590	60	519,530	4	3,495,610	393,054	3,102,556
5½	2,000	1,806	194	3½	40,000	—	40,000
5	2,048,180	215,222	1,832,958	3½	537,800	133,700	404,100
4½	103,865	—	103,865				
				TOTAL.	7,275,775	767,142	6,508,633

\* Without deduction of available Sinking Funds (£236,965).

## (c) CAPITAL EXPENDITURE TO 31ST DECEMBER, 1920.

Allocation.	Prior to 1916.	1916.	1917.	1918.	1919.	1920.	Total.
	£	£	£	£	£	£	£
Markets.....	70,661	501	546	14,248	2,058	122	88,131
Slaughter-houses...	43,376	6,082	1,830	1,577	725	5,787	59,377
Baths and Bathing Pavilions.....	64,297	5,918	4,211	1,079	1,633	2,535	79,673
Beach Improvements.....	9,770	1,423	1,216	186	526	8	13,129
Pier, Sea Promenade, and Marine Drive.....	114,611	Cr. 200	—	8,490	3,590	3,870	130,361
Fishing Harbour...	—	—	—	6,167	6,811	1,039	14,017
Parks, Gardens, Recreation Grounds, and Tree Planting...	50,365	689	2,241	501	791	105	54,692
Street Improvements.....	1,479,553	40,002	34,298	19,746	24,120	43,829	1,641,548
Sewers.....	1,080,923	23,213	57,102	68,410	118,127	176,603	1,524,378
Plant and Buildings (Streets Depots).	181,290	6,446	2,133	684	5,168	13,098	208,819
Refuse Destructor.	1,732	—	—	—	—	—	1,732
Hospital and Sanitary Conveniences	63,060	—	962	7,178	1,385	743	73,328
Fire Brigade Plant and Buildings...	43,278	—	598	370	180	3,842	48,268
Municipal Halls...	249,197	—	—	—	—	—	249,197
Property Account.	252,657	—	—	—	—	6,669	259,326
Electric Installation	654,722	42,202	43,512	34,774	36,897	101,387	913,494
Waterworks.....	1,406,030	33,973	98,180	189,213	470,131	563,064	2,748,591
Miscellaneous.....	166,708	24	5,263	18,207	38,419	17,648	221,894
TOTAL.....£	5,932,230	160,273	250,092	370,830	710,556	930,349	8,354,330

## (d) UNEXPENDED LOAN BALANCES, 1920.

Allocation.	Amount.	Allocation.	Amount.
	£		£
Markets.....	9,904	Fishing Harbour.....	330
Slaughter-houses.....	15,170	Marine Drive.....	10,050
Baths and Bathing Pavilions.....	1,553	Rocheester Estate.....	—
Beach Improvements.....	9,984	Hospitals and Sanitary Conveniences..	3,667
Street Improvements.....	159,846	Fire Appliances.....	734
Sewers.....	—	Maitland Town Hall.....	1,251
Plant and Buildings—Streets and Depots	5,035	Electricity.....	187,621
Refuse Destructors.....	13,268	Waterworks.....	48,331
Table Mountain Tramway.....	98,280	Miscellaneous.....	2,912
Workmen's Quarters.....	35,299		
Advances under Municipal (Provision of Homes) Ordinance.....	93,711	TOTAL.....£	696,833

## (c) TEMPORARY CHARGES ON LOAN FUNDS, 1917 TO 1920.

Description.	1917.	1918.	1919.	1920.
	£	£	£	£
Repaid by Instalments.....	12,494	47,706	28,666	29,537
Pending Raising of Loans—				
Water Main (Mulzenberg to Newlands)..	10,922	—	—	—
Water Supply Investigations.....	—	—	13,162	13,629
Steenbras Water Scheme.....	47,065	—	—	130,196
Stores Pending Issue to Works.....	—	135,533	143,227	191,816
Water Main (Newlands to Cape Town)..	—	—	64,018	—
Housing Scheme.....	—	—	440	—
<b>TOTAL.....£</b>	<b>70,481</b>	<b>183,239</b>	<b>249,513</b>	<b>365,078</b>

## (iii) CITY OF CAPE TOWN—GENERAL REVENUE, 1917 TO 1920.

Heading.	1917.	1918.	1919.	1920.
	£	£	£	£
<i>Uniform Rating Purpose—</i>				
Markets and Slaughter-houses.....	25,469	28,066	31,858	36,883
Improvements and Parks.....	21,152	23,437	28,534	30,270
Streets and Drainage.....	15,079	26,059	33,603	48,969
Health and Building Regulation.....	4,363	3,438	4,666	10,818
Fire Brigade.....	3,887	4,402	4,001	4,258
Washhouses.....	921	817	905	883
Electricity.....	156,051	173,841	208,410	240,076
Waterworks.....	112,830	113,376	128,774	161,883
Housing and Estates.....	—	—	—	6,842
Finances.....	63,140	82,600	55,186	99,613
Rates (including payments in lieu of Rates)				
Municipal.....	265,652	283,271	338,753	398,559
Rural Council.....	17,086	1,418	999	740
School Board.....	10,648	572	—	—
<b>TOTAL.....£</b>	<b>694,228</b>	<b>691,297</b>	<b>834,243</b>	<b>1,039,794</b>
<i>Differential Rating Purpose—</i>				
Sea Point Area—Rates.....	2,996	3,076	3,580	4,719
Cape Town and Kalk Bay Area—				
Rates.....	45,100	42,847	47,457	48,551
Services.....	402	425	439	472
Woodstock to Claremont Area—				
Rates.....	32,600	36,918	49,349	58,141
Services.....	2,571	2,732	2,086	2,915
Added Areas—Rates.....	638	637	—	—
Camps Bay—Rates.....	—	135	175	191
<b>TOTAL.....£</b>	<b>84,307</b>	<b>86,770</b>	<b>103,686</b>	<b>114,989</b>
<b>GRAND TOTAL.....£</b>	<b>778,535</b>	<b>778,067</b>	<b>937,929</b>	<b>1,154,783</b>

## (iv) CITY OF CAPE TOWN—GENERAL EXPENDITURE, 1917 TO 1920.

Heading.	1917.	1918.	1919.	1920.
<i>Uniform Rating Purposes—</i>	£	£	£	£
Markets and Slaughter-houses.....	21,681	24,376	27,944	31,763
Improvements and Parks.....	40,245	42,477	51,963	60,396
Streets and Drainage.....	188,219	203,599	233,204	278,134
Street Lighting.....	12,481	15,023	15,023	19,941
Health and Building Regulation.....	25,670	30,190	44,505	55,783
Fire Brigades.....	15,009	15,925	16,388	25,817
Washhouses.....	2,669	2,696	3,469	3,564
Electricity.....	148,910	183,950	188,145	219,523
Waterworks.....	97,855	105,775	129,452	184,048
Housing and Estates.....	—	—	—	6,823
Finance.....	103,639	92,118	124,344	128,246
Special Contributions under Ordinances—				
Hospital Board.....	7,240*	5,000	5,852	8,213
School Board.....	10,524	—	—	—
Rural Council.....	17,196	—	—	—
Surplus Transferred to Loan.....	—	6,168	—	16,943
<b>TOTAL.....</b>	<b>£ 690,847</b>	<b>707,297</b>	<b>834,243</b>	<b>1,039,794</b>
<i>Deduct Work in Added Areas.....</i>	<i>£ 638</i>	<i>637</i>	<i>—</i>	<i>—</i>
<b>NET.....</b>	<b>£ 690,209</b>	<b>706,660</b>	<b>834,243</b>	<b>1,039,794</b>
<i>Differential Rating Purposes—</i>				
Sea Point Area.....	3,074	3,169	3,480	4,598
Cape Town and Kalk Bay Area.....	44,393	45,312	46,090	47,299
Woodstock and Claremont Area.....	33,676	41,250	50,505	65,725
Added Areas.....	638	637	—	—
Sea Point Railway Rate.....	—	—	—	—
Camps Bay—Special Rating.....	—	135	175	191
<b>TOTAL.....</b>	<b>£ 81,781</b>	<b>90,503</b>	<b>100,250</b>	<b>117,813</b>
<b>GRAND TOTAL.....</b>	<b>£ 771,990</b>	<b>797,163</b>	<b>934,493</b>	<b>1,157,607</b>

\* £8,777, less Refund £1,528.

## (v) CITY OF CAPE TOWN—GENERAL FUND REVENUE ACCOUNT, 1920.

Heading.	Revenue.	Expenditure.	Heading.	Revenue.	Expenditure.
	£	£		£	£
<i>Uniform Rating—</i>					
Balance from 1919.....	—	—	Mulzenberg Cemetery.....	88	345
Contributions—			Regulation of Buildings and House Drainage Inspection	—	4,770
Hospital Board.....	—	8,213	Health and Building Regulation (General).....	1,057	24,255
School Board.....	—	—	Fire Brigade.....	4,258	25,817
Rural Council.....	740	—	Washhouses.....	883	3,564
Rates and Payments in lieu of Rates.....	398,550	—	Housing & Estates Committee	2,307	6,823
Transfer, Electric Light Account.....	20,553	—	Grants - in - aid of Public Objects and Institutions..	—	15,110
Transfer, Waterworks Account.....	—	22,765	City Hall Buildings.....	—	7,932
Fruit, Vegetable, and Forage Markets.....	16,177	9,410	Finance Committee, Sundries	87,217	105,205
Open Air Retail Market.....	—	—	Miscellaneous.....	3,091	18,882*
Produce Market.....	1,159	474	Rentals, various.....	13,830	—
Salt River and Maitland Markets.....	539	717	<b>TOTAL.....</b>	<b>£ 658,388</b>	<b>658,388</b>
Fish Markets.....	2,718	3,658	<i>Differential Rating—</i>		
New Fish-curing Area.....	—	—	Sea Point Area—		
Slaughter-houses.....	16,290	16,608	Balance for 1919.....	466	—
Advertising Cape Town.....	—	656	Current Transactions.....	4,719	4,598
Pier.....	5,921	8,033	Cape Town to Kalk Bay Area—		
Promenades and Beaches.....	499	3,003	Balance for 1919.....	1,877	—
Concerts and Entertainments	11,195	20,098	Current Transactions.....	49,023	47,299
Baths, etc.....	11,608	14,562	Woodstock to Claremont Area—		
Public Gardens, Parks, Grounds, etc.....	1,047	11,184	Balance for 1919.....	1,242	—
Afforestation Mountain Paths	—	1,797	Current Transactions.....	61,056	65,725
Streets and Drainage.....	48,969	278,134	Camps Bay, Special.....	191	191
Street Lighting.....	—	19,941	<b>TOTAL.....</b>	<b>118,574</b>	<b>117,813</b>
Sanitary Conveniences.....	—	5,108	<b>GRAND TOTAL.....</b>	<b>£ 776,962</b>	<b>776,201</b>
Smallpox Hospital.....	1,184	1,437			
Infectious Diseases Hospital	4,706	9,384			
Suppression of Diseases.....	3,719	7,804			
Protection of Child Life.....	65	2,680			

\* Including £16,943 transferred to Loan Works.

† Differential Rating Revenue includes balances carried forward, £3,585.

(vi) CITY OF CAPE TOWN—REVENUE AND EXPENDITURE, ELECTRIC LIGHT, 1920.

REVENUE.		EXPENDITURE.	
Heading.	Amount.	Heading.	Amount.
	£		£
Private Consumers.....	167,362	Generation.....	61,789
Public Lighting.....	19,000	Distribution.....	19,818
Supply of Current outside City.....	201	Repairs and Maintenance.....	17,109
Corporation.....	6,387	Public Lighting.....	4,255
Union Government.....	18,871	Rentals, Rates and Taxes.....	2,345
Wynberg Municipality.....	5,002	Management.....	18,527
Charitable Institutions.....	41	Miscellaneous.....	20,277
Miscellaneous.....	23,162		
<b>TOTAL.....</b>	<b>£ 240,076</b>	<b>TOTAL WORKING EXPENSES..</b>	<b>£ 153,801</b>
<i>Less Working Expenses.....</i>	<i>£ 153,840</i>	Interest and Sinking Fund.....	26,605
<b>NET REVENUE.....</b>	<b>£ 86,236</b>	Depreciation.....	25,651
		Contribution in Relief of Rates.....	20,553
		Retirement Fund.....	13,427
		<b>TOTAL.....</b>	<b>£ 86,236</b>

(vii) CITY OF CAPE TOWN—REVENUE AND EXPENDITURE, WATER WORKS, 1920.

REVENUE.		EXPENDITURE.	
Heading.	Amount.	Heading.	Amount.
	£		£
Leadings.....	82,766	Management.....	8,374
Meters.....	44,201	Purchase of Water.....	8,550
Shipping.....	11,786	Reservoirs, Springs, Pipe Line, etc...	12,365
Docks.....	1,429	Mains.....	5,220
Railway Department.....	9,413	Leadings and Meters.....	22,515
Corporation Purposes and Fires.....	2,200	Rebate on Water supplied to Govern-	—
Streets and Street Works.....	2,200	Miscellaneous.....	2,170
Miscellaneous.....	7,828		2,138
<b>TOTAL.....</b>	<b>£ 161,883</b>	<b>TOTAL WORKING EXPENSES...£</b>	<b>61,341</b>
<i>Less Working Expenses.....</i>	<i>£ 61,341</i>	Interest and Sinking Fund.....	114,356
<b>NET REVENUE.....</b>	<b>£ 100,542</b>	Cost of Extensions* (Capital Charge)...	8,951
<i>Add Contribution from Rates.....</i>	<i>22,765</i>	Contribution in Relief of Rates.....	—
<b>Total.....</b>	<b>£ 123,307</b>	<b>TOTAL.....</b>	<b>£ 123,307</b>

(viii) CITY OF CAPE TOWN—RATEABLE VALUATION OF IMMOVABLE PROPERTY, 1920.

Area.	Previous Valuation.	Interim Valuation, 1920.		Total.
		Amount.	Increase per cent.	
	£	£		£
Sea Point.....	2,233,076	108,159	4.84	2,341,235
Cape Town.....	13,221,380	226,245	1.71	13,447,625
Kalk Bay and Muizenberg.....	982,977	134,303	13.64	1,117,280
Woodstock and Salt River.....	2,272,199	42,165	1.87	2,314,064
Maitland.....	351,071	11,900	3.39	362,971
Mowbray.....	1,191,800	9,220	0.78	1,201,020
Rondebosch.....	1,474,566	15,759	1.07	1,490,316
Claremont.....	1,324,971	16,390	1.24	1,341,361
Camps Bay.....	85,445	4,825	5.65	90,270
Rondebosch Added Area.....	75,010	—	—	75,010
Claremont Added Area.....	57,701	700	1.21	58,401
Kalk Bay and Muizenberg Added Area	44,545	500	1.12	45,045
<b>TOTAL.....</b>	<b>£ 23,314,741</b>	<b>570,457</b>	<b>2.44</b>	<b>23,885,198</b>

Exclusive of—	£
Government property valued at.....	3,636,353
Other exempted.....	3,438,805
<b>TOTAL.....</b>	<b>£7,075,158</b>

## (ix) CITY OF CAPE TOWN—RATES LEVIED, 1919 AND 1920.

Purpose.	Sea Point.	Cape Town and Kalk Bay.	Woodstock and Claremont.	Camps Bay.	Areas added to Rondebosch, Claremont, and Kalk Bay.
	d.	d.	d.	d.	d.
Uniform.....	4-000	4-000	4-000	4-000	4-000
Differential.....	500	800	2-100	—	—
Special.....	—	—	—	500	—
Divisional Council..	375	375	375	375	375
Provincial Council	—	—	—	—	—
Property Tax....	375	375	375	375	375
<b>TOTAL, 1920...</b>	<b>5-250</b>	<b>5-550</b>	<b>6-850</b>	<b>5-250</b>	<b>4-750</b>
<b>TOTAL, 1919...</b>	<b>4-418</b>	<b>4-818</b>	<b>5-818</b>	<b>4-518</b>	<b>4-018</b>
<b>INCREASE.....</b>	<b>832</b>	<b>732</b>	<b>1-032</b>	<b>732</b>	<b>732</b>

2. **Borough of Durban.**—The town of Durban was constituted a Borough in 1854, under Ordinance No. 1 of 1854 (Natal), with a Mayor and Town Council. The population of the Borough in the years 1911, 1918, and 1921 was as follows :—

Year.	European.	Other.	Total.
1911.....	32,913	37,797	70,710
1918.....	40,871	—	—
1921.....	47,358	48,183	95,541

The following table gives particulars regarding receipts and expenditure for the municipal years (ending 31st July) 1917-18 to 1920-21 :—

Heading.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£
Expenditure.....	1,094,992	951,338	1,242,949	1,640,323
Receipts.....	1,095,857	909,390	1,230,186	1,529,577
Excess Expenditure.....	—	41,948	12,763	110,746
Surplus Receipts.....	865	—	—	—
Appropriations during year.....	23,248	28,365	34,018	36,829
Net Surplus.....	—	—	—	—
Net Deficiency.....	22,383	70,313	46,781	147,574
Credit Balance from previous year.....	53,276	30,893	—	—
Debit Balance from previous year.....	—	—	39,420	86,201
Net Credit Balance at 31st July.....	30,893	—	—	—
Net Debit Balance at 31st July.....	—	39,420	86,201	233,775

The following tables give for a series of years particulars as to (i) the Borough Indebtedness, (ii) the Borough Fund Revenue Account, (iii) certain Borough Trading Accounts, and (iv) the Native Administration Account, the revenue from which, derived from the manufacture and sale of native beer and from lodging-house fees, forms a special fund administered in the interests of the natives.

## (i) BOROUGH OF DURBAN—INDEBTEDNESS.

## (a) LOANS, SINKING FUNDS, AND NET DEBT, 1918 TO 1921.

Heading.	1918.	1919.	1920.	1921.
	£	£	£	£
<b>Loan Debt—</b>				
8 Per cent. ....	110,000	110,000	110,000	110,000
5½ " .....	—	—	—	500,000
5½ " .....	360,000	360,000	382,000*	382,000
5 " .....	528,000	528,000	528,000	528,000
4½ " .....	130,000	130,000	130,000	130,000
4 " .....	2,170,000	2,170,000	2,170,000	2,170,000
3½ " .....	450,000	450,000	450,000	450,000
<b>TOTAL LOAN DEBT.....£</b>	<b>3,746,000</b>	<b>3,746,000</b>	<b>3,768,000</b>	<b>4,268,000</b>
Debit Balance on Banking Account.....	—	39,420	86,201	233,775
<b>GROSS INDEBTEDNESS.....£</b>	<b>3,746,000</b>	<b>3,785,420</b>	<b>3,854,201</b>	<b>4,501,775</b>
<b>Deductions—</b>				
Sinking Funds.....	564,773	631,269	691,686	757,055
Insurance Funds, etc.....	14,591	15,349	17,113	18,975
Credit Balance on Banking Account.....	30,893	—	—	—
<b>TOTAL DEDUCTIONS.....£</b>	<b>610,257</b>	<b>646,618</b>	<b>708,799</b>	<b>776,030</b>
<b>NET INDEBTEDNESS.....£</b>	<b>3,135,743</b>	<b>3,138,802</b>	<b>3,145,402</b>	<b>3,725,745</b>
<b>Total Loans Raised—</b>				
Stock.....	3,726,000	3,726,000	3,726,000	4,226,000
Debentures.....	488,000	488,000	510,000*	510,000
<b>TOTAL.....£</b>	<b>4,214,000</b>	<b>4,214,000</b>	<b>4,236,000</b>	<b>4,736,000</b>
<b>Deductions—</b>				
Debentures Repaid.....	78,000	78,000	78,000	78,000
Debentures Reissued in Stock.....	390,000	390,000	390,000	390,000
<b>TOTAL DEDUCTIONS.....£</b>	<b>468,000</b>	<b>468,000</b>	<b>468,000</b>	<b>468,000</b>
<b>TOTAL LOAN DEBT AS ABOVE:£</b>	<b>3,746,000</b>	<b>3,746,000</b>	<b>3,768,000</b>	<b>4,268,000</b>

\* £22,000 at 5½ per cent. borrowed from Sinking Fund.

## (b) BOROUGH OF DURBAN—CAPITAL EXPENDITURE, 1916 TO 1921.

Account.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Abattoirs.....	812	947	250	7	5,834	3,683
Electric Light.....	22,729	18,080	9,741	39,094	37,317	131,652
Markets.....	286	3,515	2,494	871	16,104	3,305
Public Baths.....	—	—	7,460	208	8,398	3,118
Telephones.....	4,293	4,782	911	1,582	8,949	8,023
Tramways.....	—	277	—	6,463	20,377	59,117
Water.....	3,225	6,014	16,254	30,415	17,404	42,092
<b>TRADING TOTAL.....£</b>	<b>31,345</b>	<b>32,995</b>	<b>37,110</b>	<b>78,640</b>	<b>114,383</b>	<b>251,080</b>
Sewerage.....	2,776	1,704	1,316	2,752	8,859	8,289
Storm Water Drainage.....	8,326	8,926	6,012	9,593	18,806	20,755
<b>HEALTH TOTAL.....£</b>	<b>11,102</b>	<b>10,630</b>	<b>7,328</b>	<b>12,345</b>	<b>27,665</b>	<b>29,044</b>
Public Improvements.....	3,768	8,408	7,738	23,273	85,848	122,238
Ocean Beach.....	4,074	3,325	1,741	3,211	1,411	18,314
<b>IMPROVEMENTS TOTAL.£</b>	<b>7,842</b>	<b>11,733</b>	<b>9,479</b>	<b>26,484</b>	<b>87,259</b>	<b>140,552</b>
Togt Fund.....	—	104	1,605	293	2,610	17,091
Native Beer Fund.....	3,676	1,468	21,910	5,996	12,555	37,731
<b>NATIVE TRUSTS TOTAL.£</b>	<b>3,676</b>	<b>1,572</b>	<b>23,515</b>	<b>6,289</b>	<b>15,165</b>	<b>54,822</b>
Zoological Gardens.....	—	59	—	—	104	—
Town Hall.....	328	261	419	737	850	982
<b>SUNDRIES TOTAL.....£</b>	<b>328</b>	<b>320</b>	<b>419</b>	<b>737</b>	<b>954</b>	<b>982</b>
<b>GRAND TOTAL.....£</b>	<b>54,293</b>	<b>57,250</b>	<b>77,851</b>	<b>124,495</b>	<b>245,426</b>	<b>470,480</b>

## (c) BOROUGH OF DURBAN—UNUSED BORROWING POWERS, 1921.

Account.	Amount.	Account.	Amount.
	£		£
Abattoirs and Washhouses.....	14,000	Storm & Water Drainage.....	95,000
Infectious Diseases Hospital.....	50,000	Electric Light.....	75,000
New Buildings, Old Market Site.....	30,000	Telephones.....	60,000
Public Improvements.....	20,000	Tramways.....	10,000
New Town Hall.....	35,000	Water.....	1,280,000
Ocean Beach.....	75,000	Housing.....	200,000
Private Roads (Hardening only).....	20,000		
Sewerage.....	65,000	TOTAL.....	£ 2,043,000
Indian Market.....	14,000		

## (d) BOROUGH OF DURBAN—RENEWALS FUNDS,\* 1921.

Heading.	Loan Debt.	Spent out of Revenue.	In Renewals Funds still to Spend.
	£	£	£
Electric Light.....	575,000	223,037	126,226
Telephones.....	165,000	10,334	42,871
Trams.....	570,000	216,046	39,102
Water.....	720,000	73,339	18,239
Abattoir.....	61,000	—	5,745
Borough Market.....	42,207	5,313	7,304
Indian Market.....	25,451	1,574	—
Public Baths.....	73,795	33,645	—
TOTAL.....	£ 2,232,453	563,288	239,487

\* The Borough policy in regard to trading undertakings has been, in addition to repaying the loan debt by means of its Sinking Fund, to institute Renewal Funds so that at the end of the period the whole debt will be paid off by the Sinking Fund whilst the plant will be up to its original value; or the money in the Renewals Fund, together with the then value of the plant, will be equal to the original sum borrowed.

## (ii) BOROUGH OF DURBAN—BOROUGH FUND REVENUE ACCOUNT, 1919-20\* AND 1920-21.\*

Description.	Expenditure.		Income.	
	1919-20.	1920-21.	1919-20.	1920-21.
	£	£	£	£
Balance from previous year.....	17,814	24,058	—	—
Assize Department.....	1,380	1,931	648	624
Town Clerk's Department.....	5,192	5,519	62	14
Council's General Expenses.....	4,103	6,840	—	—
Town Treasurer's Department.....	11,743	13,465	66	69
Audit.....	889	1,087	—	—
Legal.....	1,626	1,279	—	—
Interest.....	62,904	60,392	5,033	1,724
Loan Expenses.....	1,048	968	—	—
Sinking Fund.....	5,536	5,536	—	—
Public Health.....	15,455	14,246	3,348	6,025
Sanitary Services.....	33,321	38,543	3,438	3,099
Sewerage.....	30,751	35,013	1,073	1,347
Borough Engineer.....	4,190	5,530	1,114	774
General Stores.....	5,696	4,227	1,723	1,384
Licensing Department.....	3,640	3,648	30,172	34,325
Police.....	53,177	59,248	6,353	7,861
Pensions.....	3,168	4,227	2,369	1,837
Housing Scheme.....	6,535	11,966	4,127	8,995
Street Lighting.....	7,808	8,046	—	—
Works Department.....	73,776	79,991	35	78
Town Hall.....	12,450	14,394	2,806	2,842
Art Gallery.....	1,909	2,203	35	48
Library.....	6,779	8,115	2,524	3,059
Museum.....	3,746	4,714	666	678
Botanic Gardens.....	2,792	3,198	2,218	2,414
Lords Grounds.....	2,034	1,277	341	287
Parks, Tree Planting, etc.....	7,067	6,403	1	1
Zoological Gardens.....	5,312	5,500	1,753	1,598
Music and Gala Seasons.....	4,094	4,363	2,695	2,577
Ocean Beach.....	9,570	6,898	3,709	3,613
Publicity.....	1,248	2,273	—	—
Cemeteries.....	1,508	1,754	1,251	1,389
Fire.....	14,818	17,330	1,919	2,264
Estates.....	5,422	5,769	41,689	45,173
Grants-in-Aid.....	9,669	10,285	2,130	52
Registration of Natives.....	7,458	9,635	11,800	11,726
Miscellaneous.....	11,771	5,457	2,308	317
Departmental Contribution to Rates.....	—	—	38,365	31,030
General Rates.....	—	—	254,699	292,711
Balance.....	—	—	24,058	24,862
TOTAL.....	£ 454,528	494,797	454,528	494,797

Year ended 31st July.

## (iii) BOROUGH OF DURBAN—TRADING UNDERTAKINGS, 1916 TO 1921.

## (a) LOAN INDEBTEDNESS, ETC., AND PAYMENTS INTO BOROUGH FUNDS TO 31ST JULY, 1921.

Department.	Capital Expenditure to 31st July, 1921.	Loan Debt Outstanding.	Loans Repaid.	Sinking Funds.	Renewals Funds.	To Borough Funds.
	£	£	£	£	£	£
Electrical.....	769,979	575,000	12,286	66,475	126,226	187,075
Telephone.....	169,232	165,000	5,316	29,383	42,871	59,708
Tramway.....	677,051	570,000	6,463	94,270	39,102	258,568
Water.....	810,150	720,000	11,559	116,795	18,239	350,822
Market.....	50,170	42,207	—	3,489	7,304	13,066
Indian Market..	29,152	25,451	—	157	—	11,010
Abattoir.....	63,206	61,000	—	9,776	5,745	3,754
Baths.....	75,592	43,748	—	2,430	—	—
<b>TOTAL.....£</b>	<b>2,644,028</b>	<b>2,202,406</b>	<b>35,624</b>	<b>322,775</b>	<b>239,487</b>	<b>884,003</b>

## (b) ELECTRICAL DEPARTMENT.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Private Consumers.....	73,695	83,885	89,667	99,111	110,453	136,451
Government.....	12,523	13,288	13,965	14,116	10,064	20,303
Tramways.....	15,700	17,244	18,588	19,410	22,607	22,339
Public Lighting.....	13,975	15,334	16,367	13,326	17,559	19,122
Sundries.....	116	226	145	129	375	485
<b>TOTAL.....£</b>	<b>116,009</b>	<b>129,977</b>	<b>138,732</b>	<b>146,092*</b>	<b>167,058*</b>	<b>198,790*</b>

\* Less Allowances and Bad Debts written off:—1918, £5; 1920, £19; 1921, £22.

## EXPENDITURE.

Working Expenditure.....£	54,976	68,890	69,724	85,348	101,840	120,380
Interest.....	15,543	16,466	16,165	16,771	16,400	20,757
Sinking Fund.....	5,538	3,538	3,423	3,423	3,423	4,471
Renewals Fund.....	20,865	15,822	27,507	23,745	28,776	22,680
Loan Expenses.....	1,001	1,131	1,171	—	—	1,224
Contingencies Account.....	150	—	—	—	—	—
Working Balance Reserve.....	—	17,194	2,806	—	—	—
Relief of Rates.....	17,936	17,936	17,936	16,600	16,600	23,000
London Agency Charges.....	—	—	—	200	200	250
<b>Gross Profit.....£</b>	<b>61,033</b>	<b>71,087</b>	<b>69,008</b>	<b>60,739</b>	<b>65,399</b>	<b>72,388</b>
<b>TOTAL.....£</b>	<b>116,009</b>	<b>129,977</b>	<b>138,732</b>	<b>146,087</b>	<b>167,039</b>	<b>198,768</b>



## (c) TELEPHONE DEPARTMENT—FINANCIAL STATISTICS.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Subscriptions.....	28,271	31,156	30,907	33,470	38,546	48,753
Trunk Commissions.....	1,159	1,151	1,218	1,393	1,518	1,588
Sundries.....	380	715	2,753	905	1,683	2,099
<b>TOTAL.....£</b>	<b>29,810</b>	<b>33,022</b>	<b>34,878</b>	<b>35,768</b>	<b>41,746</b>	<b>52,440</b>

## EXPENDITURE.

Working Expenditure.....£	13,474	15,391	18,815	21,308	27,228	32,977
Interest.....	4,714	4,589	5,135	5,185	4,437	4,561
Sinking Fund.....	2,403	2,403	2,403	2,403	2,403	2,600
Renewals Fund.....	2,535	5,204	3,090	2,535	2,535	5,422
Loan Costs, etc.....	35	35	35	35	35	280
Contingency Account.....	1,249	—	—	—	—	—
Relief of Rates.....	5,400	5,400	5,400	4,302	5,108	6,600
<b>Gross Profit.....£</b>	<b>16,336</b>	<b>17,631</b>	<b>16,063</b>	<b>14,460</b>	<b>14,518</b>	<b>19,463</b>
<b>TOTAL.....£</b>	<b>29,810</b>	<b>33,022</b>	<b>34,878</b>	<b>35,768</b>	<b>41,746</b>	<b>52,440</b>

## (d) TELEPHONE DEPARTMENT—GENERAL STATISTICS, 1916 TO 1921.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
<b>Number of Subscribers—</b>						
Private.....	3,286	3,398	3,472	3,640	3,761	4,017
Departmental.....	200	231	235	232	249	215
<b>TOTAL.....</b>	<b>3,486</b>	<b>3,629</b>	<b>3,707</b>	<b>3,872</b>	<b>4,010</b>	<b>4,232</b>
<b>Average Revenue—</b>						
From Private Subscribers. £	8.16	8.70	8.43	8.74	9.80	11.32
From Departmental Subscribers.....£	7.42	6.95	7.02	7.17	6.63	7.02
From all Subscribers.....£	8.55	9.10	8.34	8.64	9.81	11.10
<b>Average Working Expenses. £</b>	<b>3.86</b>	<b>4.24</b>	<b>5.07</b>	<b>5.53</b>	<b>6.79</b>	<b>7.79</b>
<b>Average Capital Charges.....£</b>	<b>2.78</b>	<b>2.63</b>	<b>2.73</b>	<b>2.62</b>	<b>2.32</b>	<b>2.97</b>
<b>Average Total Expenses.....£</b>	<b>6.64</b>	<b>6.87</b>	<b>7.80</b>	<b>8.15</b>	<b>9.13</b>	<b>10.76</b>
<b>Average Net Profit.....£</b>	<b>1.90</b>	<b>1.89</b>	<b>1.61</b>	<b>1.12</b>	<b>1.27</b>	<b>2.24</b>
<b>Number of Telephones in use—</b>						
Business.....	1,744	1,846	1,940	2,024	2,142	2,229
Residential.....	1,121	1,158	1,109	1,074	978	916
Extension.....	473	473	500	616	719	917
Private Direct.....	296	304	158	158	171	170
<b>TOTAL.....</b>	<b>3,634</b>	<b>3,781</b>	<b>3,707</b>	<b>3,872</b>	<b>4,010</b>	<b>4,232</b>
<b>Number of Trunk Calls—</b>						
To Durban.....	208,328	191,298	214,712	231,858	250,740	256,076
From Durban.....	94,575	115,365	111,500	132,087	130,559	139,715
Through Durban.....	24,408	27,131	37,121	47,184	42,718	51,681

## (e) TRAMWAY DEPARTMENT.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Coupons.....	69,605	60,002	61,000	92,626	152,916	136,980
Cash Takings.....	67,756	90,507	109,279	109,904	101,715	89,291
Special Contracts.....	5,219	3,375	3,580	3,628	4,077	4,308
Advertising.....	2,591	3,379	5,100	5,862	6,017	5,648
Sundries.....	94	1,991	2,042	2,082	2,277	2,110
<b>TOTAL.....£</b>	<b>145,265</b>	<b>159,254</b>	<b>181,011</b>	<b>214,082</b>	<b>267,002</b>	<b>238,337</b>

## EXPENDITURE.

Working Expenditure.....£	89,437	99,558	120,244	148,550	198,068	215,813
Interest.....	20,746	20,686	20,669	20,877	20,530	24,166
Sinking Fund.....	4,643	4,643	4,660	4,660	4,660	5,063
Renewals Fund.....	10,350	12,400	13,877	19,094	26,094	22,358
Accident Insurance Fund.....	100	317	688	231	1,086	1,547
Suspense Account.....	100	100	100	100	1,000	100
Contingencies.....	—	422	Cr. 422	—	—	—
Loan Costs, etc.....	729	729	795	170	170	659
Relief of Rates.....	19,160	20,400	20,400	20,400	20,400	—
<b>Gross Profit.....£</b>	<b>55,828</b>	<b>59,696</b>	<b>60,767*</b>	<b>65,532</b>	<b>78,939</b>	<b>†58,883</b>
<b>TOTAL.....£</b>	<b>145,265</b>	<b>159,254</b>	<b>181,011</b>	<b>214,082</b>	<b>267,002</b>	<b>†269,196</b>

\* Less credit £422, balance from previous year. † Including net loss of £30,859.

## (f) WATER DEPARTMENT.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Water Rate.....	24,604	25,349	25,735	26,214	28,240	32,462
Corporation Departments.....	12,178	12,649	12,138	12,590	13,049	16,775
Government Departments.....	9,455	9,727	9,197	10,362	12,831	12,735
Shipping.....	18,193	29,902	18,314	13,859	19,059	17,918
Outside Borough.....	8,545	5,849	4,937	5,589	7,375	9,920
Inside Borough.....	8,693	11,723	10,951	10,986	10,951	11,120
Farm Rents, etc.....	1,089	1,170	979	1,740	1,870	2,761
Sundries.....	208	44	52	55	53	471
<b>TOTAL.....£</b>	<b>88,050</b>	<b>96,413</b>	<b>82,303</b>	<b>81,695</b>	<b>93,428</b>	<b>104,162</b>

## EXPENDITURE.

Working Expenses.....£	14,532	17,441	20,792	25,668	34,445	39,217
Interest.....	26,929	26,618	28,077	30,558	31,583	33,531
Sinking Fund.....	6,046	16,361	7,370	7,370	7,370	7,763
Renewals Fund.....	8,017	8,467	—	4,649	6,680	8,492
Loan Expenses.....	1,126	1,126	1,231	250	250	759
Relief of Rates.....	26,400	26,400	24,833	13,200	13,200	14,400
<b>Gross Profit.....£</b>	<b>68,518</b>	<b>78,972</b>	<b>61,511</b>	<b>[ 56,027</b>	<b>58,983</b>	<b>64,945</b>
<b>TOTAL.....£</b>	<b>83,050</b>	<b>96,413</b>	<b>82,303</b>	<b>† 81,695</b>	<b>93,428</b>	<b>104,162</b>

(g) MARKET DEPARTMENT.  
REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Commission.....	6,492	9,243	11,651	13,737	18,925	21,627
Rents.....	3,212	3,120	3,097	3,260	3,729	4,305
Rents, Old Market House.....	1,377	—	—	—	—	—
Fees, etc.....	418	551	673	963	1,609	1,277
Interest.....	—	135	240	308	917	642
Advertising.....	161	157	137	121	214	130
Commission on Land Sales.....	40	—	86	10	16	—
<b>TOTAL.....£</b>	<b>11,700</b>	<b>13,206</b>	<b>15,884</b>	<b>18,309</b>	<b>25,410</b>	<b>28,071</b>

## EXPENDITURE.

Working Expenses.....£	7,679	9,257	10,905	13,871	16,529	20,620
Interest.....	1,790	1,522	1,556	1,497	1,447	1,033
Sinking Fund.....	558	558	558	558	558	558
Loan Expenses.....	15	15	15	15	15	15
Loan Cost Remaind.....	—	—	728	—	—	—
Renewals Fund.....	—	—	434	1,057	5,173	4,151
Relief of Rates.....	1,658	1,854	1,688	1,401	1,688	1,688
<b>Gross Profit.....£</b>	<b>4,021</b>	<b>3,949</b>	<b>4,979</b>	<b>4,528</b>	<b>8,881</b>	<b>7,445</b>
<b>TOTAL.....£</b>	<b>11,700</b>	<b>13,206</b>	<b>15,884</b>	<b>18,309</b>	<b>25,410</b>	<b>28,071</b>

## (h) INDIAN MARKET.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Stands.....	1,420	1,702	1,872	1,954	1,458	774
Squatters.....	1,172	977	988	968	819	131
Baskets.....	943	928	846	800	888	1,045
Carts.....	434	505	516	536	574	562
Rents.....	—	—	238	266	205	—
Stalls.....	—	—	—	—	388	4,543
Sundries.....	—	—	—	—	—	463
<b>TOTAL.....£</b>	<b>3,969</b>	<b>4,112</b>	<b>4,460</b>	<b>4,524</b>	<b>4,332</b>	<b>7,518</b>

\* £5,448, being £4,543 Stalls; £774 Stands, and £131 Squatters.

## EXPENDITURE.

Working Expenses.....£	2,153	2,289	2,392	2,764	3,504	4,374
Sinking Fund.....	—	—	—	—	—	157
Interest.....	109	163	345	383	781	1,603
Repayment of Capital.....	395	395	620	620	620	240
Relief of Rates.....	1,252	1,265	1,103	757	—	960
Loan Expenses.....	—	—	—	—	—	184
<b>Gross Profit.....£</b>	<b>1,816</b>	<b>1,823</b>	<b>2,068</b>	<b>1,760</b>	<b>1,401</b>	<b>3,144</b>
<b>TOTAL.....£</b>	<b>3,969</b>	<b>4,112</b>	<b>4,460</b>	<b>4,524</b>	<b>4,905*</b>	<b>7,518</b>

\* Including £573 net loss advanced by Borough Fund.

## (i) ABATTOIR DEPARTMENT.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Fees.....	6,870	8,153	8,232	9,310	9,458	10,993
By-products.....	1,390	1,158	—	2,752	2,405	2,571
Items and Sundries.....	708	708	873	769	1,582	1,707
Commission.....	219	416	508	779	358	271
Licences.....	149	478	552	677	757	903
<b>TOTAL.....£</b>	<b>9,426</b>	<b>10,913</b>	<b>10,165</b>	<b>14,287</b>	<b>14,560</b>	<b>16,445</b>

## EXPENDITURE.

Working Expenses.....£	5,360	6,790	4,825	6,411	11,226	9,454
Interest.....	2,391	2,437	2,548	2,666	2,728	2,828
Sinking Fund.....	1,444	1,444	1,444	1,444	1,444	1,483
Renewals Fund.....	787	787	787	1,128	1,128	1,128
Loan Expenses.....	—	455	34	867	50	90
Relief of Rates.....	—	—	527	1,771	—	1,456
Gross Profit.....£	4,625*	5,123	5,340	7,876	5,350	6,991
<b>TOTAL.....£</b>	<b>9,985*</b>	<b>10,013</b>	<b>10,165</b>	<b>14,287</b>	<b>16,576†</b>	<b>16,445</b>

\* Including £559 net loss advanced by Borough Fund.

† Including £2,018 net loss advanced by Borough Fund.

## (j) BATHS DEPARTMENT.

## REVENUE.

Description.	1916.	1917.	1918.	1919.	1920.	1921.
	£	£	£	£	£	£
Town Baths.....	974	1,417	1,484	1,524	2,011	2,155
Beach Enclosure.....	6,874	8,364	3,682	8,503	4,505	4,643
Beach Open Air Baths.....	2,786	2,105	4,970	4,083	5,648	6,417
<b>TOTAL.....£</b>	<b>10,634</b>	<b>11,976</b>	<b>10,137</b>	<b>14,110</b>	<b>12,164</b>	<b>13,215</b>

## EXPENDITURE.

Working Expenses.....£	9,242	10,122	10,097	14,285	21,344	23,341
Interest.....	1,961	1,874	2,103	2,509	2,651	2,737
Depreciation.....	1,200	1,124	1,162	3,658	3,658	3,658
Sinking Fund.....	350	426	388	388	388	388
Loan Costs.....	165	165	200	164	164	164
Gross Profit.....£	3,676	3,589	3,853	6,719	6,861	6,947
<b>TOTAL*.....£</b>	<b>12,018</b>	<b>13,711</b>	<b>14,850</b>	<b>21,004</b>	<b>28,205</b>	<b>30,288</b>

\* Including £2,752, £2,284, £1,735, £4,713, £6,893, £10,041, and £17,073 net loss, advanced by Borough Fund for the years 1915, 1916, 1917, 1918, 1919, 1920, and 1921 respectively.

## (k) BOROUGH OF DURBAN—TRADING DEPARTMENTS' TRANSACTIONS, 1919-20 TO 1920-21.

Department.	Income.	Working Expenses.	Gross Profit or Loss (-).	Capital Charges.	Net Profit or Loss (-).
	£	£	£	£	£
Abattoir.....	16,445	9,454	6,991	5,535	1,456
Borough Market.....	28,071	20,625	7,446	5,758	1,688
Indian Market.....	7,518	4,374	3,144	2,184	960
Public Baths.....	13,215	23,341	—	10,125	6,047
Electric Supply.....	198,768	126,380	72,388	49,388	23,060
Telephones.....	52,440	32,977	19,463	12,863	6,600
Tramways.....	298,437	215,313	83,124	53,883	— 30,859
Water Supply.....	104,162	39,217	64,945	50,545	14,400
<b>TOTAL, 1919-20.....£</b>	<b>658,956</b>	<b>471,681</b>	<b>187,275</b>	<b>187,103</b>	<b>172</b>
<b>TOTAL, 1918-19.....£</b>	<b>625,681</b>	<b>408,979</b>	<b>216,702</b>	<b>155,390</b>	<b>61,312*</b>

\* Out of the net profits on the trading undertakings, an amount of £35,365, equal to a rate of 0.68d in the £1, was utilized in relief of rates.

## (iv) BOROUGH OF DURBAN—NATIVE ADMINISTRATION.\*

Description.	1916.	1917.	1918.	1919.	1920.	1921.
Revenue.....	£ 25,586	£ 31,122	£ 34,124	£ 36,098	£ 38,495	£ 41,776
Working Expenses.....	17,216	22,292	26,910	31,652	38,119†	42,977
BALANCE.....£	8,370	8,830	7,214	4,446	376	†1,201

\* This Fund, the revenue from which is obtained from the sale of native beer, lodging-house fees, etc., is held in trust by the Council to be utilized for the benefit of the natives, including the administration and maintenance of a location, the provision of hospital accommodation, schools, etc.

† Does not include £12,556 expenditure on Capital Account.

‡ Deficit Balance.

3. **Municipality of Johannesburg.**—The town of Johannesburg first acquired developed municipal institutions in 1897 by the foundation, under a Law enacted in that year, of a *Stadsraad* of twelve members, with a Burgomaster appointed by the Government. This body virtually ceased to exist on the outbreak of war in 1899, but was reconstituted as a nominated Council after the occupation of the town by the British. An Ordinance passed two years later gave authority for the election of a Town Council, which met for the first time in December, 1903. Since that date the white population of Johannesburg has increased from 83,902 (Census of April, 1904) to 137,873 in 1918 and to 150,286 in 1921, and the coloured population which in 1904 was 74,678 numbered 117,151 in 1911 and 132,685 in 1921. The progress recorded in other directions, and particularly in the development of municipal enterprises, has been equally great. The tables hereunder contain details, for a period of years, as to the financial position of the Municipality—its loan indebtedness, expenditure, revenue, trading undertakings, etc.

## (i) MUNICIPALITY OF JOHANNESBURG—INDEBTEDNESS, 1921.

## (a) LOANS, SINKING FUNDS, AND NET DEBT, 1903 TO 1921.

Year.	Amount Raised.				Redemption Fund at 30th June.	Net Debt at 30th June.
	From Renewals Fund.	Inscribed Stock (4%).	From Redemption Fund (4 %).*	Total.		
1903....	£ —	£ 1,500,000	£ —	£ 1,500,000	£ 12,200	£ 686,895
1904....	—	1,500,000	—	1,600,000	19,631	3,293,264
1905....	—	2,500,000	—	2,500,000	115,076	5,384,924
1906....	—	—	—	—	223,163	5,276,837
1907....	—	—	—	—	355,980	5,144,020.
1908....	—	—	—	—	495,839	5,004,161.
1909....	—	—	—	—	631,018	4,868,982
1910....	—	—	—	—	721,874	4,778,126‡
1911....	—	250,000	—	250,000	880,838	4,869,162
1912....	—	—	—	—	1,044,895	4,705,105
1913....	—	—	—	—	1,207,298	4,542,702
1914....	—	—	125,000	125,000	1,369,310	4,505,690
1915....	—	—	157,000	157,000	1,551,034	4,480,966
1916....	—	—	77,750	77,750	1,740,078	4,369,672
1917....	—	—	33,250	33,250	1,945,751	4,197,249
1918....	—	—	67,000	67,000	2,138,705	4,071,295
1919....	50,000	—	40,000	90,000	2,350,970	3,949,030
1920....	150,000	—	—	150,000	2,602,735	3,847,265
1921....	274,554	—	115,000	389,554	2,839,164	4,000,390

\* By virtue of Section 34 of Ordinance No. 3 of 1903.

† Year ended 30th June.

‡ Excluding £250,000 municipal bills converted into Inscribed Stock in 1911.

(b) MUNICIPALITY OF JOHANNESBURG—CAPITAL EXPENDITURE (30TH JUNE),  
1915 TO 1921.

Account.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
	£1000.	£1000.	£1000.	£1000.	£1000.	£1000	£1000.
<b>Public Health—</b>							
Sanitary System.....	429	429	430	430	411	411	411
Sewerage System.....	632	648	663	678	699	727	773
Disinfecting Station.....	8	8	8	8	8	8	8
<b>HEALTH TOTAL.....£1,000</b>	<b>1,069</b>	<b>1,085</b>	<b>1,101</b>	<b>1,116</b>	<b>1,118</b>	<b>1,146</b>	<b>1,192</b>
<b>Road Construction and Improvements—</b>							
Road Construction, including Kerbing and Guttering.....	524	545	586	613	633	654	684
Stormwater Drainage.....	473	492	508	512	524	546	557
Bridges and Subways.....	44	44	45	45	45	46	46
<b>IMPROVEMENTS TOTAL. £1,000</b>	<b>1,041</b>	<b>1,081</b>	<b>1,134</b>	<b>1,170</b>	<b>1,202</b>	<b>1,246</b>	<b>1,287</b>
<b>Other Undertakings—</b>							
Expropriation of Insanitary Area.	1,208	1,206	1,205	1,204	1,204	1,205	1,205
Fire Brigade.....	127	127	127	127	127	131	131
Parks and Zoological Collection..	74	75	75	76	76	81	107
New Cemetery.....	33	32	32	32	32	32	32
Swimming Bath.....	17	18	19	19	19	19	21
<b>SUNDRIES TOTAL.....£1,000</b>	<b>1,459</b>	<b>1,458</b>	<b>1,458</b>	<b>1,458</b>	<b>1,458</b>	<b>1,468</b>	<b>1,496</b>
<b>Sundry Properties—</b>							
Town Lands and Other Properties	197	197	197	197	197	197	197
Town Engineer's Plant and Work- shops.....	32	43	43	43	43	43	48
Native Locations.....	52	53	53	53	110	127	184
Town Hall.....	438	451	452	452	452	452	453
Art Gallery.....	49	49	49	49	49	49	49
Miscellaneous.....	25	25	25	26	26	26	26
<b>PROPERTIES TOTAL....£1,000</b>	<b>793</b>	<b>818</b>	<b>819</b>	<b>820</b>	<b>877</b>	<b>894</b>	<b>957</b>
<b>Trading Departments—</b>							
Gas Department.....	40	40	40	40	40	40	44
Electric Department.....	1,060	1,101	1,148	1,176	1,195	1,214	1,372
Tramway Department.....	876	880	884	884	894	961	1,014
Water Department.....	436	443	450	458	465	479	500
Abattoir Department.....	75	78	87	118	125	138	173
Live Stock Market Department..	27	27	27	27	27	27	37
Produce Market Department....	121	121	121	123	127	127	127
<b>TRADING TOTAL.....£1,000</b>	<b>2,635</b>	<b>2,690</b>	<b>2,757</b>	<b>2,825</b>	<b>2,873</b>	<b>2,986</b>	<b>3,267</b>
<b>GRAND TOTAL.....£1,000</b>	<b>6,997</b>	<b>7,132</b>	<b>7,269</b>	<b>7,389</b>	<b>7,528</b>	<b>7,740</b>	<b>8,199</b>

## (c) MUNICIPALITY OF JOHANNESBURG—UNUSED BORROWING POWERS, 1921.

Account.	Amount.	Account.	Amount.
	£		£
<i>* Renewals Fund Loan—</i>			
Abattoir Department.....	277,930	Stormwater—General.....	80,000
Electric Department.....	303,076	Town Hall Square.....	17,800
Live Stock Market Department...	11,285	Tramways Department.....	405,898
Locations Department.....	318,333		
Produce Market Department.....	6,000		
Scavenging Branch.....	58,535		
Sewerage—General.....	121,000	TOTAL.....	£ 1,689,857

\* See the following table.

## (d) MUNICIPALITY OF JOHANNESBURG—RENEWAL AND REDEMPTION FUNDS, 1921.\*

Account.	Total Capital Expenditure to 30/6/21.	Provision for Redemption of Fund.	Provision for Renewal of Wasting Assets.	Total Depreciation Provided for.	Net Book Value of Assets Acquired.
	£	£	£	£	£
Abattoir Department.....	172,580	26,205	836	27,041	145,539
Art Gallery.....	48,776	8,116	50	8,166	40,610
Electric Department.....	1,371,739	460,346	215,673	675,419	696,320
Estates Department.....	1,417,941	654,593	727	655,320	762,621
Fire Department.....	131,477	40,765	10,422	60,187	71,290
Gas Department.....	43,080	18,574	16,887	35,461	8,519
Live Stock Market Department.	37,126	9,572	867	10,439	26,687
Locations.....	184,438	41,515	3,478	44,993	139,445
New Cemetery.....	32,407	15,022	269	15,291	17,116
Parks Department.....	107,458	27,872	4,129	32,001	75,457
Produce Market Department....	126,775	32,456	5,916	38,372	88,403
Public Health Department.....	7,690	3,325	1,753	5,078	2,612
Roads and Drainage.....	1,734,110	358,845	50,982	418,827	1,335,283
Scavenging Department.....	411,426	132,429	93,250	225,679	185,747
Sewerage Department.....	773,418	248,457	—	248,457	524,961
Stores Department.....	4,812	2,231	—	2,231	2,581
Swimming Bath Department....	21,484	5,704	404	6,198	15,286
Town Hall and Municipal Offices, Plein Square.....	453,078	147,074	8,807	155,941	297,137
Tramways Department.....	1,013,721	301,253	277,895	639,148	374,573
Water Department.....	499,530	136,246	181,589	317,835	181,695
GRAND TOTAL.....£	8,013,966	2,730,600	891,484	3,622,084	4,991,882
Less Non-repayable Capital...	1,359,956	—	—	—	1,359,956
TOTAL.....£	7,254,010	2,730,600	891,484	3,622,084	3,631,926

\* Since 1913 the policy of the Municipality has been to treat the provisions for the redemption of loans and the renewal of wasting assets separately. Accordingly, in addition to the fund for redemption, such sums are set aside annually as will be sufficient, after taking into account certain contributory factors, to meet the estimated cost of replacement on assets which will require replacement before the existing loans are redeemed.

## (ii) MUNICIPALITY OF JOHANNESBURG—FINANCIAL POSITION AT 30th JUNE, 1919 TO 1921.

## (a) GROSS REVENUE ACCOUNT, 1918-19 TO 1920-21.

Description.	Income.			Expenditure.		
	1918-19.	1919-20.	1920-21.	1918-19.	1919-20.	1920-21.
Rates.....	£ 426,642	£ 443,582	£ 637,958	—	—	—
Interest.....	58,412	60,832	57,844	—	—	—
Town Treasurer's Department..	4	8,229	625	22,041	24,691	29,459
Valuation Office.....	8	11	8	4,901	1,951	1,702
Stores Department.....	1,685	2,449	2,830	1,085	2,448	2,830
Town Clerk's Department.....	1	4	2	9,589	12,180	14,358
Councils' General Expenses.....	26	21	36	27,418	26,939	15,958
Grants-in-Aid and Gratuities...	—	—	—	19,637	21,637	32,462
Town Hall and Selborne Hall..	3,025	5,326	6,397	13,960	14,363	15,498
Art Gallery.....	—	—	21	2,297	2,594	3,460
Allowances to Employees on Active Service.....	—	—	—	45,445	11,913	4,283
Assize.....	1,602	2,067	2,312	5,366	5,551	6,624
Estates.....	21,579	22,956	24,730	88,397	88,699	92,944
Swimming Bath.....	2,252	3,279	3,268	4,124	6,240	5,885
Parks.....	2,059	2,247	2,622	35,820	45,641	56,454
Cemeteries.....	14,978	13,266	15,289	15,169	17,134	23,504
Native Locations.....	7,741	9,189	12,804	14,972	21,786	28,336
Produce Market.....	38,103	47,493	44,680	34,221	37,712	43,190
Scavenging Services.....	—	—	—	200,902	242,481	274,853
Sanitary Fees.....	140,081	154,812	171,124	—	—	—
M.O.H.'s Department.....	8,405	8,092	9,459	39,292	35,055	40,527
Municipal Pounds.....	1,185	1,296	1,410	904	1,024	1,225
Abattoir.....	32,189	36,021	40,511	31,860	37,985	48,531
Live Stock Market.....	13,790	14,579	15,556	10,848	12,044	13,829
Gas Department.....	34,583	37,025	42,960	27,657	30,661	30,173
Electric Department.....	345,721	394,218	426,294	299,829	344,195	413,127
Tramway Department.....	485,978	532,647	610,496	447,794	513,010	697,576
Public Street Lighting.....	—	—	—	25,324	32,587	38,521
Water Department.....	251,202	267,028	269,021	205,428	215,163	234,030
Fire Department.....	1,415	2,116	2,410	41,476	46,596	59,243
Roads Branch.....	—	—	—	115,376	138,026	168,400
Street Watering Service.....	6	8	11	23,875	26,245	25,469
Stormwater Drainage.....	—	—	—	33,804	34,624	37,429
Sewerage and Sewage Farm.....	43,006	47,364	53,638	68,023	73,768	83,285
Building Survey.....	3,780	6,834	6,376	6,425	7,662	9,140
Licensing.....	42,614	51,442	57,350	10,259	11,126	14,332
Contribution to Pension Fund..	—	—	—	—	—	—
Extraordinary Payments.....	—	—	—	—	—	2,397
Extraordinary Receipts.....	—	—	—	—	—	—
<b>TOTAL.....£</b>	<b>1,988,850</b>	<b>2,175,634</b>	<b>2,518,044</b>	<b>1,934,208</b>	<b>2,142,829</b>	<b>2,575,074</b>
Transfers to Capital Fund.....	—	—	—	30,025	61,456	27,377
<b>Total for the Year.....</b>	<b>1,988,850†</b>	<b>2,175,400‡</b>	<b>2,157,099*</b>	<b>1,964,833</b>	<b>2,204,285</b>	<b>2,602,451</b>
<b>EXCESS.....£</b>	<b>23,557</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>28,885</b>	<b>85,352</b>

† Less £460—Bad debts written off and provision for doubtfuls.

‡ Less £234—Bad debts written off and provision for doubtfuls.

\* Less 945—Bad debts written off and provision for doubtfuls.

## (b) CONSOLIDATED REVENUE AND EXPENDITURE ACCOUNT, 1916-17 TO 1920-21.

Description.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£
Balance from previous year...	42,568	57,287	— 5,322	24,202	— 4,683*
Transfers to Capital Fund.....	—	25,000	—	—	—
Balance during year.....	14,719	— 37,609	29,524	— 28,885*	— 85,352*
Balance to following year.....	57,287	— 5,322	24,202	— 4,683*	— 80,609*

\* Deficit.



iii) MUNICIPALITY OF JOHANNESBURG—TRADING DEPARTMENTS, 1915-16 TO 1920-21.

(a) LOAN INDEBTEDNESS, ETC., AND PAYMENTS IN AID OF RATES AT 30TH JUNE, 1921.

Department.	Capital Expenditure to 30/6/21.	Capital Votes to 30/6/21.	Loan Debt.	Redemption Fund.	Renewals Fund.
	£	£	£	£	£
Gas Department.....	43,980	56,568	40,068	18,574	16,887
Electric Department.....	1,371,739	1,479,049	1,101,839	400,346	215,073
Tramway Department.....	1,013,722	1,270,145	857,041	361,253	277,895
Water Department.....	499,530	560,393	293,915	136,246	181,589
Abattoir Department.....	172,580	375,056	207,999	26,205	236
Live Stock Market Department	37,126	38,128	28,650	9,572	867
Produce Market Department...	126,775	133,298	89,773	32,456	5,916
<b>TOTAL.....£</b>	<b>3,265,452</b>	<b>3,912,637</b>	<b>2,619,285</b>	<b>1,044,652</b>	<b>699,063</b>

(b) GAS DEPARTMENT, 1915-16 TO 1920-21.

REVENUE.

Description of Service.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Sale of Gas.....	12,628	13,015	14,597	15,910	18,150	20,424
Sale of Residuals.....	5,864	6,995	8,071	11,995	11,876	13,367
Public Lamps.....	4,484	5,138	5,385	5,576	6,097	7,630
Miscellaneous.....	842	881	911	1,101	1,502	1,473
<b>TOTAL.....£</b>	<b>23,818</b>	<b>26,029</b>	<b>29,564</b>	<b>34,582</b>	<b>37,625</b>	<b>42,894</b>

EXPENDITURE.

Working Expenditure.....£	15,425	16,495	19,775	23,476	25,762	30,826
Interest.....	1,685	1,685	1,685	1,685	1,684	1,722
Redemption Fund.....	652	652	639	639	621	630
Renewals Fund.....	1,133	1,133	1,133	1,133	1,133	1,250
Appropriation for New Services	85	276	148	669	1,401	1,579
In Aid of Rates.....	4,822	5,771	6,181	6,973	7,022	8,727
Provision for Doubtful Debts..	16	17	3	7	2	60
<b>Gross Profit.....</b>	<b>8,393</b>	<b>9,534</b>	<b>9,789</b>	<b>11,106</b>	<b>11,863</b>	<b>12,068</b>
<b>TOTAL.....£</b>	<b>23,818</b>	<b>26,029</b>	<b>29,564</b>	<b>34,582</b>	<b>37,625</b>	<b>42,894</b>

DISTRIBUTION.

	Cub. Feet.	Cub. Feet.	Cub. Feet.	Cub. Feet.	Cub. Feet.	Cub. Feet.
Gas sold.....	41,905,958	43,277,873	49,167,270	60,647,970	63,334,348	68,719,486

## (c) ELECTRIC DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Sale of Current.....	276,736	287,119	297,770	319,345	357,239	395,010
New Connections and Jobbing.	10,224	11,028	9,156	10,551	16,677	4,882
Public Lamps.....	7,971	8,512	11,852	14,651	19,297	22,822
Miscellaneous.....	1,611	1,157	1,234	1,174	1,006	2,007
<b>TOTAL.....£</b>	<b>296,542</b>	<b>307,816</b>	<b>319,512</b>	<b>345,721</b>	<b>394,219</b>	<b>424,721</b>

## EXPENDITURE.

Working Expenditure.....£	146,842	155,874	172,606	207,913	248,774	308,599
Interest.....	41,424	42,309	52,074	53,819	54,382	59,571
Redemption Fund.....	17,485	17,478	17,687	18,491	18,284	20,002
Renewals Fund.....	15,876	16,687	17,049	17,221	17,552	17,971
Transfers to Capital Fund.....	24,199	22,332	—	—	—	—
Miscellaneous Expenditure.....	1,554	733	2,053	994	3,802	5,410
In Aid of Rates.....	49,003	52,285	58,082	47,145	51,355	12,812
Provision for Doubtful Debts..	159	118	81	138	70	358
<b>Gross Profit.....</b>	<b>149,700</b>	<b>151,942</b>	<b>147,006</b>	<b>137,808</b>	<b>145,445</b>	<b>116,122</b>
<b>TOTAL.....£</b>	<b>296,542</b>	<b>307,816</b>	<b>319,512</b>	<b>345,721</b>	<b>394,219</b>	<b>424,721</b>

## DISTRIBUTION.

	Units.	Units.	Units.	Units.	Units.	Units.
Current sold.....	25,057,534	26,534,241	28,002,124	29,539,513	32,951,801	35,982,979

## (d) TRAMWAY DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Traffic Receipts.....	373,567	385,535	433,984	477,784	524,184	601,969
Rents.....	1,120	1,122	1,186	1,249	1,550	1,432
Advertising.....	2,730	2,685	2,237	3,393	3,304	3,777
Hire of Freight Cars.....	3,257	3,415	3,314	3,517	3,496	3,299
Miscellaneous.....	1,547	95	96	33	23	19
<b>TOTAL.....£</b>	<b>382,221</b>	<b>392,852</b>	<b>440,817</b>	<b>485,976</b>	<b>532,647</b>	<b>610,496</b>

## EXPENDITURE.

Working Expenditure.....£	253,797	270,595	311,442	374,174	451,753	629,359
Interest.....	34,575	34,748	38,616	38,937	40,578	45,464
Redemption Fund.....	13,774	13,830	13,497	13,528	14,599	16,832
Renewals Fund.....	19,809	20,546	21,544	20,603	4,913	4,522
Transfers to Capital Fund.....	—	—	—	—	—	—
Miscellaneous Expenditure.....	924	866	970	553	1,167	1,399
In Aid of Rates.....	59,282	52,287	54,748	38,181	19,637	—
<b>Gross Profit.....</b>	<b>128,424</b>	<b>122,257</b>	<b>129,375</b>	<b>111,802</b>	<b>80,894</b>	<b>68,217*</b>
<b>TOTAL.....£</b>	<b>382,221</b>	<b>392,852</b>	<b>440,817</b>	<b>485,976</b>	<b>532,647</b>	<b>697,576</b>

## TRAFFIC.

	Miles.	Miles.	Miles.	Miles.	Miles.	Miles.
Mileage run.....	3,377,014	3,429,979	3,563,256	3,678,098	4,181,468	4,640,418

\* Includes net loss £87,260.

## (e) WATER DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.*	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Sale of Water.....	220,883	223,589	218,867	246,322	260,011	260,342
Work Executed for Consumers.....	3,830	3,968	3,895	3,821	6,514	6,538
Miscellaneous.....	168	1,108	1,101	1,059	1,103	1,172
<b>TOTAL.....£</b>	<b>224,881</b>	<b>228,665</b>	<b>223,863</b>	<b>251,202</b>	<b>267,628</b>	<b>268,052</b>

## EXPENDITURE.

Working Expenditure.....£	148,775	151,246	151,980	165,509	175,539	193,085
Interest.....	12,475	12,457	21,876	22,264	22,578	23,699
Redemption Fund.....	4,780	4,779	4,688	4,688	4,556	4,556
Renewals Fund.....	16,601	16,862	12,444	12,076	11,613	11,721
Transfers to Capital Fund.....	2,466	4,309	—	—	—	—
Miscellaneous Expenditure.....	284	—	—	—	878	969
In Aid of Rates.....	39,392	38,970	32,834	46,532	53,304	34,823
Provision for Doubtful Debts..	108	42	41	133	40	169
<b>Gross Profit.....</b>	<b>76,106</b>	<b>77,419</b>	<b>71,883</b>	<b>85,693</b>	<b>92,069</b>	<b>75,937*</b>
<b>TOTAL.....£</b>	<b>224,881</b>	<b>228,665</b>	<b>223,863</b>	<b>251,202</b>	<b>268,508</b>	<b>268,022</b>

\* Includes net loss £970.

## (f) PRODUCE MARKET DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Rents.....	6,118	6,575	6,785	7,606	7,820	8,624
Commission.....	18,383	22,645	27,735	28,731	37,468	33,498
Miscellaneous.....	5,249	1,554	1,931	1,766	2,205	2,448
<b>TOTAL.....£</b>	<b>29,730</b>	<b>30,774</b>	<b>36,451</b>	<b>38,103</b>	<b>47,493</b>	<b>44,570</b>

## EXPENDITURE.

Working Expenditure.....£	22,284	20,382	22,929	25,161	27,131	33,373
Interest.....	4,969	4,570	5,664	5,800	5,915	5,935
Redemption Fund.....	2,036	2,036	1,925	1,979	1,988	1,988
Renewals Fund.....	433	708	1,005	1,251	1,400	1,400
Miscellaneous Expenditure.....	4	5	1,488	30	1,277	492
In Aid of Rates.....	—	3,050	3,434	3,806	9,748	1,424
Bad Debts written off.....	4	23	6	76	34	66
<b>Gross Profit.....</b>	<b>7,446</b>	<b>10,392</b>	<b>13,522</b>	<b>12,942</b>	<b>20,362</b>	<b>11,305*</b>
<b>TOTAL.....£</b>	<b>29,730</b>	<b>30,774</b>	<b>36,451</b>	<b>38,103</b>	<b>47,493</b>	<b>44,678</b>

\* Includes net loss £108.

## (g) ABATTOIR DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Abattoir Proper.....	24,047	27,335	27,443	27,325	27,848	28,514
Quarantine Market.....	836	1,187	1,388	1,187	1,879	1,719
By-products.....	3,014	2,719	4,788	3,877	4,268	5,393
Refrigerating Plant.....	—	—	—	—	2,020	4,862
Fines.....	—	—	—	—	5	23
<b>TOTAL.....£</b>	<b>27,897</b>	<b>31,241</b>	<b>33,569</b>	<b>32,189</b>	<b>36,021</b>	<b>40,611</b>

## EXPENDITURE.

Working Expenditure.....£	18,782	20,558	25,652	23,316	28,840	38,278
Interest.....	3,266	3,266	4,563	5,894	6,065	7,162
Redemption Fund.....	761	761	966	1,679	1,808	2,661
Renewals Fund.....	295	295	303	370	372	430
Transfers to Capital Fund.....	4,026	4,062	—	—	—	—
Miscellaneous Expenditure.....	—	—	—	600	—	—
In Aid of Rates.....	767	2,299	2,085	330	—	—
<b>Gross Profit.....</b>	<b>9,115</b>	<b>10,683</b>	<b>7,917</b>	<b>8,873</b>	<b>8,245*</b>	<b>10,253†</b>
<b>TOTAL.....£</b>	<b>27,897</b>	<b>31,241</b>	<b>33,569</b>	<b>32,189</b>	<b>37,085</b>	<b>48,531</b>

\* Includes net loss £1,064. † Includes net loss £8,020.

## (A) LIVE STOCK MARKET DEPARTMENT, 1915-16 TO 1920-21.

## REVENUE.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Entrance Charges.....	9,282	9,548	10,455	11,013	11,147	11,344
Authorities to sell.....	1,482	1,382	1,423	1,518	1,577	1,607
Commission on Sales.....	477	730	651	870	1,246	1,608
Miscellaneous.....	207	275	362	389	608	867
<b>TOTAL.....£</b>	<b>11,448</b>	<b>11,935</b>	<b>12,891</b>	<b>13,790</b>	<b>14,578</b>	<b>15,426</b>

## EXPENDITURE.

Working Expenditure.....£	5,712	6,248	7,849	8,612	10,417	11,650
Interest.....	868	868	1,214	1,214	1,214	1,525
Redemption Fund.....	336	336	329	329	320	361
Renewals Fund.....	93	93	93	93	93	93
Transfers to Capital Fund.....	4,026	—	—	—	—	—
In Aid of Rates.....	413	4,390	3,406	3,542	2,535	1,597
Provision for Doubtful Debts...	—	—	—	—	—	—
<b>Gross Profit.....</b>	<b>5,736</b>	<b>5,687</b>	<b>5,042</b>	<b>5,178</b>	<b>4,162</b>	<b>3,776</b>
<b>TOTAL.....£</b>	<b>11,448</b>	<b>11,935</b>	<b>12,891</b>	<b>13,790</b>	<b>14,579</b>	<b>15,426</b>

## (i) SUMMARY OF TRADING DEPARTMENTS' TRANSACTIONS, 1919-20 TO 1920-21.

Department.	Income.	Working Expenses.	Gross Profit.	Capital Charges.	Net Profit.	Payments to General Fund.
	£	£	£	£	£	£
Gas Department.....	42,894	30,825	12,068	8,602	8,406	8,727
Electric Department.....	424,722	308,569	115,767	97,544	18,222	12,812
Tramway Department.....	629,359	629,359	—	66,818	—	—
Water Department.....	268,052	193,085	74,798	39,976	34,823	34,823
Abattoir Department.....	40,489	38,278	10,253	10,253	— 8,019*	—
Live Stock Market Department	15,426	11,650	3,776	2,179	1,597	1,597
Produce Market Department...	44,570	33,373	11,131	9,324	1,875	1,424
<b>TOTAL, 1920-21.....£</b>	<b>1,465,512</b>	<b>1,245,169</b>	<b>227,733</b>	<b>229,696</b>	<b>56,904</b>	<b>57,383</b>
<b>TOTAL, 1919-21.....£</b>	<b>1,330,108</b>	<b>968,216</b>	<b>353,728</b>	<b>211,667</b>	<b>150,327</b>	<b>144,850</b>

\* Net loss.

## (iv) MUNICIPALITY OF JOHANNESBURG—ASSESSMENT RATES, 1912-13 TO 1920-21.

Year.	Rate in £1.	Chargeable to Departments.	Chargeable to Property Owners.	Amount of Rates.
	d.	£	£	£
1912-13.....	2½	27,128	288,498	315,626
1913-14.....	2½	42,969	334,123	377,092
1914-15.....	2½	38,923	309,670	348,598
1915-16.....	2½	42,863	343,539	386,392
1916-17.....	{ Land 4½ Impr. 1½ }	46,014	319,256	365,270
1917-18.....	{ Land 4 Impr. 1½ }	43,440	318,643	362,083
1918-19.....	Land 7	70,361	356,281	426,642
1919-20.....	Land 7	71,741	371,841	443,582
1920-21.....	Land 10	102,602	535,356	637,958

4. Municipality of Pretoria.—An account of the history and development of Pretoria is given in Section 4 of Chapter I. In the following tables the principal financial statements of the Municipality are summarized for a number of years:—

## (i) PRETORIA MUNICIPALITY—LOANS, SINKING FUNDS, AND NET DEBT AT 30th JUNE, 1909 TO 1921.

Year.	Amount Raised.			Redemption Fund.	Net Loan Debt.
	4 % Stock.	4½ % Stock.	Total.		
	£	£	£	£	£
1909.....	1,000,000	—	1,000,000	31,562	968,438
1910.....	—	—	—	38,191	961,809
1911.....	—	—	—	60,835	939,165
1912.....	—	—	—	87,500	912,500
1913.....	—	—	—	119,941	880,509
1914.....	—	750,000	750,000	165,383	1,584,617
1915.....	—	—	—	211,022	1,538,978
1916.....	271,500	—	271,500	256,998	1,704,502
1917.....	—	—	—	303,498	1,718,002
1918.....	—	—	—	359,679	1,661,821
1919.....	—	—	—	414,972	1,606,528
1920.....	—	—	—	476,993	1,544,507
1921.....	—	—	—	545,428	1,476,072

## (ii) PRETORIA MUNICIPALITY—REVENUE AND EXPENDITURE AT 30TH JUNE, 1919 TO 1921.

Description.	Revenue.			Expenditure.		
	1919.	1920.	1921.	1919.	1920.	1921.
	£	£	£	£	£	£
Town Treasurer's Department.....	—	—	—	6,020	8,412	11,381
Locations.....	3,015	3,127	3,229	2,030	2,136	2,629
Public Functions and Mayoral Allowance.....	—	—	—	3,101	6,349	3,138
Town Clerk's Department.....	—	—	—	3,083	4,890	5,879
Town Engineer's Department.....	—	—	—	5,304	8,791	8,021
Streets (Cleaning and Lighting).....	—	—	—	12,896	13,974	14,599
Roads.....	1,570	1,570	1,570	—	—	—
Maintenance of Offices.....	—	—	—	4,404	4,752	7,179
General Works.....	—	—	—	50,056	72,088	80,401
Charitable and Relief Works.....	—	—	—	1,689	1,010	2,058
Fire Brigade.....	1,446	1,687	1,046	9,689	13,083	15,312
Public Health.....	785	939	3,258	14,778	15,642	15,748
Sanitary.....	46,175	47,981	48,838	31,774	37,037	41,519
Sewerage.....	10,865	11,399	11,509	22,880	24,471	24,889
Wash Houses and Baths.....	2,227	3,335	4,612	3,549	4,598	6,022
Parks and Plantations.....	4,656	3,858	4,117	14,005	18,978	21,789
Cemeteries.....	3,214	2,905	2,551	4,276	4,033	6,393
Pensions and Gratuities.....	—	—	—	5,377	5,174	7,250
Assize.....	372	635	530	757	1,019	1,194
Dipping.....	28	698	328	109	1,152	377
Native Eating House.....	1,106	866	494	1,222	1,110	711
Grants-in-Aid.....	13,500	13,500	13,500	6,152	6,236	4,169
Allowances to Employees on Active Service.....	—	—	—	6,791	4,356	484
Licences.....	10,980	11,617	17,011	—	—	—
Rents.....	2,751	2,939	2,691	—	—	—
Fees, Fines, etc.....	1,567	1,843	1,778	—	—	—
Building and Hoarding Fees.....	149	439	470	—	—	—
Interest.....	13,376	15,105	11,537	7,777	6,638	5,037
Assessment Rate.....	95,303	102,544	136,731	—	—	—
Interest on Railway Siding.....	—	1,841	403	—	—	—
Depreciation.....	—	—	—	68	68	—
Discounts.....	—	3,328	—	—	—	—
Redemption.....	—	—	—	969	969	611
Insurance.....	—	—	—	961	1,000	1,000
Valuation and Audit.....	—	—	—	501	425	392
Miscellaneous.....	477	1,309	1,288	2,033	1,618	4,100
Capital Expenditure.....	—	—	—	1,175	—	—
<b>Trading Departments—</b>						
Abattoirs.....	9,193	12,268	13,065	13,393	14,452	16,258
Cattle Market.....	767	2,053	1,958	1,243	1,301	1,459
Produce Market.....	6,320	8,628	10,298	3,484	3,956	7,070
Water Supply.....	44,745	48,436	58,007	27,182	32,176	35,648
Electric Supply.....	73,963	84,110	94,257	55,180	63,070	75,988
Tramways.....	57,456	78,483	90,246	60,968	77,914	91,763
<b>TOTAL..... £</b>	<b>406,506</b>	<b>467,143</b>	<b>535,292</b>	<b>386,094</b>	<b>464,978</b>	<b>521,368</b>

## (iii) PRETORIA MUNICIPALITY—GENERAL FUND ACCOUNT, 30TH JUNE, 1920 AND 1921.

Liabilities.	1920.	1921.	Capital Outlay and Assets.	1920.	1921.
	£	£		£	£
Loans from General Fund Capital Account.....	1,264,652	1,264,652	Capital Outlay.....	1,434,120	1,452,379
Loans from Revenue Account.....	8,250	8,250	Unexpended Capital Funds	4,709	4,710
Loans from Depreciation Funds.....	17,037	30,455			
Non-repayable Contributions.....	54,246	54,247			
Depreciation Account....	56,714	54,835			
Revenue Appropriation Account.....	37,930	44,650			
<b>TOTAL.....£</b>	<b>1,438,829</b>	<b>1,457,089</b>	<b>TOTAL.....£</b>	<b>1,438,829</b>	<b>1,457,089</b>
Capital Account.....	4,709	4,710	Stocks and Stores on Hand	31,641	47,122
Sundry Creditors.....	16,477	12,107	Housing Loan.....	—	3,780
Town Lands Purchase Account.....	10,000	2,173	Sundry Debtors.....	25,080	25,132
Live Stock Contingencies Fund.....	5,184	6,411	Depreciation Fund.....	74,229	83,441
Insurance Fund, Workmen's Compensation...	8,186	8,638	Net Advances to Trading Departments in respect of Working Expenses and Stores.....	—	35,993
Redemption Fund, Market Loan.....	330	495	Electric Supply Department.....	17,674	—
Redemption Fund, Buildings at Show Grounds..	—	364	Cash Invested and in hand	21,267	—
Cattle Market and Abattoirs Insurance Fund.....	—	59			
Housing Loans.....	—	3,780			
Depreciation Fund.....	74,229	83,441			
Balance Consolidated Revenue and Expenditure Account.....	28,267	27,015			
Overdraft.....	—	46,275			
Funds held on behalf of Departments.....	22,509	—			
<b>TOTAL.....£</b>	<b>169,891</b>	<b>195,468</b>	<b>TOTAL.....£</b>	<b>169,891</b>	<b>195,468</b>

(iv) PRETORIA MUNICIPALITY—GENERAL FUND CAPITAL ACCOUNT AT 30TH JUNE, 1920 AND 1921.

Expenditure.	1920.	1921.	Income.	1920.	1921.
	£	£		£	£
Sewerage Schemes.....	311,989	312,828	Loans.....	1,264,652	1,264,652
Surface Drainage.....	179,000	179,060	Loan to Produce Market.....	8,250	8,250
Town Hall.....	35,899	35,899	Loan—Market Square....	16,186	25,899
Erven in Market Street..	24,759	24,759	Loan—Canalization Aaples		
Parks.....	8,976	8,976	River.....	47,147	50,853
Sundry Properties.....	16,523	16,957	Non-Repayable Contribu-		
Experimental Station....	1,227	1,227	tions.....	7,650	7,650
Market.....	28,916	38,629	Natal Soapworks.....	300	300
Race Course.....	5,722	5,722	Surplus Depreciation		
Cemeteries.....	2,755	2,755	Transferred.....	56,714	54,835
Sanitary Department,			Revenue and Appropria-		
Land and Buildings....	5,452	5,452	tion Account.....	37,980	44,650
Compound.....	9,870	7,870			
Wash Houses.....	2,035	2,035			
Locations.....	16,077	16,077			
Streets and Bridges....	453,525	461,937			
Fire Brigade.....	35,431	36,112			
Plant and Live Stock....	29,876	29,876			
Office Furniture.....	5,801	5,885			
Refuse Destructor.....	12,402	12,402			
Swimming Baths.....	19,251	19,251			
Infectious Diseases Hos-					
pital.....	7,801	7,801			
Disinfecting Station....	1,181	1,180			
Live Stock Market and					
Abattoirs.....	62,966	62,966			
Recreation Grounds....	31,251	30,959			
Public Conveniences....	6,464	6,419			
Church Square.....	42,017	42,017			
Assize Office.....	858	858			
Dipping Tanks.....	629	570			
Railway Siding.....	13,419	13,419			
Afforestation.....	5,087	5,087			
Miscellaneous.....	6,855	7,348			
Proportion Loan Flotation					
Expenses.....	50,106	50,106			
<b>TOTAL.....£</b>	<b>1,434,120</b>	<b>1,452,379</b>			
Unexpended Balance....	4,709	4,710			
<b>£</b>	<b>1,438,829</b>	<b>1,457,089</b>	<b>£</b>	<b>1,438,829</b>	<b>1,467,089</b>



**(v) PRETORIA MUNICIPALITY—AGGREGATE BALANCE AT 30TH JUNE, 1920 AND 1921.**

Liabilities.	1920.	1921.	Capital Outlay and Assets.	1920.	1921.
	£	£		£	£
Loans.....	2,021,500	2,021,500	Capital Outlay.....	2,185,576	2,233,390
Purchase Market Concession.....	8,250	8,250	Unexpended Capital Fund	41,074	11,520
Depreciation.....	17,037	30,455			
Non-repayable Contributions to Capital.....	179,863	184,705			
<b>TOTAL.....£</b>	<b>2,226,650</b>	<b>2,244,910</b>	<b>TOTAL.....£</b>	<b>2,226,650</b>	<b>2,244,910</b>
Capital Account Balance.....	41,074	11,520	Stocks and Stores.....	54,059	79,930
Sundry Creditors.....	20,517	25,060	Redemption Fund.....	476,992	545,429
Redemption Fund.....	476,992	545,429	Depreciation Fund.....	251,606	264,493
Insurance Fund.....	8,186	8,638	Sundry Debtors.....	37,295	40,606
Live Stock Contingencies Fund.....	5,184	6,411	Cash invested and on hand	28,204	—
Purchase of Town Lands	10,000	2,173	Housing Loans.....	—	3,780
Overdraft Account.....	—	33,801			
Depreciation Fund.....	251,606	264,493			
Produce Market and Agricultural Show Ground Buildings Loan Redemption.....	—	859			
Cattle Market and Abattoirs Insurance Fund.....	—	59			
Housing Loans.....	—	3,780			
Produce Market Loan Redemption.....	330	—			
Net Balance Revenue and Expenditure.....	28,267	27,015			
<b>TOTAL.....£</b>	<b>848,156</b>	<b>934,238</b>	<b>TOTAL.....£</b>	<b>848,156</b>	<b>934,238</b>

**(vi) EXPENDITURE AND INCOME OF TRADING DEPARTMENTS, 1919 TO 1921 (30TH JUNE).****(a) ABATTOIR DEPARTMENT.**

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Salaries and Wages...	4,747	5,641	6,440	Fees, etc.....	5,716	7,758	8,535
General Expenses...	88	181	233	Licences.....	55	50	46
Repairs and Maintenance.....	2,884	2,714	3,680	Rents.....	170	194	204
Purchase of Material and Implements...	1,455	1,677	1,706	Sale of Fertilizer...	3,252	4,247	4,220
Insurance.....	36	36	19	Steam Power.....	—	19	—
Contribution to Pension Fund.....	123	157	174	Balance to Revenue Account.....	4,200	2,184	3,193
Provision for Renewals	539	544	550				
Loan Charges.....	3,522	3,522	3,456				
<b>TOTAL.....£</b>	<b>13,393</b>	<b>14,452</b>	<b>16,258</b>	<b>TOTAL.....£</b>	<b>13,393</b>	<b>14,452</b>	<b>16,258</b>

## (b) LIVE STOCK MARKET.

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Salaries and Wages..	422	422	496	Commission on Sales	464	1,674	1,594
General Expenses...	238	290	380	Market Dues.....	225	146	157
Provision for Renewals	80	80	80	Storage and Feeding	28	176	156
Loan Charges.....	503	503	503	Sundries.....	50	49	51
Balance to Revenue Account.....	—	752	499	Excess Expenditure over Income transferred to General Fund Account....	470	—	—
<b>TOTAL.....£</b>	<b>1,243</b>	<b>2,053</b>	<b>1,958</b>	<b>TOTAL.....£</b>	<b>1,243</b>	<b>2,053</b>	<b>1,958</b>

## (c) WATER SUPPLY DEPARTMENT.

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Expenses and Intake :				Sale of Water.....	42,652	45,912	54,179
Salaries and Wages..	540	721	723	Street Watering....	1,000	1,000	1,000
General Expenses...	271	103	294	Water for Parks....	348	357	427
Pumping Expenses :				Reconnection Fees..	—	1	6
Wages.....	482	1,067	1,127	Building Water Rates	—	—	1,216
General Expenses...	1,614	1,462	1,438	Railway Contribution	—	—	60
Distribution :				Findlay Reservoir	—	—	—
Salaries and Wages..	—	3,020	3,627	Private Services....	507	746	940
General Expenses...	2,828	1,994	2,036	Repairs to Taps....	—	420	179
Meter Maintenance :				Sundry Receipts....	238	—	—
Wages.....	—	726	888				
General Expenses...	—	300	903				
Private Services....	—	1,217	1,471				
Inspection.....	259	302	665				
Analysis of Water...	100	212	100				
Management and General Expenses..	3,259	3,519	3,633				
Repairs to Taps....	—	—	629				
Provision for Renewals	2,505	2,605	2,289				
Loan Charges.....	14,413	14,677	15,579				
Contribution to Pension Fund.....	207	242	246				
Balance.....	17,563	16,260	22,359				
<b>TOTAL.....£</b>	<b>44,745</b>	<b>48,436</b>	<b>58,007</b>	<b>TOTAL.....£</b>	<b>44,745</b>	<b>48,436</b>	<b>58,007</b>

## (d) PRODUCE MARKET.

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Salaries and Wages..	2,058	2,553	3,024	Commission on Sales	5,341	6,744	7,637
General Expenses....	916	576	731	Fees.....	216	501	557
Loan Charges.....	495	768	3,195	Rents.....	510	453	927
Contribution to Pension Funds.....	16	59	121	Fines.....	156	119	153
Balance to Revenue Account.....	2,835	4,672	3,197	Licences.....	43	169	262
				Sundries.....	54	42	32
				Market Concession : Rent.....	—	600	700
<b>TOTAL.....£</b>	<b>6,320</b>	<b>8,628</b>	<b>10,268</b>	<b>TOTAL.....£</b>	<b>6,320</b>	<b>8,628</b>	<b>10,268</b>

## (e) ELECTRIC SUPPLY DEPARTMENT.

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Generation of Current:				Sale of Current.....	61,582	69,156	79,214
Salaries and Wages...	6,000	7,037	8,173	Power to Tramways			
General Expenses...	13,973	16,477	20,293	Department.....	5,717	6,659	7,432
Distribution:				Power to Water			
Salaries and Wages...	2,349	3,201	4,775	Supply Depart-			
General Expenses...	3,658	5,732	7,562	ment.....	1,084	1,254	1,333
Public Lighting.....	1,393	1,177	2,124	Public Lighting....	4,355	4,536	4,578
Connections and				Connections and			
Jobbing.....	1,118	1,923	2,013	Jobbing.....	895	1,934	1,701
Management and				Interest on Loan to			
General Expenses...	5,306	6,648	8,733	Produce Market..	330	330	—
Provision for Renewals	7,026	7,610	7,956	Sundry Sales.....	—	241	—
Loan Charges.....	12,931	13,041	13,191				
Contributions to Pen-							
sion Fund.....	743	825	1,168				
Balance.....	18,774	20,439	18,271				
<b>TOTAL.....£</b>	<b>73,963</b>	<b>84,110</b>	<b>94,258</b>	<b>TOTAL.....£</b>	<b>73,963</b>	<b>84,110</b>	<b>94,258</b>

## (f) TRAMWAYS DEPARTMENT.

Expenditure.	1919.	1920.	1921.	Income.	1919.	1920.	1921.
	£	£	£		£	£	£
Traffic Expenses:				Traffic Receipts...	53,960	74,178	85,462
Salaries and Wages...	21,807	31,148	36,476	Freight Car Receipts	646	708	658
General Expenses...	5,630	8,522	8,061	Street Watering...	1,200	1,000	1,000
Repairs and Mainte-				Rents of Cottages...	96	117	118
nance.....	9,856	11,276	14,235	Advertising Receipts	1,039	1,436	1,752
Management and				Motor Bus Receipts	506	961	1,256
General Expenses...	1,823	2,812	2,452	Sundry Sales.....	—	83	—
Advertising Expenses	281	379	668	Balance.....	3,512	—	1,517
Claims re Damages...	79	4	336				
Provision for Renewals	4,897	5,849	9,066				
Loan Charges.....	13,416	13,450	13,670				
Contributions to Pen-							
sion Fund.....	1,035	1,241	1,351				
Motor Buses:							
Wages.....	559	773	1,375				
General Expenses...	1,585	2,310	2,573				
Gratuities.....	—	150	—				
Balance.....	—	569	—				
<b>TOTAL.....£</b>	<b>60,968</b>	<b>78,483</b>	<b>91,763</b>	<b>TOTAL.....£</b>	<b>60,968</b>	<b>78,483</b>	<b>91,763</b>

## CHAPTER XXV.

## THE TERRITORY OF SOUTH-WEST AFRICA.

## § 1. History.

1. **Pioneer Work by Cape Government.**—In the year 1814 the British Government (of the Cape of Good Hope) sent a German missionary, Von Schmelen, to carry on mission work amongst the Hottentots living across the Orange River in Great Namaqualand, as the southern portion of the territory was then called. This man married a Hottentot girl and settled down near Okahandja as an influential member of the tribe of Afrikaner Hottentots under Jager Afrikaner.

2. **The Rhenish Missions.**—When once Von Schmelen was fairly established he seems to have forgotten all about the Cape Government, and to have placed himself in communication with Berlin. His reports upon the country, its inhabitants and possibilities, had the result of attracting other missionaries to South-West Africa; and eventually, about the year 1840, the *Rhenish Missionary Society* of Berlin began to take an active interest in the new field for missionary labour and enterprise; so much so, that in 1869 thriving mission stations had been established at nearly every important station in Great Namaqualand and Damaraland in the north. In conjunction with each mission station it was found necessary to establish a general store from the profits of which the missionary and his family could live, and from which natives could be supplied with clothing, arms, and ammunition, in exchange for cattle, sheep, and the products of the chase. As the field of missionary labour was extended by the founding of new mission stations, so also the field for mercantile achievement expanded. Cape Colonial traders then for the first time appeared upon the scene with wagons laden with goods, which were bartered to the natives for stock and produce. This competition seriously affected the commercial operations of the missionaries, who eventually arranged for the formation of a limited liability company, which was floated in Germany in 1873 for the purpose of trading in the mission fields of the Rhenish Missionary Society. The society undertook to give the company all the assistance and support possible, and in return therefor was to receive half the net profits. The main object of the company was to develop the cattle business and open up an export trade with Europe. Owing, however, to the inevitable transport difficulties, the incapacity and dishonesty of those in charge of the management, and the outbreak of a Herero-Hottentot war in 1880, the company became hopelessly insolvent, and went into liquidation.

3. **British Mission of 1876 and Annexation of Walvis Bay.**—In the meantime an event of importance had taken place. During the year 1876 a British Commissioner, Mr. C. W. Palgrave, entered the country with a view to ascertaining the wishes of the native chiefs in regard to control by Great Britain. He was well received by the Hereros, who asked him "to send some one to rule over us and be the head of our country." The Bastards of Rehoboth and several Hottentot tribes also asked for British protection and control. In his report to the Cape Governor, Mr. Palgrave recommended the annexation, as British territory, of the whole coast line of Great Namaqualand and Damaraland; but the British Government in 1878 only annexed Walvis Bay and a few square miles of desert sand in its vicinity. Of this failure German enterprise was not slow to take advantage, and the next important step to mark the extension of German influence, and the acquisition of that which Great Britain had definitely discarded as worthless, is represented by the activities of Adolph Luderitz, a merchant of Bremen, who arrived in 1882.

4. **German Influence and Annexation.**—It did not take Luderitz long to discover that, after Walvis Bay, the bay known as Angra Pequena (now known as Luderitz) was the best port on the coast line between the Orange and Kunene Rivers, and he accordingly purchased from the Hottentot Chief Joseph Fredericks, of Bethany, a strip of territory situated between the 26th degree of southern latitude and the Orange River, bounded on the west by the sea and on the east by a line running twenty miles inland from north to south.

On the 24th April, 1884, Prince Bismark formally sanctioned the hoisting of the German flag at Angra Pequena, and placed Luderitz and his acquisition under the protection of the German Empire. Encouraged by this recognition Luderitz purchased from the captain of the Topnaar Hottentots, who lived near Walvis Bay, the remainder of the coast belt, extending to Cape Frio. He left for Germany, and in 1885 succeeded in floating a company called the *German Colonial Company for South-West Africa*, with a capital of M.300,000 (£15,000); and in October of that year the Government Controller of that Company, Dr. Goering, arrived at Luderitz. In the year 1889 the German Government sent Captain von François with a detachment of soldiers to protect German interests, and in July, 1890, the country was formally annexed by Germany.

**5. Later German Colonization.**—A census of the white population taken in 1903 showed a total of 4,840 individuals, and the native rebellion of 1904, besides necessitating the introduction of 1,114 officers and 18,286 non-commissioned officers and men, had the result of bringing the country and its possibilities to the notice of German investors; whilst the discovery of diamonds at Luderitz in 1908 supplied a further stimulus to immigration. Many of the soldiers, upon completion of the campaign, settled upon farms; and merchants who had made money during that time applied themselves to the development of pastoral pursuits, an example which in 1909 was followed by the Government in the establishment of horse, cattle, and sheep breeding centres at Nauchas, Neudamm, and other places. Prior to 1904 the only railway in existence was a narrow gauge line from Swakopmund to Windhoek; but the exigencies of the campaign above described necessitated the construction of lines from Luderitz to Keetmanshoop, Karibib to Tsumeb, and Windhoek to Keetmanshoop, though these lines were not all completed at the termination of the rebellion in 1906. From that time the progress of the country was rapid. Commerce transformed Luderitz and Swakopmund from mere landing stages into flourishing seaports, whilst the inland trade resulted in the establishment of towns and villages throughout the territory. The Government of the country passed from the military to the civil officials, for whom excellent quarters and offices were erected.

Farms on easy terms of payment were granted to settlers; money was advanced them by a Land Bank supported by Government, and water-boring facilities were provided. Such was the position at the outbreak of the European war; and, although a great deal still remains to be done, there can be no doubt that the ground work for which the Germans were responsible was thorough.

**6. British Campaign and Conquest by General Botha.**—Windhoek, the capital town of the territory, was occupied on the 12th May, 1915, and on the 9th of July of the same year the German forces surrendered at Korab, which is situated on the narrow-gauge railway near Otavi junction.

Details of the campaign are given in the third issue of the Year Book.

## § 2. Physical Characteristics.

**1. Boundaries and Area.**—The territory of South-West Africa (formerly known as German South-West Africa) is bounded on the north by Angola and Rhodesia, on the south by the Orange River and the Cape Province, on the east by British Bechuanaland and a portion of the Cape Province, and on the west by the Atlantic Ocean. It has an area of about 322,000 square miles, or about three-fourths the area of the Union of South Africa, being nearly as large as the combined Orange Free State and the Cape Provinces inclusive of the Transkei.

**2. Physical Features.**—The country may be described as a series of plateaux, varying from 2000 feet to 7000 feet in height, diversified by hills, but generally flat, with an average height of about 5000 feet. These uplands slope towards the east, where they merge into the Kalahari desert plateau, and also slope gradually towards the north and south. The coast line is bordered by a belt of sand of varying breadth, which forms portion of the Namib Desert—an arid region in which rain seldom falls, and which is almost entirely uninhabited. Its eastern fringes provide a home for large numbers of big game. Inside this desert belt, stretching from the Orange River to the district of Gibeon, the country gradually changes from mountainous formation to a succession of long, undulating, grassy plains, and finally assumes an appearance which is typical of the Karroo. From Rehoboth, which is practically the centre of the territory, a complete change is noticed, and the Karroo gives place to park-like grass country studded with large thorn trees, which increase in number as far as Omaruru. From this point northwards the bush becomes very dense, with an undergrowth of grass, and this feature is maintained up to the northern border.

The eastern border, on the other hand, has very different characteristics. The country in the vicinity of the Orange River is a mixture of grass and Karroo, whilst further north for a distance of about 300 miles it consists of an endless succession of red sand dunes thickly covered with grass, and interspersed with trees which increase in number until the

23° latitude. Here a further change takes place, and the dunes are followed by long grassy well-wooded plains which merge into dense bush right up to the Okavango River in the north.

**3. Rainfall and Climate.**—The rainfall varies from about an inch along the coastal belt to 6 inches in the south, 12 inches in the centre, and about 22 inches in the north.

The climate is hot and dry, but very healthy, except in the northern districts, where malaria is very prevalent during the autumn. Except for the Kunene and Okavango Rivers on the northern boundary, and the Orange in the south, there are no perennial streams in the country, though it is intersected by innumerable river beds, the most important of which is the Fish River. This flows only during certain months in the year, but always contains water which percolates at various points.

### § 3. Administration.

**1. General.**—When, in the year 1915, the resistance of the German Forces in the territory was on the point of being overcome, Mr. (now Sir) E. H. L. Gorges, the Secretary for the Interior in the Union, was requested by the Union Minister of Defence to attach himself to the personal staff of General Botha in order to examine the conditions existing in the conquered territory, to draw up a scheme for its future administration, and to assist the military with advice in matters relating to the civil population. Mr. Gorges submitted his report in June of 1915, and commenced his duties in the capacity of adviser to the military on matters affecting the civil population, under the designation of Chief Civil Secretary.

On the 19th July, 1915, General Beves was appointed General Officer Commanding in the territory in addition to his duties as Military Governor, and on the 30th October both the offices of Military Governor and Chief Secretary were abolished, and Mr. Gorges was appointed Administrator of the territory, a post which combined the functions previously exercised by the Military Governor and the Chief Secretary. Mr. (now Sir Howard) Gorges retained this office throughout the whole period of occupation. On the departure of General Beves, Lieutenant-Colonel (now Colonel) de Jager was appointed Officer Commanding the Union Forces in the Protectorate.

In October, 1920, Sir Howard Gorges, K.C.M.G., M.V.O., relinquished his office and was succeeded by Mr. G. R. Hofmeyr, C.M.G.

**2. Functions of Administration.**—On the 31st December, 1920, Martial Law, which had been in force in the territory up to that date, was replaced by Civil Government. The administration of the country is vested in the Government of the Union of South Africa by Mandate, and is actually exercised by the Governor-General, who has, however, delegated most of his powers to the Administrator appointed by the Union Government. The Administrator controls every form of Government activity in the territory, including all the functions of a Provincial Administration. The railways alone are at present excepted from his authority. To assist the Administrator in the execution of his various duties an Advisory Council of nine representative citizens has been created.

**3. District Administration.**—The territory, exclusive of Ovamboland, is divided into seventeen magisterial districts, wherein the various magistrates exercise certain administrative as well as judicial functions. They are charged with the functions of receivers of revenue, and, excepting in the districts of Windhoek and Luderitz, with the control of district native affairs.

**4. Local Government.**—Town and district councils were established in 1909 by a decree of the Imperial Chancellor with powers which were very similar to those in the Union except that the Governor had power to order the councils to do or to refrain from doing anything he pleased. The district councils lapsed on the occupation of the country by the Union Forces, but the town councils were allowed to continue in office until the end of 1918. Their powers were then taken away and exercised by the magistrates. This step became necessary as there was a tendency for the councils to become political in character. In July, 1920, a Proclamation re-establishing municipal councils was issued, under which the councillors were nominated by the Administrator for a period of one year and certain powers of intervention were reserved. In every case half the number of councillors appointed were Germans. In other respects the Proclamation followed Union lines, and a rating system was established in lieu of the Municipal Income Tax, which formed the chief feature of municipal finance under the German regime. This change gave rise to a little difficulty at the start, as the German portion of the council did not understand the new system. The Administrator has stated that he intends to make the councils elective at an early date. A Municipal Amendment Proclamation was promulgated in 1922, providing for the election of half of the members of municipal councils. The first elections took place in September, 1922. No form of local government has as yet been established in the smaller places. A

draft District Council Proclamation has been drawn up and submitted to various associations for their criticism.

Hospital Boards have been established at five centres—Windhoek, Luderitz, Grootfontein, Outjo, and Keetmanshoop—at all of which hospitals have been opened. Assistance is given to these Boards on lines similar to those laid down in the Cape Hospital Ordinance of 1912, under the Hospitals and Charitable Institutions Proclamation, which provides for the election of Hospital Boards.

**5. Capital.**—Windhoek, with a population of 3,460 Europeans and approximately 4,000 natives, is the capital town, and occupies a central position in the territory. It stands at an elevation of 5,600 feet and is finely situated within an amphitheatre of hills. Besides the Government Buildings, the Administration owns a large number of substantial houses which are allotted to Government officials. There are other fine buildings in the town which give it an air of solidity and comfort. The population has increased so rapidly during the last two years that accommodation is hard to obtain and the water supply is becoming inadequate. As a business centre the place has proved itself to be sound. The German wireless station is situated a mile outside of the town. It has not been used since the occupation.

There are three hospitals (two for Europeans and one for natives) as well as a maternity home. There are large schools with hostels attached for both the old and new population, and the Church of England has opened a school for girls. In the suburb of Klein Windhoek there are market gardens which provide the town with fruit and vegetables. The municipality has recently made great improvements in the streets of the town and in the Zoological Gardens.

Windhoek is distant by rail from Swakopmund 254 miles, from Luderitz 542 miles, from Cape Town 1,384 miles, and from Johannesburg 1,338 miles.

**6. The South-West Africa Mandate Act.**—The following Act was passed by the Union Parliament at the Session Extraordinary, 1919, and provides for carrying into effect, in so far as concerns the Union of South Africa, the Treaty of Peace between His Majesty the King and certain other Powers; and for carrying into effect any Mandate issued in pursuance of the Treaty to the Union of South Africa with reference to the territory of South-West Africa, lately under the sovereignty of Germany.

#### ACT No. 49, 1919.

Whereas at Versailles on the 28th day of June, 1919, a Treaty of Peace, a copy of which has been laid before Parliament, was signed on behalf of His Majesty, and it is expedient that the Governor-General should have power to do all such things as may be proper and expedient for giving effect in so far as concerns the Union to the Treaty, or to any Mandate issued in pursuance of the Treaty with reference to the territory of South-West Africa:

Be it enacted by the King's Most Excellent Majesty, the Senate and the House of Assembly of the Union of South Africa as follows:—

1. The Governor-General may make such appointments, establish such offices, issue such proclamations and regulations and do such things as appear to him to be necessary for giving effect, so far as concerns the Union, to any of the provisions of the said Treaty or to any Mandate issued in pursuance of the Treaty to the Union with reference to the territory of South-West Africa lately under the sovereignty of Germany and any act of the Governor-General in that behalf shall be lawful notwithstanding any provision to the contrary in any law contained.

2. Subject to the provisions of section *four* of this Act, the Governor-General may by proclamation at any time—

- (a) repeal, alter, amend or modify any laws in force within the said territory including such proclamations as have been or may be promulgated during the military occupation thereof;
- (b) make new laws applicable to the said territory;
- (c) delegate his authority in this behalf to such officer in the said territory as he may designate to act under his instructions.

3. Any proclamation or regulation made under this Act may provide for the imposition of penalties in respect of breaches of the provisions thereof and shall be laid before Parliament as soon as may be.

4. (1) It shall be lawful for the Governor-General by proclamation to apply to the said territory, with such modifications as he may deem necessary having regard to the conditions obtaining therein, the provisions of all or any of the following laws to wit: the Land Settlement Act, 1912, the Land Settlement Act, Amendment Act, 1917, the Crown Land Disposal Ordinance 1903 of the Transvaal, the Crown Land Disposal Amendment Ordinance, 1906, of the Transvaal.

(2) Save for the provisions of sub-section (1) of this section, no grant of any title, right or interest in State land or minerals within the said territory or of any right or interest in or over the territorial waters thereof shall be made and no trading or other concessions shall be granted without the authority of Parliament.

(3) No land within the said territory now or hereafter set apart as a reserve for natives or coloured persons shall be alienated save under the authority of Parliament: Provided that nothing in this section contained shall be deemed to prohibit the Governor-General, in respect of land contained in any such reserve, from granting individual title to any persons lawfully occupying and entitled to such land.

5. The provisions of this Act shall cease to have effect on the first day of July, nineteen hundred and twenty: Provided, however, that by resolution of both Houses of Parliament the operation of such provisions may be extended for any period mentioned in such resolution.

6. This Act may be cited as the Treaty of Peace and South-West Africa Mandate Act, 1919.

#### § 4. Population.

1. **General.**—The following table gives the final results of the census taken in the territory on 3rd May, 1921:—

POPULATION—CENSUS OF 3rd MAY, 1921.

Race.	Male.	Female.	Total.
European.....	11,242	8,190	19,432
Bantu.....	92,627	84,835	177,462
Other Coloured.....	15,394	15,451	30,845
TOTAL.....	119,263	108,476	227,739

2. **Population of Towns.**—According to the census of 1921 the population of the towns was as follows:—

	European.	Other.
Windhoek.....	3,460	4,399
Luderitz.....	1,003	1,014
Keetmanshoop.....	1,026	1,659
Swakopmund.....	1,078	694

3. **Births, Deaths, Marriages.**—The registration of births and deaths is still voluntary, but there is reason to believe that practically every birth and death amongst the European population is registered. A Proclamation was issued during 1920 under which the celebration of marriages was brought into line with Union procedure.

The registration figures for the last two years for the European population are as follows:—

	Births.	Deaths.	Marriages.
1919.....	549	243	190
1920.....	540	100	178
1921.....	544	121	513

The following native customs prevail in regard to marriages, births, and deaths:—

(i) **Marriages.**—Among the Damara and Herero races an intending bridegroom reports to his father that he contemplates marrying. The father, if he approves, sends presents of food to the girl's family. If this offer of friendship is accepted, the groom's father proceeds with other members of his family to the girl's house, and the members of both families hold a council on the proposed alliance. If the meeting decides favourably to the marriage, and if the headman of the tribe consents, stock is slaughtered by the groom's family, the number of animals depending on the extent of their possessions, and a feast is held. This marriage feast consummates the union. It is, by these customs, a condition precedent to marriage that the husband must pay the wife's family a number of stock, regulated by the husband's state of affluence, on the birth of each child.



(ii) *Births*.—When a female member of the Damara or Herero race is confined, the women of her own and her husband's family congregate at her hut and remain there until the child is born. When this takes place the headman of the tribe and the elders of both families are informed of the occurrence, and also of the sex of the child. The father then slaughters a goat or a calf for the women in attendance, and later on one for his wife.

(iii) *Deaths*.—In the case of a dangerous illness among Damaras or Hereros the sick person's relations and friends are informed and they visit the sick bed. Should death take place, the female relations assemble at the hut and commence a dismal wail. Other women join them even though they have never known the deceased, and the wail is kept up for four or five hours. It usually happens that before the wail is finished a hundred or more native women will be taking part; no men participate. When the body has been placed in the coffin, which is made by the male relations, the natives form up, relations immediately behind the cortege, and march slowly to the burial place. A few sentences are recited by a male relative and then a few chanted by the mourners and this is kept up until the procession has reached the hut on the return journey. At the graveside a cup of water is produced, and every person dips his or her fingers into the water and sprinkles some on the grave, simultaneously uttering the following words: "I am your brother or sister—I have come to give you greetings, and to bid you good-bye in your grave. There you remain in your resting-place. I return home." The headmen and councillors then decide who is the next-of-kin and the property is handed to him in their presence. In the event of a married woman dying, the parents, and not the husband, get her belongings.

## § 5. Public Health and Hospitals.

1. *Medical Services*.—The South African Medical Corps withdrew from the territory in April, 1920, and since then district surgeons have been appointed at a number of different centres.

2. *Hospitals*.—All military hospitals closed down early in 1920, and subsequently four hospitals were established under Hospital Boards in different parts of the country. In addition there were hospitals at Swakopmund and Windhoek, which are controlled by German Religious Orders. There are several Government Native Hospitals, of which Windhoek, with a daily average of about 100 patients, is by far the largest.

Mental patients are sent to one of the Union mental hospitals as soon as they are certified to be insane.

The registration of medical practitioners, dentists, and chemists was effected during 1920.

3. *Sanitation and Infectious Diseases*.—The Union Public Health Act of 1919 with some slight amendments has been put into force in South-West Africa. Provision is being made by the Windhoek Municipality, in conjunction with the Administration, for the care of infectious diseases. Beyond two or three isolated cases of diphtheria and measles there was no infectious disease during 1921.

## § 6. Education.

1. *General*.—An important point in the development of education in South-West Africa was marked by the Education Proclamation of 1921, which came into force on the 1st January, 1922. It is an adaptation of the Cape Province law, in bulk a verbal copy of it, with modified Transvaal salary scales for teachers. Negotiations with the German population ended in November, 1921, when a Concordat was arrived at. As a result of this, thirteen out of seventeen elementary schools were transferred to the Administration on the 1st January, 1922. Those that elected to remain private schools were: Swakopmund, Luderitz, Karibib, and Tsumeb. The German High School in Windhoek remains a private school. The general principle of the Concordat is that the transferred schools are financed by the Administration, and adopt the Union curriculum and system, retaining German as medium to the end of the elementary course. All scholars above Standard I receive a daily lesson in a Union official language, as chosen by the parents. This becomes the medium of instruction after Standard VI.

2. *Administration*.—Committees with restricted powers have been set up by the Education Proclamation of 1921. Their functions are mainly advisory. There is no district education rate.

**3. Government Schools.**—Provision is made for both primary and secondary education. The code is that of the Cape Province. Primary education is free, but fees are charged for secondary instruction. There are boarding hostels maintained by the Administration.

#### GOVERNMENT SCHOOLS IN SOUTH-WEST AFRICA.

Name of School.	Staff.	No. of Pupils.	Name of School.	Staff.	No. of Pupils.
Aus.....	1	16	Maltaboehc* .....	3	38
Doornboom.....	1	18	Mariental.....	1	18
Gaidib.....	1	32	Okahandja.....	2	53
Gibeon*.....	3	47	Omaruru*.....	3	80
Gobabis*.....	2	36	Otjiwarongo.....	1	13
Golden Aue.....	1	20	Outjo*.....	2	30
Grootfontein*.....	4	74	Stamprietfontein.....	1	19
Ham River.....	1	37	Swakopmund*.....	4	76
Kalkfontein South.....	1	12	Ukamas.....	1	15
Kenus.....	1	34	Usakos.....	3	60
Karibib*.....	2	42	Walvis Bay.....	2	17
Keetmanshoop*.....	10	245	Warmbad*.....	3	59
Klein Windhoek.....	1	18	Weltevreden.....	1	8
Klipdam*.....	1	6	Windhoek (Secondary)*.....	13	306
Kub*.....	3	44	Windhoek (Primary)*.....	5	114
Kuibis.....	1	16			
Luderitz.....	3	51			
			TOTAL.....	82	1,654

**4. Native Education.**—The Education Proclamation of 1921 empowers the Administration to assist native schools with grants. A sum of money was placed for the purpose on the Estimates of 1922-1923, and several grants were made. Native education is still entirely in the hands of the Finnish Mission (Ovamboland), the Catholic Mission (Hereroland and Namaland), and the Rhenish Mission (Hereroland and Namaland). The Rhenish Mission is endeavouring to reopen its training college for native teachers.

Small beginnings in 1921 by the Anglican Church of Damaraland and the Wesleyan Church indicate that the question of native education is receiving the attention of the Union Churches.

#### § 7. Administration of Justice.

**1. Criminal Jurisdiction.**—By the Administration of Justice Proclamation, 1919, the Roman-Dutch Law as existing and applied in the Province of the Cape of Good Hope on the 1st day of January, 1920, was made the common law of the territory, all existing laws in conflict therewith being to the extent of such conflict repealed, save and except all Proclamations issued during military occupation and in force on the said date which continued to remain in force.

The criminal law administered by the courts includes therefore the Roman-Dutch Law, statutory law enacted by Proclamation, and the German criminal code, and various enactments and regulations made by the Emperor, the German Imperial Chancellor, the Governor, and others to whom authority was specially delegated, where such are not in conflict with the Roman-Dutch Law.

A superior Court, entitled the High Court of South-West Africa, was created and constituted, consisting of and holden before one judge, save that for the trial and punishment of crimes and offences the jurisdiction of the court is exercisable by the judge and two members appointed by the Administrator, who require to be advocates of not less than five years' standing, or persons holding or qualified to hold the office of magistrate within the Union of South Africa or the territory. The judge sits as president and a majority decision constitutes the judgment of the court.

\* Boarding-schools.

The law of procedure and evidence in civil proceedings is that followed with certain necessary modifications by the Cape Provincial Division of the Supreme Court of South Africa, and the law of procedure and evidence in criminal proceedings is that prescribed by the *Criminal Procedure and Evidence Act, 1917*, of the Union, which was extended and applied to the territory with necessary amendments.

An officer styled the Attorney-General has been appointed, who, in regard to the prosecution of crimes and offences, possesses the powers, authorities, and functions of an Attorney-General in any Province of the Union under Section 129 of the *South Africa Act*.

By Proclamation 38 of 1920, circuit courts were established, the territory being divided into two circuit districts, in both of which two circuit courts are held annually.

An appeal from the High Court or from a circuit court, whether in the exercise of either civil or criminal jurisdiction, lies to the Appellate Division of the Supreme Court of South Africa in like manner and under the same circumstances as an appeal from a provincial division of the Supreme Court of South Africa.

Magisterial districts were created by the Administration of Justice Proclamation, and magistrates' courts established with the same jurisdiction and subject to the same procedure in all matters as prescribed in the Magistrates' Courts Act, 1917, of the Parliament of the Union of South Africa. An appeal lies to the High Court from a decision in a magistrate's court on like terms and conditions as an appeal may be had under the *Magistrates' Courts Act, 1917*, to a provincial or local division of the Supreme Court of South Africa.

Military magistrates' courts were abolished. The courts of magistrates were empowered, however, to exercise the functions of these courts in regard to all offences against martial law regulations or notices judgments, and sentences in the exercise of this jurisdiction being reviewable by the Administrator and not by the High Court.

All sentences otherwise imposed by a magistrate's court in excess of a fine of five pounds or imprisonment exceeding one month are subject to review by the High Court.

By Proclamation No. 26 of 1920, provision was made for the arrest and surrender of fugitive offenders from adjoining territories. Provision was also made to enforce the attendance before the courts of such territories of persons resident or being within this territory and required as witnesses in either civil or criminal proceedings.

By *Union Act No. 24 of 1922* provision is made for the execution of criminal warrants as between the Union and the territory and the attendance on subpoena of witnesses resident in the Union in either civil or criminal proceedings before courts in the territory. Provision is also made for the removal of proceedings, whether criminal or civil, from a superior court in the Union to the High Court of South-West Africa, and vice versa.

**2. Civil Law.**—The Administration of Justice Proclamation, 1919, which introduced the Roman-Dutch Law as existing and applied in the Province of the Cape of Good Hope on the 1st January, 1920, as the common law of the territory applies to civil as well as to criminal law. The Proclamation further provides for the determination of all rights, privileges, obligations, or liabilities acquired, or incurred prior to the 1st January, 1920, according to the law in force in the territory at the time of such acquisition, accrual, or incurrence. The law of procedure and evidence in civil proceedings prescribed for the High Court is that for the time being followed by the Cape Provincial Division of the Supreme Court of South Africa, the jurisdiction and procedure in magistrates' courts being that prescribed in the Union Magistrates' Courts Act, 1917.

*Union Act No. 24 of 1922* makes provision, *inter alia*, for the service and execution of civil processes of the High Court of South-West Africa within the limits of the Union, and in like manner for the service and execution of processes of a superior court in the Union within the limits of South-West Africa. For this purpose the High Court of the territory is regarded as a Division of the Supreme Court of South Africa. An order of Court under the Insolvency Act, 1916, or an order of the High Court of South-West Africa, has the same effect in both the Union and the territory. Similarly, provision is also made for the service and execution of a civil process of a magistrate's court in South-West Africa in any magisterial district of the Union, and vice versa.

Provision was also made for the admission of advocates, attorneys, notaries public, and conveyancers. Any person entitled to practice or to be admitted as an advocate or attorney in any provincial or local division of the Supreme Court of South Africa is entitled to practice as an advocate or attorney in the High Court. Upon the certificate of the Administrator that a person at the date of the commencement of military occupation was entitled to practice as an advocate or attorney, or practitioner of equal status and is a fit and proper person, such person is entitled to admission in the High Court as an advocate or attorney as the case may be. The same conditions apply to the admission of conveyancers and notaries public.

Any person admitted to practice as an advocate or an attorney in the High Court may also appear in any action or proceedings before a magistrate's court. No person shall be admitted, however, to practice both as an advocate and as an attorney. The High Court exercises jurisdiction in respect of an advocate, attorney, notary public, or conveyancer similar to that exercised by the Cape Provincial Division of the Supreme Court in respect of practitioners in the Cape Province.

The office of Public Trustee was abolished and a Master of the High Court appointed as also a Registrar of Deeds. The *Administration of Estates Act, 1913*, the *Insolvency Act, 1916*, the *Deeds Registries Act, 1918*, and various other statutory enactments of the Union Parliament were extended and applied to the territory with modifications to meet local requirements.

**3. Prisons.**—There are at present eleven gaols and eighteen lock-ups under the Prison Branch of the Administration. The gaols are classed as follows:—

2nd Class—Windhoek.

4th Class—Luderitz, Keetmanshoop, Grootfontein, Outjo, and Gobabis.

5th Class—Karibib, Omaruru, Warmbad, Swakopmund, and Gibeon.

The daily average of prisoners in the whole of the territory is approximately 280 only a small percentage of whom are Europeans. Of this number from 160 to 200 are at the Windhoek gaol, at which place all long-sentenced prisoners are concentrated, and the usual prison industries carried out. The local natives dislike sentences of imprisonment, and if possible pay a fine in preference. The recidivist is not the local native, but a native of the Union or other part of South Africa. Gaols and lock-ups are administered in accordance with the Union Prison Act (No. 13 of 1911), and regulations framed thereunder.

Generally speaking, the gaol buildings were not built on modern prison lines, being low structures without proper ventilation; while the sanitary arrangements were crude. Every endeavour has been made to place the gaols in a good sanitary condition, and to provide ample ventilation for the cells.

The number of convictions for breach of gaol regulations is very low, and only for minor offences such as being in possession of unauthorized articles, i.e. tobacco, matches, etc.

## § 8. Native Administration.

**1. Native Population.**—The following table gives particulars of the native population of South-West Africa:—

### NATIVE POPULATION OF SOUTH-WEST AFRICA.

Language and Race.	Distribution.	Approximate Number.
<i>Bantu</i> —		
Ovambo.....	Ovamboland.....	90,000
Various Tribes.....	Okavango and Caprivi Zipfel.....	24,249
	Within South-West Africa proper †.....	1,500
Ovahimba and Ovatslimba*.....	Middle and Northern Kaokoveld and portion of North-West Ovamboland	10,150
Hereros†.....	Central and North-East portion of South-West Africa	31,563
<i>Nama-speaking</i> —		
Klip Kaffirs (Berg Damaras).....	Central portion of South-West Africa	20,883
Hottentots.....	Southern and Western South-West Africa, including Southern Kaokoveld	20,968
<i>Dialect of Nama and Pure Bushmen</i> —		
Bushmen.....	North Central and East.....	3,931
(a) Hoinum (mixed).....	South-West Africa.....	—
(b) Jung (pure).....	Territory extending into Kalahari.....	Unknown.

\* Including a small number of real Hereros.

† Including small number of Bechuana and Union natives.

‡ Excluding non-resident labourers, who number from 3,000 to 8,000.

2. **Native Labour.**—It was the policy of the German Administration to encourage the native to take service with the German farmer, but it is doubtful whether that policy was successful. The native, however, is finding out that his interests are being safeguarded by the officials of the Administration, and there is no doubt that this knowledge will in time remove his prejudices. The success of this policy is evidenced by the fact that the supply exceeds the demand in Government Departments, that the British community in general experience little difficulty in obtaining either farm or domestic servants, and that even the semi-civilized Ovambo in the north is quite anxious to find employment upon the mines at Luderitz and in similar industrial centres, the labour for which has hitherto been recruited under the auspices of the Administration.

The chief employers of labour in the territory are the Railway Department, the Chamber of Mines at Luderitz, and the Otavi Copper Mining Company in Tsumeb. They employ both skilled and unskilled labourers, derived to some extent from local sources, but for the most part from Ovamboland and the Okavango area, in which resident Native Affairs officials are stationed.

Domestic and farming demands are in the main met by the aboriginals of the country. In Windhoek, Tsumeb, and Luderitz officers have been specially appointed for the purposes of native administration, whilst in the country districts the control is vested in the magistrate.

Although agreements of employment between masters and servants may be oral, a system has been introduced whereby every native in employment has to be properly contracted in writing before a magistrate, Native Affairs officer, or—in outlying parts—before the constable in charge of the nearest police post. These functionaries are required to secure for native employees in the contract of service equitable treatment in the matter of pay and labour conditions. They regulate, by the issue of travelling passes and permits to seek for employment, the movements of natives in every district, and exercise supervision generally.

Magistrates are required to fix, as far as possible, a standard wage for natives in their respective districts, and this standard provides a wage for the average native male of from 15s. to 20s. and 20s. to 30s. per month and food on farms and in towns respectively, whilst a female usually receives from 10s. to 25s. and food. In some cases native labourers receive as much as £2 to £2. 10s. per month and food, but the (raw) natives as a whole are backward, and of no great value as labourers. The Hereros, however, make good cattle herds.

3. **Native Law.**—The main provisions of the native law, apart from those dealing with masters and servants referred to above, in areas which have been opened up for settlement of Europeans, are embodied in the following enactments:—

(a) The Native Administration Proclamation, which supersedes many of the old German laws and constitutes the principal pass law, regulating as it does the movements of natives within the territory and of those desirous of leaving or entering it. This Proclamation also provides for the exemption of natives under certain conditions from the carrying of passes, and contains provisions for the establishment of reserves and the control of natives therein and on farms. The pass laws are not applicable in purely native areas such as Ovamboland, nor in the Rehoboth District. The Native Labour Proclamation, 1917, applies more particularly to the control and welfare of natives working within mining areas.

(b) The Vagrancy Proclamation, which provides for the suppression of idleness and trespass. Natives are allowed to select their own masters, and strict instructions have been issued against forcing natives to take service with particular masters against their will. When a native is dilatory in finding employment, an employer can be indicated, and if he refuses to engage himself, he can be prosecuted under the Vagrancy Act. Before sentencing natives under the Vagrancy Laws, magistrates are required to give the offender an opportunity of taking employment in preference to undergoing imprisonment. Certificates of exemption from labour may be granted to natives having visible means of support, such as possession of stock. Persons unfitted for labour by reason of old age or physical infirmity are *ipso facto* exempted persons.

(c) The Municipal Proclamation, which empowers municipalities, *inter alia*, to make regulations, subject to Government sanction, for the control and management of native locations within their respective areas.

**4. Liquor Prohibition.**—In order to secure the advancement of the native, and to prevent as far as possible his lapsing into crime, it is forbidden to place in the care of, or give, sell, or deliver to any coloured person any intoxicating liquor except for medicinal purposes on the production of a prescription from a qualified medical practitioner. It is further unlawful for a master to give his servant "tots" of liquor, as is also brewing of kaffir beer without permission.

**5. Native Reserves.**—With a view to the reconstruction, as far as practicable, of tribal organization and the provision of areas in which the natives may live under healthy and natural conditions together with their stock, reserves have been established in various districts. These are generally controlled by the hereditary chief, if any, or an elected or appointed headman, who is responsible to the magistrate of the district for the preservation of law and order in and about the reserve. In some instances, European superintendents have been appointed for the purpose of closer supervision of the reserves. This system of native administration can be said to serve a double purpose, in that it ensures a settled, contented population, and creates a potential labour-recruiting field for the future.

Purely native areas such as Ovamboland and those secured by old treaties have not been disturbed, whilst various additional reserves have been provided, subject to conditions proving suitable and, if not, alternative areas have been provisionally set aside. A scheduled native area of 8,177,500 acres on the lines laid down in Act No. 27 of 1913 (Union) has been reserved. The closure of several areas which, owing to their isolated position, form "black islands," or are otherwise unsuitable, is being considered.

The movement of natives and stock from and to various places in connection with the foregoing policy makes it difficult to obtain reliable statistics as to their numbers, but the following is the approximate position in regard to these reserves:—

#### NATIVE RESERVES IN SOUTH-WEST AFRICA.

District.	Name of Reserve.	Extent.	District.	Name of Reserve.	Extent.
		Acres.			Acres.
Bethanie.....	Saromas and Arogas	20,292	Maltaahohe..	Neulhof.....	50,655
Gibeon.....	Witboolsvlei.....	49,420	Okahandja..	Ovitoto.....	24,710
Gobabs.....	Aminuis.....	568,330	Omaruru....	Otjiporongo..	25,254
	Epukiro.....	439,838		Okombahe....	426,939
Grootfontein..	Otjitoo.....	261,352	Otjitarango	Omatako Flats..	412,657
	Otavifontein....	61,775		Waterberg....	736,358
	Gauss.....	12,537	Outjo.....	Almab.....	222,390
	Ovisume.....	14,242		Franzfontein..	24,710
	Neubrunn.....	20,652		Otjeru.....	12,501
Karibib.....	Otjimbingwe....	28,416	Rehoboth...	Hoacharamas..	49,420
	Audawb Ost....	34,490	Warinbad..	Bondelswarts..	431,199
Keetmanshoop	Witboolsende	113,600	Windhoek..	Orumbo.....	19,068
	(Fahigrass)			Okatumba Sud..	11,473
	Berseba.....	1,452,948			

NOTE.—Ovamboland and certain areas along the Okavango road and in the Kaokoveld are native reserves.

#### § 9. Land and Irrigation.

**1. Land Settlement.**—The following statement relative to the ownership of land in the territory (exclusive of Ovamboland and the Caprivi-ziplfel) has been prepared from the returns issued by the Surveyor-General of the previous German Government:—

**LAND OWNERSHIP IN SOUTH-WEST AFRICA, 1912-13 TO 1913-14.**

DESCRIPTION.	AREA.	
	1912-13.	1913-14.
	Acres.	Acres.
Total Area.....	206,245,000	
Government Land.....	150,888,491	150,931,946
Government Land suitable for Farmers.....	121,273,727	121,365,806
Native Land (including Bastard Gebied).....	7,190,170	7,146,715
Land held by Companies.....	29,609,970	30,021,126
Land held by Companies suitable for Farms.....	21,932,172	21,932,222
Land Sold—		
Government Land, 1,120 Farms.....	28,377,830	29,369,743
Native Land, 56 Farms.....	1,490,561	1,635,953
Company Land, 71 Farms.....	1,144,571	1,345,515
Land Leased—		
Government Land, 82 Farms.....	1,371,265	1,697,809
Native Land, 7 Farms.....	167,219	68,419
Company Land, 49 Farms.....	1,635,140	1,101,919
Land Available for Sale and Lease—		
Government.....	83,066,078	81,901,562
Native.....	5,557,090	5,442,344
Company.....	19,152,010	19,484,788
Surveyed Government Land available for Lease (614 Farms)*	(614 Farms)*	(709 Farms)*
Government Land Reserved, 297 Farms.....	8,458,552	8,396,693
Native Reserves—		
Bondelswartz and Hottentots.....	432,250	432,250
Berg Damaras.....	424,840	425,581
Game Reserves.....	21,693,763	21,693,763

\* Extent not known.

Of the 1,331 farms (representing a total of 33,082,206 acres) which were in private possession within the territory on the 1st April, 1913, 1,138 farms are being developed. The area of the 193 undeveloped farms is 4,642,555 acres (i.e. 14.03 per cent. of the total area). There were also 337 closer settlement holdings, having an area of 9,230 acres. These holdings are situated in selected lands at Okahandja, Omaruru, Waterberg, Gobabis, Gibeon, and Keetmanshoop. The prices for these holdings varied from one-half to one penny per square metre, according to the quality of the land. Of the 337 holdings, 180 (having an area of 1,748 acres) are uncultivated. A land tax is leviable on all landed property, rural and urban, and has yielded about £15,750 per annum. The land tax is still being collected from owners of land in the territory in accordance with the German Ordinance.

Crown lands in the territory are now being disposed of under the *Union Land Settlement Act, 1912*, as amended by the Act of 1917 and the *Land Settlement Act Amendment Act, 1920* (Union), as applied to the territory by Proclamation No. 14 of 1920, as amended.

Under this Proclamation land is from time to time advertised as available for settlement purposes by notice in the official *Gazette* and in newspapers circulating in the territory and Union. The farms are advertised for eight weeks, after the expiry of which period all applications are considered by the Board.

During the twelve months ended 31st December, 1921, 245 farms were allotted; of these 39 were surrendered and withdrawn.

It is advisable that intending settlers should be possessed of a capital of from £1,000 to £2,000.

The Administration is prepared to assist approved settlers by advances for—

- (1) The building of a dwelling-house; the maximum amount that can be advanced under this heading is £400.
- (2) Boring for water or for the construction of wells and dams.
- (3) The purchase of stock. Under this heading the maximum advance for the purpose is £500.

The Administration is also prepared to consider applications from persons or companies desirous of ranching on a considerable scale, and for this purpose it is contemplated to advertise at an early date a few ranching blocks. The size of these ranches will depend largely on the districts in which they are situated, but it may be taken that each ranch will

comprise approximately six ordinary farms. It is doubtful whether any such ranches will be advertised in the southern districts of the territory. The conditions under which the ranches will be allotted will be similar to those in force in the Transvaal, and will provide *inter alia* for occupation by representatives of the allottees, and the stocking of each ranch with a prescribed number of stock. It is hoped to gazette the first few ranches in February of this year.

Crown land values range from 1s. to 6s. per hectare ( $2\frac{1}{2}$  acres) according to quality and locality.

Inquiries should be addressed to the Senior Officer, Lands Branch, Windhoek, S.W.A.

**2. Water Supply and Irrigation.**—Generally speaking, the territory, which is essentially a cattle-raising country, depends for its water supply on subterranean streams, of which there are a good number in all parts of the country. The cattle farmers, therefore, mainly adopt the method of sinking wells and boreholes in order to obtain water for their stock. Along the Auob River Valley, in the Gibeon District, there are nine or ten artesian wells sunk in the limestone, from which an enormous supply of water is derived. Certain of these wells have been running for four or five years, while others have been bored more recently. The water is usually tapped at a depth of two hundred to two hundred and fifty feet. Although the river system is not inconsiderable, it does not form a reliable water supply, since the rivers, with three exceptions, are intermittent, and are always dry in the winter. The following are the chief rivers:—

*The Orange River*, which forms the southern boundary, is perennial. Its northern bank, however, is so mountainous that practically no land is available for irrigation purposes.

*The Kunene*, on the northern border, is also perennial, and capable of being turned to good account if some of its waters were diverted and conducted along the Omarumbas leading into the Etoscha Pan.

*The Okavango*, on the north-eastern boundary, is also perennial, and flows into the Zambesi. From the point of view of irrigation it is of very little use to the territory.

*The Fish River* has its source in the southern portion of the highlands, and, with its tributaries, drains the whole south central plateau.

*The Nosobs*, with their tributaries, the Schaap, the Elephant, and the Auob, make their way to the south-east, and finally join the Malopo somewhere between the 20° and 22° east longitude and 26° and 28° south latitude.

*The Chapman River* has an easterly course, and is finally lost in the Kalahari.

*The Epikuro River*, and the Eiseb, are said to flow into Lake N'Gami, although it is possible that they also disappear into the sands of the Kalahari.

*The Omatako*, with its many tributaries, has a more northerly course, and divides at Otjitu-o, one branch turning due east and being finally lost in the desert, and the other branch entering the Okavango near Kanganga.

*The Orambo Omuramba* has its source somewhere near Blockfontein on the Omatako, and flows west into the Etoscha Pan, this being the only water-course whose flow is not lost to the territory.

From historical accounts of the territory by the explorers Alexander, Galton, and Anderssen, it seems that not very long ago the water supply in this country was much more abundant than at present, and it is known that the country is undergoing a process of desiccation in so far as open water is concerned. How to prevent the enormous waste of open water which is at present going on is a problem to be dealt with in the future. It is, however, a satisfactory reflection that, whether the surface water is successfully conserved or not the underground water would anywhere produce a sufficient supply for the stock-farmer's needs.

The development of subterranean water supplies was greatly accelerated during 1921. On the 31st December, 1920, ten drills were in the field, and the number had increased to thirty-two on the 31st December, 1921. The following table gives the total footage drilled and the yield obtained in recent years:—

**WATER-BORING OPERATIONS, 1919-20 AND 1920 21.**

Year.	Boreholes Completed.	Boreholes in Progress at end of year.	Aggregate Depth.	Yield per Diem.
1919-20.....	15	9	Ft. 4,730	Gals. 217,000
1920-21.....	68	30	23,344	1,981,000



3. **Rainfall.**—The rainfall of the various districts in the territory does not, owing to its uncertainty, form a reliable water supply, and this fact is one of the main obstacles to the extension of agricultural pursuits. The rainfall statistics for the various districts are given hereunder:—

(i) **RAINFALL STATISTICS IN TERRITORY, 1912-1916 (in inches).**

Locality.	1912-13.	1913-14.	1914-15.	1915-16.	1916-17.
Warmbad.....	No Readings.	3·24 Feb.-Dec.	2·5 Jan.-Aug.	1·38 Dec. only.	3·76
Luderitz.....	0·11	0·54	0·68 No Readings in July and Sept.-Dec.	No Readings.	0·24
Aroab.....	No Readings.	1·11 Aug.-Dec.	2·18 Jan.-June.	No Readings.	2·32 No Readings March-April.
Keetmanshoop.....	2·72	5·36	3·45 Jan.-July.	No Readings.	4·75
Bethanie.....	3·63	3·1	2·56	1·05 No Readings Feb.-June.	3·78
Gibeon.....	6·3	2·9	3·43 No Readings Aug.-Sept. Oct.-Dec.	0·0 July-Dec.	5·78
Rehoboth.....	8·87	4·1	9·05	2·4 No Readings February.	5·57
Gobabis.....	17·63	8·48	12·69	11·6	9·44
Windhoek.....	22·14	9·26	13·25	15·31	11·95
Swakopmund.....	0·34	0·26	0·87 Jan.-July.	No Readings.	0·81 July-Dec.
Okahandja.....	20·05	8·75	9·12	13·24	8·4
Karibib.....	7·88	4·5	5·43	1·67 No Readings March-June.	5·95
Omaruru.....	13·77	7·19	6·27 No Readings Sept.-Nov.	5·73 No Readings April-June.	12·55
O'tjwarongo.....	28·87	14·22	11·8	17·28	15·86
Outjo.....	21·29	15·3	10·76	11·72	17·15
Grootfontein.....	29·6	18·5	15·1 Jan.-Aug.	5·11 Readings in- complete	19·83
Tsumeb.....	36·43	18·77	17·58	21·45	21·65

(ii) **AVERAGE RAINFALL, 1898 TO 1918 (in inches).**

LOCALITY.	YEARLY AVERAGE.		LOCALITY.	YEARLY AVERAGE.	
	1898 to 1908.	1909 to 1918.		1898 to 1908.	1909 to 1918.
Outjo.....	13"	12½"	Windhoek.....	13½"	12½"
Grootfontein.....	22"	15"	Rehoboth.....	9½"	7½"
Omaruru.....	15"	13"	Maltahohe.....	6"	6"
Okahandja.....	15"	14"	Gibeon.....	6½"	6½"
Gobabis.....	16"	12"			

4. **Concession Companies.**—In December, 1919, a Commission was appointed to inquire into the titles of several companies which had extensive rights in the territory. The Commission reported in September, 1920, and Proclamation No. 59 was issued on 17th November, 1920, by which many of these rights were cancelled.

The general effect was to put an end to certain large mining monopolies and throw the whole country open to prospecting. Two companies lost large land holdings.

§ 10. **Agriculture and Fisheries.**

1. **Agricultural Conditions.**—The climatic conditions prevailing in the territory are not generally favourable for the pursuit of agriculture. In the north, where the average rainfall is about 22 inches, crops of maize, potatoes, pumpkins and beans are raised; but as the rainy season is usually of short duration, the heat excessive, and the frost early,

such crops cannot regularly be relied upon. As illustrating this, it may be mentioned that from the above source about 8,000,000 lb. of maize were purchased in 1917 by the Administration for horse fodder, only 2,200,000 lb. in 1918, owing to the fact that no more was available, and none in 1919 owing to the failure of the crops as the result of early frosts.

Further south, along the banks of the Black and White Nosop Rivers, where the average rainfall is about 15 inches, similar crops, though not as large as those in the north, have been raised; but these also are uncertain, as they are entirely dependent upon the rains. Still further south along the bed of the Auob River are several artesian wells with a pressure sufficient to raise the water to a height of thirty feet, and so enable the lands on either side to be placed under irrigation. Very little has been done in this direction up to the present, but sufficient to show that there are great possibilities in the way of wheat crops.

The following figures give the results of an agricultural census taken in 1921 :—

No. of Farms.....	1,515	Wheat.....	801,000 lb.
Area Irrigated.....	1,561 morgen.	Maize.....	6,813,000 "
Area Irrigable.....	7,510 "	Oats.....	14,700 "
Area Cultivated.....	12,567 "	Kaffir Corn.....	414,800 "
Area under Crops.....	12,351 "	Potatoes.....	800,100 "
Wheat-growing Area ..	568 "	Tobacco.....	62,650 "
Maize-growing Area ..	9,241 "		
		No. of Fruit Trees.....	36,940
		Vineyards : No. of Vines.....	57,800

**2. Pastoral Production.**—In regard to pastoral products, the territory is not only self-supporting in regard to beef and mutton, but is now, and has been for years past, a source of supply of cattle and small stock for the meat trade in the Union. Other products, such as skins, hides, horns, wool, mohair, and ostrich feathers, showed a steady increase for the period 1909 to 1913, up to which year statistics are available; and, with the opening up of this country to settlers, there is not the slightest doubt that this increase will be maintained. The whole of the territory, with the exception of the coastal belt, is admirably suited for pastoral pursuits. From Gibeon south to the Orange River the country lends itself almost entirely to small stock farming. By far the greater number of small stock consists of Africander and bastard sheep, which thrive exceedingly well, though Angora goats and merino sheep are also farmed successfully. The middle portion of the territory is suitable for Karakul sheep. The flock of Karakul sheep on the experimental farm Neudamm is perhaps the largest and most valuable in South Africa. It is from this branch of farming, if conducted on scientific lines, that great development may be expected. This, and the northern portion of the country, is ideal for cattle farming. It is covered with bush and trees, which afford shade for stock in summer and shelter from the cold winds in winter. The climate is good, and there is a plentiful supply of various grasses, the majority of which are sweet, nourishing, and drought-resisting, so that, when once the unlimited supply of underground water is tapped by boring, the country is destined in all probability to become the finest cattle-ranching portion of South Africa. In addition to this, it is remarkably free from stock-diseases and tick-borne pests, so that the dipping of live stock is unnecessary.

The common diseases affecting stock are horse-sickness (during certain seasons only and mostly confined to the northern districts), and dourine in horses (which is, however, not common in this territory, and is being rapidly eliminated); anthrax and blackquarter in cattle; and scab, wire-worm and, at times, blue-tongue, amongst sheep.

The German Government encouraged horse-breeding, and established a number of studs, but the tendency now is to take up cattle farming, as this has been found to be the more profitable. In this connection it may be mentioned that the Government assisted the farmer by introducing pure-bred cattle from Europe, with very beneficial results, as it was found that the imported breeds readily acclimatized, thrived as well as the indigenous stock, and matured more quickly. This accounts for the fact that the class of cattle as a whole is of a superior grade.

Ostrich farming may now be regarded as non-existent. In 1911 the late German Government established an ostrich-breeding farm at Otjituesu, about 35 miles from Windhoek. The original stock, comprising 23 breeding birds, was obtained from the Cape Province, and a Cape farmer was appointed manager. In 1913 there were 132 birds on the farm; but during the recent hostilities these escaped, and have since become wild—a fact which possibly accounts for the splendid plumage occasionally seen on wild birds in this part. The territory as a whole may be regarded as the home of the wild ostrich.

**3. Statistics.**—Not including farms on the White Nosop River (Gobabis district), the following figures give the results of an agricultural census taken in 1921 :—

## LIVE STOCK IN SOUTH-WEST AFRICA, 1921.

Cattle.....	464,306	Woolled Sheep.....	66,051
Horses.....	28,973	Other Sheep.....	981,182
Mules and Donkeys.....	26,789	Angora Goats.....	20,000
Camels.....	355	Other Goats.....	851,000
Pigs (approximately).....	15,540		

Approximately 20,000 oxen and 60,000 sheep were exported to the Union during the year 1921.

**4. Forest Resources.**—Strictly speaking, there are no forests in the country; nor has any forestry been undertaken by the late Government on such a scale as to call for remark. Belts of *Camel Thorn* are to be found throughout the territory north of Rehoboth, whilst north of Grootfontein, *Tambootie* and *Syringa* grow in large patches, and west thereof *Mapani* predominates. South of the River Huab, in the District of Outjo, large numbers of *Camel Thorn* grow, whilst north of this river broad strips of *Mapani* are to be found. In the District of Gobabis are strips of *Camel Thorn*, and along the water courses *White Thorn* grows profusely, whilst the sand dunes are thickly studded with *Yellow Wood*. Besides all these above-mentioned, and in the areas referred to, are to be found *Marula*, *Dolf*, *Deurmekaar*, *Wild Fig*, *Wild Orange*, *Olijvenhout*, *Ebony*, and other varieties, all of which could be turned to good account in making mining props, furniture, wagon parts, and for other purposes. The German Government seems to have contented itself with establishing experiment gardens for exotic trees at various centres, and these supplied official and private requirements. These trees were of the decorative sort, and comprised *Blue Gums*, *Pepper*, *Pine*, *Prosopis*, and *Jucaranda*.

**5. Fisheries.**—The fishing industry in the territory, with the exception of whaling, has not yet been exploited. With regard to the supply of fresh fish, the distance from the coast to any markets of consequence would presumably deter any outlay of capital in exploiting this industry. There are, however, a considerable number of crayfish in the vicinity of Luderitz, and negotiations are in progress with a view to the erection of a cannery there. During the last four years, several cutters engaged in catching *Snoek* have made their headquarters at Walvis Bay, and although no statistics are available, it is known that they have met with considerable success, and have made large profits. The fish is dried and sent to Cape Town for disposal. Before the war, well-equipped whaling stations were established at Walvis Bay and Luderitz; but all operations were stopped at the commencement of the war, and have not been renewed since.

## § 11. Mines.

**1. Exploration.**—The territory was but little explored up to the middle of the last century. Before this time, setting aside the activities of the missionary Von Schmelten (referred to in Section 1), only the English traveller Alexander had penetrated (in 1836-37) as far as the lower and middle Kuisib River, which for a long time afterwards remained unvisited by any European. Later on, the explorations of Galton and Chapman in 1866, and of the Swedish hunter Anderssen in 1855, extended the information then to be had regarding the Protectorate. Missionaries, English traders, and hunters afterwards entered the Protectorate, and there is no doubt that during their travels they searched for mineral deposits. This fact is proved by the number of English names borne by mines mentioned on the older maps of the country, e.g. the Sinclair Mine (North and South), the Stanley Mine, the Campbell Mine, the Palgrave Mine, the Matchless Mine, the Hope Mine, the Pot Mine, and the Ebony Mine.

**2. Mining Companies.**—As soon as some appreciable information of the country was gained, capital from the Cape Colony, as well as from the former Republics of the Transvaal and the Orange Free State, was invested in prospecting and exploring work in the territory. Companies such as the Matchless Estate and Mining Association, the Kharaskhoma Syndicate (now South African Territories, Ltd.), the Great Western Syndicate, the Otjomakoko Gold Mining Company, the Omaruru Gold Mining and Exploration Company (I. W. Stanley), the Great Oasis Syndicate, the Great Namaqualand Exploration Company, and the Walvis Bay Copper Company, were formed. In addition, a few German concerns, viz., the Lilienthal Syndicate, the Deutsch Afrikanische Minen-Gesellschaft, and others commenced working.

At the time of, and since, the annexation of the country by Germany, the greater part of it was held by large companies holding concessions in regard to mining rights.

These were :—

- (1) The Deutsche Kolonial-Gesellschaft in the west, along the coast from the Orange River to the southern boundary of the Kaokoveld, the Ugab River;
- (2) The Kaokoland-und Minen-Gesellschaft, from the Ugab River to the northern border (Kunene River);
- (3) The South African Territories, Ltd., in the south-east, i.e. the areas of the Hottentot tribes known as the Bondelswartz, Veldschoendragers, and the Zwartmodders.
- (4) The Hansatische Minengesellschaft in the centre of the country, i.e. the area of the Rehoboth Bastards and of the Khauas-Hottentots;
- (5) The South-West Africa Company, Ltd., with their offshoots, the Otavi Mines and Railway Company and the Otavi Exploring Syndicate, Ltd., in the north, in Damaraland, and Amboland.

Only in a few stretches between the areas held by the companies were the mining rights held by the Government.

Some of these companies did not permit any prospecting, while others allowed prospecting only under difficult conditions. Only in 1908 the Deutsche Kolonial-Gesellschaft, and in 1912 the others, with the exception of the South-West Africa Company, accepted the Imperial Mining Ordinance of 1905, and granted general freedom of prospecting and mining in their respective areas. It can be understood that, owing to the want of uniformity of mining laws, the opening up of the mineral resources was greatly hampered throughout the territory. Further impediments arose through the various native rebellions, and the Herero War, which lasted from 1904 to 1907. In November, 1920, the mining rights of these companies were cancelled and the provisions of the Imperial Mining Ordinance of 8th August, 1905, as amended by Proclamation No. 24 of 12th December, 1919, were applied without modification or restriction throughout the whole territory.

Whilst in the Union many official mining geologists, private geologists, and skilled miners have done valuable exploring and prospecting work for decades, not much could be done in the territory in this direction, as it was only since 1907 that two official geologists were employed. In addition, there was not the right stamp of skilled prospector. Owing to the barren and waterless nature of large portions of the country, such as the Namib desert, parts of the Kaokoveld, the Caprivi-ziipfel, the Sandveld, and the Kalahari, vast areas have not been prospected at all. Nevertheless, comparatively speaking, a great deal of prospecting has been done, and encouraging results have been obtained, particularly in regard to copper (with zinc and lead), diamonds, tin, vanadium, and marble.

**3. Copper.**—Copper can be traced throughout the whole country, from the Orange River in the south to the Grootfontein District in the north. It has been worked on a large scale only in the vicinity of Grootfontein and Tsumeb. This district was at one time held by the Hereros, a pastoral tribe of the Bantu race, who allowed the Ovambos to come from the north and work the copper deposits. In other areas, also, copper ores appear to have been extracted in early days by natives of unknown race. Similarly at Otjosonjati, in the centre of the Herero-land, heaps of slags of smelted copper ores were found beneath the roots of old camelthorn trees.

Not much later than 1852, when copper ore commenced to be exported from Springbokfontein, similar ores began to be exported from the territory. In the sixties of the last century, the Walvis Bay Copper Company extracted the very rich copper ores from the Matchless Mine (which penetrated down to water-level), south-west of Windhoek, and sent them via Walvis Bay to England.

Only one company, the Otavi Minen-und-Eisenbahn Gesellschaft, produces copper at present. This company is working the mines at Tsumeb, Asis and Guchab, all of which are in the Grootfontein district. The output amounted to 72,642 tons in 1921, and averaged 13 per cent. copper, 23 per cent. lead, 6 per cent. zinc, and 6 ounces per ton silver. Lower grade ores are smelted on the property, the resultant copper lead matte having an average content of 50 per cent. copper. The Otavi Exploring Syndicate, Ltd., of Grootfontein, holds several small copper mines, but has recently restricted its operations to the exploitation of vanadium ores. The Khan mine, which lies in the valley of the Khan, one of the tributaries of the Swakop river, has been elaborately equipped with plant, and fairly well developed. It produced for some time during the war, but had to be closed down in the beginning of 1918, owing to the fall in the price of copper and the increase in working costs.

Many other copper mines, such as Otjosonjati, Gorob, Matchless, Pot, Sinclair, Ehless and Ida have been worked, and in some cases under adverse circumstances. Possibly they will be re-started if the price of copper rises and market conditions improve.

The copper ore exported in recent years was as follows:—

#### EXPORTS OF COPPER ORE, 1918 TO 1921.

MINES.	1918.		1919.		1920.		1921.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Tons.	£	Tons.	£	Tons.	£
Otavi-Minen- und Eisenbahn-Gesellschaft, Tsumeb....	7,358	132,444	6,400	115,200	30,511	183,066	42,644	255,864
Otavi Exploring Syndicate, Limited, Grootfontein.....	100·1	4,800	206	9,888	80	3,204	—	—
Khan - Kupfergrube, Khan.....	111	5,550	—	—	—	—	—	—

**4. Diamonds.**—In the early days of the German annexation, pipes were discovered at Gibeon, Berseba, Maltshohc and Keetmanshoop, Great Bruckaros, Hanaus, Groendorn, Amalia, Freistadt, and Rietkuil, which were exploited by prospectors without result. Rumours of occasional finds of diamonds, as when a native was supposed to have found a stone of 2½ carats near Berseba, and three small stones at Amkub, 55 miles W.S.W. of Gibeon, induced German capital to invest in the formation of a company to exploit the pipes. The Gibeon Schürff and Handelsgesellschaft obtained a concession for the exclusive right to prove the pipes in the Gibeon, Berseba, and Kub areas. This concession was abandoned, and in June, 1909, the areas were thrown open for pegging. The pipes were prospected systematically. The concentrates contained garnet, eclogite, diopside, ilmenite, olivine, augite, mica, diallage, zircon, bronzite, and enstatite. The work of the company in testing the blue ground proved it to be Kimberlite; but, unfortunately, the main constituent, viz., the diamond, was absent.

In May, 1908, a few small diamonds were found near the railway at Kolmanskop station. Further investigation showed that there were very extensive marine and eluvial or residuary deposits in narrow strips along the coast from Bogenfels, south of Luderitz, to Conception Bay (south of Walvis Bay), all of which carried diamonds. Several companies were floated, and up to the commencement of the war diamonds to the value of about £8,500,000 were obtained by them. At the end of 1915, nine of the companies were allowed to resume work, subject to some restrictions. These companies, with their 1918 and 1919 production in metric carats, are shown in the following table:—

#### DIAMOND PRODUCTION, 1918 AND 1919.

	1918.	1919.
	Carats.	Carats.
Pomona Diamanten Gesellschaft.....	136,065	187,964
Koloniale Bergbau-Gesellschaft M.B.H.....	79,552	110,041
Deutsche Diamanten Gesellschaft.....	63,945	73,188
Kolmanskop Diamond Mines, Ltd.....	43,293	43,685
Vereinigte Diamant Minen A.G.....	25,199	24,262
Diamanten A-Lien-Gesellschaft.....	10,499	9,696
Diamanten Abbau-Gesellschaft.....	6,041	7,816
Luderitzbichter Bergbau Gesellschaft.....	4,680	1,149
Bahnfelder Diamant Gesellschaft.....	2,805	1,095
South-West Diamonds, Ltd.....	—	3,284
<b>TOTAL.....</b>	<b>372,139</b>	<b>462,180</b>

The yearly output and value of diamonds from South-West Africa during the period from 1909 up to the end of 1921 was as follows:—

## PRODUCTION AND VALUE OF DIAMONDS, 1909 TO 1921.

Year.	Diamonds Received (Carats).	No. of Diamonds per Carat.	Diamonds Sold (Carats).	Price Realized per Carat.	Total Value.
1909-10.....	560,977	5·0	560,977	s. 29·83	£ 836,000
1910-11.....	798,865	5·75	798,865	26·775	1,069,000
1911-12.....	816,296	6·5	816,296	25·602	1,045,000
1912-13.....	959,965	6·09	902,157	29·36	1,324,500
1913-14.....	1,570,000	4·97	1,284,727	42·01	2,698,500
1914, April to end of July.....	438,980	—	438,980	—	} 1,565,322 (estimated)
			57,808	(unsold in 1912-13.)	
			285,873	(Unsold in 1913-14.)	
1914, August to British Occupation.....	75,000	(Seitz Diamon ds.)	74,040	112·3	415,652
1915, October to end of year (Pomona only).....	13,409	3·59	13,409	50·7*	34,033
1916.....	144,920	5·02	144,920	45·3*	328,224
1917.....	364,761	5·56	364,761	45·7*	834,314
1918.....	372,139	6·02	372,139	59·*	749,000
1919.....	462,180	5·33	462,180	90·9	2,081,863
1920.....	606,672	5·17	230,751	138·60	1,599,849
1921.....	171,183	6·8	122,885†	81·58	492,511

\* Value estimated by L. Herz.

† Part of 1920 production.

5. **Tin.**—Tin ore (cassiterite) was discovered in 1908. German prospectors were the first in the field, but did not get much support locally or in Germany. They then applied to the Cape, where various syndicates were floated to explore the claims. The Anglo-German Tins, Ltd., the De Beers Company, the Ameib Tin Company, the Tin Lands, Ltd., the South-West Africa Co., Ltd., the Otavi Exploring Syndicate, the Kolonial and Handelsbank, and the Hanseatische Minengesellschaft acquired claims from a number of small prospectors. The surface area is considerable. The largest area stretches east and south-west from the (granite) mountains of the Erongo, along the line Otjimbojo-Okawayo-Etiro-Onguati-Amein-Davib to Spitzkop. There is a second area to the west of Okombahe (Nomtsaub, Aubinhonis, Neineis), and a third to the east of the Brand mountains.

The extraction of tin from alluvial gravels and detritus has been attended with fair success over considerable areas, in spite of the very wasteful methods of recovery adopted. The very low price of the metal has considerably damped enthusiasm and enterprise for the time, but with improved conditions a large advance in production from this source may be confidently anticipated. The all-important question is that of the possible value of the innumerable tin-bearing pegmatite lodes that traverse the above areas. Most of these would undoubtedly prove quite unpayable under any circumstances, but it is hoped that some of the remainder when properly developed and tested will be found to provide the basis of a permanent tin industry. Some of the later discoveries such as those around the Paukwab mountain and in the Erongo mountain are considered particularly promising.

The following was the output from the year 1915:—

## EXPORTS OF TIN ORE, 1915 TO 1921.

Year.	Quantity.	Value.	Year.	Quantity.	Value.
	Tons.	£		Tons.	£
1915.....	7·8	685	1919.....	113·5	20,370
1916.....	28	3,333	1920.....	166	33,200
1917.....	94·3	12,518	1921.....	104·4	10,950
1918.....	74·2	11,130			

6. **Marble.**—Between Swakopmund and Karibib extensive occurrences of marble are met with, which will be of increased value now that a direct route has been opened to the Union. White and coloured marble in fine quality is being quarried at Karibib by the Africa Marmor Kolonial Gesellschaft. Machinery has been erected, and railway connection with Karibib has been opened. The stone should be greatly sought after for architectural purposes. It can also be used to a large extent by furniture makers. The marble will not, however, be of any use for statuary work. The value of the exports from 1911 to 1913 amounted to £2,512. In 1914, up to 30th June, 600 tons, to the value of £4,000, were exported. Since the outbreak of the war, no export has taken place.

The occurrence of a beautiful white greenish onyx-marble has been noted in a ravine of the Guchab-East-Mountain in the Otavi Valley. It has not yet been tested as regards payability.

7. **Gold.**—Gold ores have been discovered at many places in the territory, but so far they have not proved to be payable. At Ubib, Husab, Kunjas, the Chuos Mountains, Ussis, Henderson Mine, Elers Mine on Aukab Farm, Buchholzbrunn, Churutabia, Kl. Kharras Mountains, Heirachabis, Kanus, Albrechts, Komandibmund, Spitzkop, near Rehoboth and Kuibis, prospecting for gold has taken place during the years preceding the war, but without satisfactory results. At Chorichas and Choabendus (Kaokoveld) the indications were considered such as to make it advisable to continue investigations. These were interrupted by the war. South of the Otavi Valley, quartz-conglomerates have been discovered, alleged to be similar to the Rand gold quartzes, and to belong to the same geological species. At Swartmodder and Natas (Rehoboth District), pegmatite veins have been found bearing scheelite and gold, the main value, however, being the scheelite.

8. **Coal.**—As the stretch of country between the Fish River in the territory and the eastern boundary is very similar in its formation to the Karroo formation in the Union, where remunerative coal beds are found, the late German Government reserved an area of 14,000 square miles near Gibeon in which prospecting for coal was forbidden. The Government, in order to test this area in a more thorough manner than a private undertaking would be able to do, sank a borehole of 374 metres at which depth the rods got jammed. This obstruction had not been removed when hostilities commenced in 1914. The section of the borehole at Witbovyley, east of Gibeon, showed:—

Up to 80 metres	blue clay shale,
Then to 80.35	oil shale,
"    300	mostly blue shale, sometimes grey sandstone,
"    312-320	hard conglomerate (Dwyka),
"    325-374	blue clay shale.

Fissure coal is found in the Fish River sandstones near Itravis in veins a few inches in width. The veins range in width from a few millimetres up to 75 centimetres, but the greatest width of solid coal so far struck does not exceed 25 centimetres. The material is considered to represent a carbonized asphalt.

9. **Iron.**—Extensive iron deposits are found in various parts of the territory, but owing to the distance of these occurrences from the coast and the railway, their exploitation would not prove profitable. The chief deposits have been located in the Kaokoveld. The ore here is said to contain 60 per cent. of iron, and to be free from substances which render smelting difficult. At Kalkfeld, a branch line from the Karibib-Omaruru Railway was laid to facilitate tapping an ore deposit there. The mine was worked by the Otavi Minen-und-Eisenbahn-Gesellschaft, which used the ore at Tsumeb in the smelting works for fluxing the lead-copper ores. The Kalkfeld Mine has not been restarted since the occupation.

10. **Vanadium.**—Ores of this metal have been opened up in the Grootfontein District, and the export of these is becoming of increasing importance. An output of 650 tons was obtained in 1921. There appears to be rather a wide distribution of the metal, but the valuable concentrations which are found in so-called "sand sacks" and larger cavities in the dolomite have nowhere been found to extend to any very great size.

11. **Other Minerals and Metals.**—Apart from the deposits already mentioned, a variety of minerals have been located throughout this territory; but in the majority of cases the prospector has merely registered the find in the Mining Office, and has not proceeded to prove the value of the discovery. Metals under this head and their location are as follows:—

- Apatite—Near Haijamkhab and Rössing (Swakopmund).
- Asbestos (Tremolite)—At Pforte and Karibib; Serpentine, near K.M. 15 of the Otavi Railway.
- Beryl (Heliador aqua-marine)—Near Rössing and Donkerhoek (Swakopmund District), and in pegmatite veins in the Namib.
- Corundum—Ariams and Khomas Mountains.
- Cobalt, nickel—Areb, near Rehoboth.
- Haematite (see also iron)—Fransfontein (Kaokoland and Mining Company boundary) and Schweikhardt's Brunn, 28 miles n. of the water place Ganas Okawa, and other places in the Kaoko territory: large deposits.
- Iron (see also Haematite)—Various places in the Kaokoveld, Garub Mountain, near station Garub, west of Kaukausib (District Luderitz), large deposits in the Namib between Luderitz and Swakopmund.
- Limestone—Near Okahandja, Okakango.
- Lead (Galena)—Duwisib, Kleinfontein South, Aiais (S.A. Territories).
- Mica—Rössing and Welwitsch, near Swakopmund.
- Monazite—Small traces around Erongo Mountains, together with wolframite and tantalite, and in various tin fields.

**Mottramite**—Near Tsumeb, Bobos, and Otavi Valley, and at Nosib and Rietfontein, near Grootfontein.

**Molybdenite (minor deposits)**—Near Otjozonzati, Okamuvia, Khan Mine, etc.

**Nickel and Cobalt**—Areb, near Rehoboth.

**Oil**—Found in bituminous shales in boreholes (for coal, see paragraph 8) in the District Gibeon. An assay of this oil by Dr. R. Marloth, of Cape Town, on 10th February, 1914, gives :—

	Per cent.		Per cent.
Mineral oil (extracted by chloroform)	24.14	Ash.....	37.20
Insoluble coaly substance.....	36.46	Moisture.....	2.12

**Rock Salt**—At the Kuisib River, District Swakopmund.

**Rose Quartz**—Near Rössing, Swakopmund.

**Scheelite**—Natas Mine, Windhoek, and Rehoboth boundary.

**Salt**—Etoscha Pan, and surrounding smaller pans, Aminuis Pan, Gobabia, etc.

**Silver**—The Tsumeb copper and lead ores, in Galena near Duwisib (Maltahoehc) and near Karibib.

**Tantalite and Columbite**—Donkerhoek, District Swakopmund, and in various tin fields.

**Topaz**—Many places in the Namib between Erongo Mountains and the coast, in pegmatite lodes, in eluvial and alluvial deposits.

**Tourmalines (green and red)**—Karibib District.

**Uranium**—Traces at the Ida Mine, Swakopmund District.

**Wolframite**—Ida Mine, Pforte, in various tin fields, South African Territories land near Klein Kharras.

**Zinc**—Khan Copper Mine, Tsumeb Mine.

**12. Mineral Laws of the Territory.**—The mining law in force in the territory is the Imperial Mining Ordinance of the 8th August, 1905, as amended by Proclamation No. 24 of 1919. The Ordinance applies to the following precious metals :—

Gold, silver, and platinum, both in their native state and as ores ;

Precious stones ;

All metals not mentioned above, in their native state and as ores ;

Mica, semi-precious stones, and asbestos ;

Coal, salts, and valuable earths, for example :

(a) Coal, brown coal and graphite ;

(b) Bituminous substances in solid, liquid, or gaseous state, especially petroleum and asphalt ;

(c) Rock salt, including other salts found in deposits of this nature, and the brine springs ;

(d) Earths which can be made use of on account of their sulphur contents and for the production of alum, sulphates, and saltpetre ;

(e) Phosphates (organic and inorganic) and guano.

(i) *Prospecting Claims.*—Prospecting is permitted practically over the whole country, where the Ordinance is in force, with the exception of the following places : public roads, public places, railways, burial places, and on all properties where, in the opinion of the Mines Department, it is not in the public interest to allow prospecting. The Mines Department also decides the distances from springs and other sources of water within which prospecting is not allowed. No prospecting is permitted under buildings and within 50 metres of these, nor in gardens and enclosed yards, unless both owner and user of the property give their sanction. The size of a precious mineral prospecting claim is 200 × 400 metres, and a base metal claim 600 × 1,200 metres, the claims being rectangular in shape.

No person may prospect in any district unless in possession of a prospecting licence issued by the magistrate of such district. The charge for this licence is 2s. 6d. for each month or part of a month of the period for which the licence was issued. When a claim has been pegged, notice must be given as soon as possible to the Mines Department, the maximum time allowed between the pegging and the notification being four weeks. At the same time, prospecting fees, fixed at 10s. per month for each precious mineral and 5s. for each base mineral claim, must be paid for six months in advance, similar payments being continued to be paid in advance for corresponding periods as long as the claims are held.

(ii) *Mining Claims.*—Mining is permitted only on mining claims. Every prospecting claim can be converted into a mining claim upon application after being properly surveyed and beaconsed off. The mining claim must have the shape of a rectangle, and must fall within the boundaries of the prospecting claim, the length not exceeding five times the width of the claim. Before conversion into a mining claim takes place, a survey record is issued by the Mines Department, to which a sketch is attached. After certain formalities have been gone through (such as due publication, etc.), the conversion of a prospecting claim into a mining claim takes place. Mining must be commenced within two years of the granting of the title.



(iii) *Taxes*.—The taxes on a mining claim consist of licence moneys and a royalty. The licence money for a precious metal claim is thirty shillings per hectare per annum, and for a base metal claim one mark per hectare per annum, but not less than thirty shillings per annum. The mining tax or royalty is 2 per cent. of the gross value of the minerals at the shaft head before treatment.

The diamond tax was regulated by an Imperial Decree on the 30th December, 1912, by which the tax was fixed to be 66 per cent. of the value of diamonds, less 70 per cent. of the working expenses.

(iv) *Compensation*.—When mining on private land, the miner may be compelled to purchase the ground in case it is deteriorating in value owing to the mining operations. In any case he has to make good any damage caused. The landowner receives one-quarter of the royalty mentioned above.

## § 12. Manufacturing Industries.

1. *Manufacturing Industries*.—The following table gives particulars regarding manufacturing establishments in South-West Africa in 1921:—

Heading.	Stone, Clay, Earthenware, and Glass.	Work- ing in Wood.	Metal, Engi- neering Ma- chinery, and Cutlery Works.	Food, Drink, Condi- ments, and Tobacco.	Vehi- cles.	Building and Con- tracting.	Other Manu- factur- ing Pro- cesses.	Total.
Number of Establishments	9	5	17	40	11	16	14	112
Value of Land and Buildings.....£	26,955	5,525	30,122	95,065	12,575	19,445	83,710	273,907
Value of Machinery, Plant, and Tools.....£	4,975	1,590	11,755	43,175	5,118	2,570	97,645	166,828
Number of Employees—								
White.....	15	9	54	99	34	51	79	341
Other.....	156	5	48	188	30	98	83	608
<b>TOTAL.....</b>	<b>171</b>	<b>14</b>	<b>102</b>	<b>287</b>	<b>64</b>	<b>149</b>	<b>162</b>	<b>949</b>
Salaries and Wages Paid to Employees—								
White.....£	2,348	1,528	12,361	22,933	6,524	8,001	28,090	81,785
Other.....£	3,332	312	2,044	7,499	1,285	3,281	5,611	23,964
<b>TOTAL.....£</b>	<b>5,680</b>	<b>1,840</b>	<b>14,405</b>	<b>30,432</b>	<b>7,809</b>	<b>11,282</b>	<b>33,701</b>	<b>105,149</b>
Horse-power of Engines and Motors.....h.p.	20	42	88	657	49	12	3,701	4,665
Cost of Fuel, Light, and Power.....£	1,208	232	2,179	11,642	818	90	21,926	38,095
Value of Materials used—								
South African.....£	3,500	410	1,976	45,450	5,383	*	1,339	† 58,067
Imported.....£	843	14,870	4,872	24,354	3,490	*	15,095	† 63,524
<b>TOTAL.....£</b>	<b>4,343</b>	<b>15,280</b>	<b>6,848</b>	<b>69,813</b>	<b>8,873</b>	<b>14,350</b>	<b>16,434</b>	<b>135,941</b>
Value of Output—								
Articles Produced.....£	11,745	20,565	1,415	136,175	2,765	2,400	103,322	278,327
Other Work Done.....£	—	505	31,335	—	17,251	35,980	8,298	93,369
<b>TOTAL.....£</b>	<b>11,745</b>	<b>21,010</b>	<b>32,750</b>	<b>136,175</b>	<b>20,016</b>	<b>38,380</b>	<b>111,620</b>	<b>371,696</b>
Value Added to Materials by Process of Manufacture or Treatment.....£	7,402	5,730	25,902	66,362	11,143	24,030	95,186	235,755

\* Separate details not generally available.

† Excluding building and contracting.

### § 13. Commerce.

1. **Trade.**—Before the annexation by Germany, the bulk of the trade of the territory went to the Cape Colony through Walvis Bay in the west, Raman's Drift in the south, and Rietfontein in the east. Inland, it was in the hands of Cape traders, who established depots at various centres, from which they took trips in different directions, bartering their goods with the natives for cattle, ivory, ostrich feathers, and other spoils of the chase. In addition to these were others, who brought across from the Cape through Rietfontein numbers of horses, which they exchanged for cattle at a profit which seems almost incredible, inasmuch as upwards of ten head of cattle were sometimes given for a mare; whilst their activities in fostering transactions in arms and ammunition may possibly account for the ceaseless tribal warfare that existed in those days.

With the advent of the German missionary came German competitors for this trade, and when eventually annexation took place, a policy of exclusion was adopted as far as foreigners were concerned.

The following tables give particulars regarding the trade between South-West Africa and the Union since 1910:—

#### VALUE OF IMPORTS FROM UNION, 1910 TO 1921.

YEAR.	IMPORTS INTO SOUTH-WEST AFRICA FROM UNION.			EXPORTS FROM SOUTH-WEST AFRICA TO UNION (excluding diamonds).
	South African Produce.	Imported Goods Re-exported.	Total.	
	£	£	£	£
1910.....	118,626	93,386	212,012	4,855
1911.....	121,256	73,293	194,549	1,513
1912.....	80,660	49,772	130,432	3,687
1913.....	96,659	44,869	141,028	7,554
1914.....	45,618	24,505	70,123	3,015
1915.....	190,606	244,877	435,483	12,158
1916.....	358,280	585,392	943,661	63,414
1917.....	378,352	682,772	1,061,124	49,784
1918.....	446,398	586,136	1,031,534	46,506
1919.....	449,915	985,201	1,435,116	447,627
1920.....	645,084	1,144,280	1,789,364	428,946
1921.....	371,937	487,349	859,326	303,246

The value of diamonds exported from South-West Africa has fluctuated considerably as will be seen from the tables given under the head of "Mines."

The only other export of note is live stock. Until the latter part of 1918 the border was closed and the export of cattle to the Union was prohibited. This enabled the flocks and herds to recover from the losses caused by the campaign. The figures for recent years have been as follows:—

#### NUMBER OF LIVE STOCK EXPORTED TO UNION.

	1919.	1920.	1921.
Cattle.....	17,266	16,397	19,000
Small stock.....	89,161	109,063	59,500

The drought materially affected the number of animals which were fit for slaughter during the latter part of 1921.

2. **Customs and Excise.**—The territory was not subject to the German Imperial Customs Regulations, but had its own Customs tariff of 1908, which was amended from time to time. Broadly speaking, foodstuffs entered the country from Germany free of duty, and continued to do so, until eventually the farming community, under the erroneous belief that it could supply the requirements of the population in regard to butter, sugar, and tobacco, secured the imposition of a protective duty upon these commodities. Its aspirations were not realized, as the sugar industry was never developed, the tobacco supply was never equal to the demand, and the transport and other unfavourable conditions militated against a regular supply of butter. The collection of Customs, Excise, and Licence duties was controlled by the Director of Customs, whose chief officers were stationed at Windhoek, Swakopmund, Luderitz, and Keetmanshoop, and who had minor officials stationed in various places throughout the territory and along its borders. In comparison with the Union tariff, the German rate was lower, and the number of dutiable articles was much

less, so that living was considerably cheaper than across the border. The estimated revenue under the head of Customs in 1913-14 and 1914-15 was:—

REVENUE	1913-14.	1914-15.
	£	£
Import duties.....	115,000	100,000
Export duties.....	50	50
Sundry Revenue.....	1,650	1,500
<b>TOTAL.....£</b>	<b>116,700</b>	<b>101,550</b>

Excise duty was levied on beer and brandy, and assessed as follows:—  
On beers containing not more than 2 per

cent. of alcohol.....	3 pfennig per litre.
Lager beers .....	5 pfennig per litre.
Brandy distilled from imported material..	3 marks per litre up to 30,000 litres, and a graduated increase in accordance with the quantity distilled.
Brandy distilled entirely from the products of the country	The graduated rates as above, reduced by 1 mark in each case.

Since the British occupation, the distillation of brandy at Osona and Klein Windhoek has ceased. There are now breweries at Windhoek and Swakopmund. A revenue of £5,000 per annum may be expected from beer excise.

In terms of the provisions of Act No. 35 of 1921 (Union of South Africa) the mandated territory of South-West Africa is regarded for the purposes of the collection of customs and excise duties as part of the Union, and all customs and excise laws of the Union are applicable to the territory. The duties collected are paid into the Consolidated Revenue Fund of the Union, out of which fund is to be paid annually towards the cost of the administration of the territory a sum which shall approximate to the customs and excise duties paid on goods consumed in such territory after deducting therefrom a sum equivalent to the said duties on goods removed from the said territory for consumption in the Union. It is estimated that the revenue from this source should reach at least £100,000 per annum.

#### § 14. Harbours.

1. **Luderitz.**—This harbour is 485 miles from Cape Town. There is a well sheltered harbour, with good anchorage, and the port possesses the usual facilities for dealing with traffic. It owes its prosperity as a seaport to the discovery of diamonds in 1908 in the adjacent Kolmanskop and Pomona districts. Whilst a steady port trade has been maintained, no development has taken place since the British occupation. It was used as a base by the Southern Army.

2. **Walvis Bay.**—This port is situated in the small enclave of British territory retained when Germany annexed South-West Africa. It is distant 735 miles from Cape Town, and 20 miles south of Swakopmund. Walvis Bay was never developed, and served only as a detached Magistracy and Police Post for the protection of British interests.

The port has a natural and well-sheltered harbour, and its advantage over the German port of Swakopmund for the landing of troops and stores brought it into prominence as the northern base of operations. Swakopmund has since been permanently closed as a port, and the whole of the landing and shipping work transferred to Walvis Bay.

Considerable development has taken place here, and warehouses, engine sheds, dwelling-houses, etc., have been erected; whilst additional temporary wharfs have been run out, and improved and extended goods and station yards provided. A new township has also been surveyed; but the future of the port naturally depends on many factors,—principally, whether it will be used by the great regular lines of steamers plying to South Africa, for the shipment of chilled meat,\* for which it has an ideal climate, and also the extent to which a mineral export trade may be developed.

\* Under an agreement between the Administration and the Imperial Cold Storage Company, Ltd., made in October, 1922, provision was made for the establishment of refrigerating works at Walvis Bay, with the object of initiating a meat export trade on a considerable scale.

By Act No. 24 of 1922 Walvis Bay is administered as an integral part of South-West Africa, the change being effected on the 1st October, 1922.

### § 15. Railways and Roads.

1. **German Railway System.**—Immediately prior to the outbreak of hostilities the railway system in the territory then known as German South-West Africa comprised the following:—

<i>State Railways</i> —	Miles.	Chains.
(a) Broad Gauge:		
Karibib to Keetmanshoop.....	432	4
Luderitz to Keetmanshoop.....	226	51
Seeheim to Kalkfontein.....	111	44
(b) Narrow Gauge:		
Swakopmund to Karibib.....	121	—
*Swakopmund to Tsumeb, with extension Onguati to Karibib.....	362	40
*Otavi to Grootfontein.....	57	—
†Otjiwarongo to Outjo (incomplete).....	21	76
Kalkfeld to Iron Mine.....	6	66
Rehoboth Station to Village.....	7	54
TOTAL.....	1,347	15
<i>Private Lines</i> —		
Narrow Gauge:		
Kolmanskop to Bogenfels.....	74	—
Arandis to Khan Copper Mine.....	6	60
Karibib to Marble Quarry.....	7	46
Otavi Mining Co.....	9	54
TOTAL.....	98	—
GRAND TOTAL.....	1,445	15

These railways were constructed at varying intervals between 1903 and 1915, the first construction being that of the Otavi Railway Co. in 1903.

2. **Railway Extension.**—When the invasion by the Union military forces became imminent, the German Command pulled up the section of the State railway line from Swakopmund to Rossing—approximately 25 miles across the Namib desert—with a view to retarding the advance of the Union troops, and during the whole of the campaign an immense amount of damage was done to the permanent way and bridges throughout the country by the German troops in their retreat before General Botha's forces.

The work of connecting the Union railway system with the German terminus at Kalkfontein (South), with a view to expediting the advance of the Union forces and securing direct lines of communication, was rapidly pushed forward, and the whole of the line from Prieska to Kalkfontein—a distance of 315½ miles—was completed between September, 1914, and June, 1915, including a delay of about four months owing to floods, which prevented the construction of the Orange River bridge.

A short line was also run by the Northern Force from Walvis Bay (British) to Swakopmund—20 miles 2 chains—and the Otavi Company's line from Swakopmund was converted from 2' gauge to 3' 6" to Karibib by the Railway Engineers Corps, thus ensuring a standard gauge from Walvis Bay throughout the conquered territory to the Union.

The remainder of the 2' gauge German State Railway from Rossing to Karibib, which had been left intact by the enemy, was pulled up shortly after the cessation of hostilities by the Union railway authorities.

3. **Organization under Union Railway Management.**—In August, 1915, the whole of the railway system was taken over by the South African Railway Administration; the staff, under a Director of Railways, being organized as a military unit and controlling all railways in conquered territory with the exception of the privately owned railways above

\* Constructed and worked by the Otavi Railway Co. until 1913, when the German State Government bought out the Company. † Commenced after the outbreak of the war and work continued until April, 1915.

mentioned. In addition, the control of the Director extends over the Union sections Swakopmund (border) to Walvis Bay and Nakop (border) to De Aar, as detailed below :—

Union Lines—	Miles.	Chains.
Broad Gauge :		
Walvis Bay to Swakopmund Border.....	20	2
De Aar to Nakop Border.....	343	54
	363	56
<i>South-West Territory Lines—</i>		
Broad Gauge :		
Nakop (border) to Swakopmund.....	770	44
Seeheim Junction to Luderitz.....	197	52
Narrow Gauge :		
Krantzberg to Teumeb and Grootfontein.....	308	28
Ongusti to Karibib.....	8	73
Rehoboth Station to Village.....	7	54
Otjiwarongo to Outjo (incomplete).....	45	73
Kalkfeld to Iron Mine.....	6	66
	1,345	70
TOTAL.....	1,709	46

At the outset the task of making good the large amount of damage occasioned by the war had to be undertaken in order to secure a regular supply of foodstuffs and stores for the British garrison troops and German population. Temporary repairs to buildings, bridges, and track were speedily carried out, and within a very short period a regular passenger and goods service was established with the Union. The estimated damage suffered by the railway system amounted to approximately £350,000, but, owing to shortage of material and men, the work of permanently restoring the damage has been very materially retarded, and only about £114,000 of permanent reconstruction work has thus far been completed, whilst approximately £25,000 has been expended in new and additional works, such as quarters for staff, buildings, machinery, etc.

No actual development of the railways in regard to construction of feeder lines, etc., could be undertaken until the destiny of the country was finally decided upon, and until the known mineral resources of the territory were properly exploited and developed. It is anticipated that some time must elapse before any steps can be taken in this direction.

Commercially, some activity has been manifest in live stock traffic, and a very firm business established in slaughter stock to the Union during the past two years, necessitating the provision of additional facilities at the principal loading depots for handling the traffic.

Owing to the paucity of the population and distance from suitable markets, very little, if any, development in agriculture has been undertaken. Small quantities of skins, hides, and wool are dispatched to the Union, and an increasing demand for a very good quality of marble from the Karibib quarries has been observed.

In terms of Act No. 20 of 1922, the South-West Africa railways became part of the Union system, both as regards administration and financial organization.

**4. Roads.**—At the time of the annexation of the country by the German Government it was fairly well served with roads. There were two main roads running inland from the south. One crossed the Orange River at Scndling's Drift, passed over the sandy belt to Aus, where it was joined by a road from Luderitz, and ran northward through Malta-höhe to Nomsas. There it divided, a branch going westward to Walvis Bay, and another northward through Rehoboth to Windhoek. The other road crossed the river at Raman's Drift, and passed through Warmbad and Kanus to Keetmanshoop. It was joined there by a road from Upington through Nakob, Ukamas, Davignab and Khais, and another from Rietfontein through Hasuur. From Keetmanshoop it continued through Berseba and Gibeon to Rehoboth. Another important trading route was that passing through Rietfontein and running northward through Koes and Gochas to Stamprietfontein, where it branched to the left, going through Rehoboth almost due west to Walvis Bay, and to the right through Gobabis as far as Epukiro. From Windhoek, one road went east through Osona, Otjimbingue and Haigamchab to Walvis Bay; another east through Seeis and Gobabis to Lake N'Gami; and a third northwards to Okahandja, where it divided, and the left branch ran through Omaruru, Outjo, Okahandja, to Ovamboland and Portuguese territory, whilst the right went through Waterberg to Grootfontein. There were, of course, minor roads which connected up these main routes.

In 1909, local government was granted to the different districts in the territory, and this enabled each district to elect a council, one of the chief duties of which was the maintenance and control of the district roads. These roads were maintained from funds

provided by the Government. Roads within a municipal area were under the control of the municipality, which had the power of levying an income tax from the proceeds of which such roads were maintained. In addition to the proceeds of this tax, revenue from dog licences and from other sources was available for the maintenance of municipal roads. Roads other than the two classes above mentioned were those usually connecting one farm with another, and were called communication roads. They were made and maintained by private enterprise.

Along district roads an outspan place of 494 acres in extent was provided at intervals of every 20 miles, whilst travellers were entitled to grazing for 500 metres on each side of it. If the road passed through private property the owner of which refused to allow any outspanning thereon, he was bound to place notices to that effect at the spots where the road entered his property. Numerous other provisions relating to roads are contained in the Road Ordinance of 1912.

### § 16. Posts, Telegraphs, and Telephones.

The number of Post and Telegraph Offices open at 31st March, 1922, was 83. The private bag services have increased to 77. There are 25 Money Order and Savings Bank Offices.

Post, telegraph, and telephone facilities are identical with those prevailing within the Union of South Africa, with the exception that postal draft business is not undertaken by the Administration.

The rates of postage are the same as those in force in the Union, having been raised from 1½d. per unit to 2d. as from 1st June, 1921.

The oversea rate of postage on parcel post traffic is threepence per unit in excess of Union rates.

Telegraph charges were increased from 10th May, 1920, in order to preserve uniformity with the rates in force in the Union.

The cable tariff is threepence per word on ordinary and three half-pence on deferred traffic in excess of Union rates.

The Union Act, No. 10 of 1911, has not been applied to South-West Africa.

The financial progress of the Department may be deduced from the statement of Expenditure and Revenue set forth hereunder:—

Year	Expenditure.	Postal Revenue.	Customs Collections on Parcels and Sale Revenue Stamps.
	£	£	£
*1915-16.....	14,527	11,056	219
1916-17.....	34,788	21,316	1,171
1917-18.....	28,303	24,117	2,449
1918-19.....	30,429	26,397	2,769
1919-20.....	32,001	32,508	15,610
1920-21.....	48,961	42,637	12,021
1921-22.....	52,101	41,403	20,828

2. **Postal Traffic.**—The traffic under the various classes of postal business may be gauged from the subjoined tables:—

#### POSTAL STATISTICS, 1915 TO 1921.

Year.	Posted.	Transit.	Received.
	No.	No.	No.
1915.....	1,662,180	577,096	1,519,856
1916.....	2,059,772	967,876	2,299,128
1917.....	1,334,320	635,128	1,997,268
1918.....	1,693,692	739,076	2,039,284
1919.....	1,644,656	1,007,864	1,971,632
1920.....	2,017,600	936,780	2,770,364
1921.....	2,082,132	1,506,648	2,963,220

\* Six months, 1st September, 1915, to 31st March, 1916.

## PRIVATE BOXES RENTED AND UNLET.

Year.	Boxes Rented.	Boxes Unlet.
1915.....	294	1,011
1916.....	499	806
1917.....	521	652
1918.....	535	638
1919.....	552	710
1920.....	712	560
1921.....	875	429
1922.....	884	480

3. **Savings Banks.**—In order to furnish Savings Bank facilities—the Union Post Office Act, No. 10 of 1911, being inoperative—Proclamation No. 8 of 30th June, 1918, made provision for Post Office Savings Bank business as from 1st July, 1918, with transfers at par between the Union of South Africa, the United Kingdom, Southern Rhodesia, India, and the Province of Mozambique.

The interest on Savings Bank deposits is  $3\frac{1}{2}$  per cent. per annum. The maximum sum which a depositor may bank is £1,000, exclusive of interest. Further facilities were arranged from the 1st November, 1918, whereby the territory and the Union arranged to accept deposits and withdrawals on behalf of each Administration, and to encash circular warrants.

## SAVINGS BANK ACCOUNTS, 1916 TO 1922.

Year.	Opened.	Closed.	Remaining Open at End of Year.	Deposits.	Withdrawals during Year.	Amount Due to Depositors.
1916.....	596	127	469	£ 19,086	£ 5,853	£ 13,232
1917.....	868	657	680	31,833	27,824	17,241
1918.....	598	510	768	26,935	21,754	22,422
1919 (Jan. to March)...	127	86	809	8,323	6,423	24,323
1919-20.....	478	436	851	25,223	28,320	21,225
1920-21.....	383	286	948	26,894	23,333	24,785
1921-22.....	314	243	1,019	22,373	24,586	22,573

4. **Money and Postal Orders.**—Money Order facilities were introduced on the 1st January, 1917, and extended to all countries embraced in the Universal Postal Union, with the exception of disturbed portions of Europe.

The rates of commission are:—

For South-West Africa and the Union, 6d. per unit of £4.

For Rhodesia and Province of Mozambique, 9d. per unit of £4.

For payment elsewhere, 1s. per unit of £4.

## MONEY ORDER ISSUES AND PAYMENTS.

PERIOD.	ISSUES.		PAYMENTS.	
	No.	Amount.	No.	Amount.
		£		£
1917 (July to December)....	8,452	67,523	3,186	30,811
1918.....	9,270	68,886	3,669	34,684
1919 (January to March)...	2,483	20,556	1,034	10,587
1919-20.....	10,285	85,747	4,673	48,145
1920-21.....	12,091	102,186	4,722	52,924
1921-22.....	13,797	100,864	6,103	55,584

## POSTAL ORDER SALES AND PAYMENTS.

PERIOD.	ISSUES.		PAYMENTS.	
	No.	Amount.	No.	Amount.
		£		£
1916 (April to December)...	*	38,472	*	7,645
1917.....	33,902	20,918	9,314	5,831
1918.....	25,897	15,803	8,068	4,973
1919 (January to March)...	6,726	3,596	2,645	1,543
1919-20.....	26,449	14,993	9,334	5,898
1920-21.....	26,818	16,239	10,044	5,782
1921-22.....	27,539	16,854	11,178	6,280

5. **Telegraphs.**—The mileage of telegraph lines and routes is as follows:—Railway routes, 1,031½ miles; other routes, 1,585 miles.

The work of overhauling all routes existing prior to the war has been completed.

The transfer of the road lines between Windhoek and Keetmanshoop, passing through the villages of Gibeon and Rehoboth, a distance of 308 miles, was commenced in 1922. This will provide trunking facilities from the south to Windhoek and materially reduce maintenance costs.

The telegraphic traffic is shown as hereunder:—

## TELEGRAPH TRAFFIC, 1915 TO 1922.

Year.	Total Forward.	Transmitted.	Received.	Total Dealt With.
1915.....	146,165	298,220	148,344	592,729
1916.....	192,157	268,204	173,954	634,315
1917.....	177,052	321,243	159,420	657,715
1918.....	159,426	295,018	141,825	596,269
1919 (January to March).....	35,326	68,318	32,086	135,730
1919-20.....	195,685	349,080	176,287	721,052
1920-21.....	187,274	347,952	171,934	706,620
1921-22.....	150,441	277,588	139,234	567,263

Year.	Paid Value.	Railway Traffic.	Government Traffic.	Total.
	£	£	£	£
1915.....	5,337	1,391	8,953	15,681
1916.....	9,251	2,252	6,888	18,391
1917.....	9,998	720	4,043	14,767
1918.....	10,052	130	2,955	13,137
1919 (January to March).....	2,222	41	660	2,923
1919-20.....	13,145	129	4,329	17,603
1920-21.....	15,426	154	2,492	18,072
1921-22.....	12,398	140	1,999	14,537



## CABLE TRAFFIC, 1915 TO 1922.

Year.	Number of Messages.	Paid Value.
1915.....	—	£ 3·8
1916.....	408	802
1917.....	331	726
1918.....	354	586
1919 (January to March)...	110	214
1919-20.....	2,333	4,661
1920-21.....	5,421	8,058
1921-22.....	4,597	5,485

6. **Telephones.**—German telephone rates in South-West Africa have not been disturbed. The present rates are :—

Business Connection.....	£10 0 0 per annum.
Residential.....	7 10 0 per annum.
Party Lines, per Subscriber.....	15 0 0 per annum.
Indoor Connections.....	5 0 0 per annum.
Outdoor Extensions, per 1 mile.....	1 5 0 per annum.
Trunk Tariff (Flat Rate).....	0 1 6 per conversation of three minutes.
Party or Rural Line where no pre-war contract exists	£10 for first connection within 1 mile radius. Extra mileage earth return, £3 per month. Extra mileage metallic circuit, £4 per month. £1 for each additional telephone.
Transfers.....	Indoor, in same room, 7s. 6d. Indoor, room to room, 15s. Outdoor, £2.

The party line rental is £15 per annum irrespective of the number of participants or the distance.

The exchange systems at Swakopmund, Omaruru, Okahandja, Grootfontein, and Tsumeb have been reconstructed.

## TELEPHONES, 1915 TO 1922.

Year.	Exchange Connections.	Extensions.
1915.....	No. 175	No. 13
1916.....	311	101
1917.....	417	100
1918.....	459	113
1919.....	462	128
1920 (31st March).....	554	139
1921 (31st March).....	663	154
1922 (31st March).....	615	150

7. **Wireless Telegraphs.**—The re-establishment of a coastal wireless station has been sanctioned. The selection of a suitable site is still under consideration. The Windhoek station remains out of commission. Long-distance reception tests have been carried out with fairly satisfactory results. Particular attention has been concentrated on the reception from Leafield and Cairo. The results with Cairo are fairly good, but unsatisfactory with Leafield. The traffic passing between Sandwich Islands, California, Tuckerton, Long Island, Annapolis, Bordeaux, Rome, Nauens, and Carnarvon is observed daily for a period of twelve hours with very little interruption.

## § 17. Finance.

1. **Public Revenue.**—The principal source of revenue in the territory is that derived from the tax on the diamond mines at Luderitz. The assessment of this tax has been completed in the terms of the German law, which provides, broadly, that the Government receives 66 per cent. of the gross proceeds realized by the sale of diamonds, less 70 per cent. of the working costs. The next largest item of revenue is that collected under the head of Posts and Telegraphs. Customs revenue has been collected in the Union; and some classes of land revenue remain uncollected for reasons connected with the military occupation of the country.

The revenue collections as published during the period of military occupation cannot be accepted as a basis for statistical records, as sums are included which would be more correctly classified as recoveries in respect of military expenditure. The total Revenue collected from August, 1915, to March, 1920, was £1,236,957. Particulars are given hereunder of Revenue received during this period:—

## REVENUE, AUGUST, 1915, TO MARCH, 1921.

DESCRIPTION.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Excise.....	1,820	4,500	6,028	5,149	9,927	4,889
Customs.....	†	4,900	4,207	1,480	75,233	121,630
Posts and Telegraphs.....	106	10,218	22,980	25,884	32,508	42,687
Mining*.....	39	206	206	275,701	367,308	1,201,382
Licences.....	46	3,624	8,172	8,640	9,070	13,366
Stamp Duties and Fees.....	546	1,174	2,049	2,513	15,076	10,542
Estates and Transfer Duties....	†	156	223	191	1,438	3,433
Native Taxes.....	†	24	1,142	812	1,815	3,388
Land Revenue.....	243	3,941	13,911	17,130	18,536	15,770
Rents of Government Property.....	213	789	1,045	1,779	2,637	3,928
Departmental Receipts.....	8,913	44,509	13,806	15,185	34,487	12,565
Fines and Forfeitures.....	3,801	7,861	8,657	8,516	6,930	4,670
Sale of Crown Lands.....	122	1,162	2,204	2,144	20,096	27,847
Forest Revenue.....	40	30	170	124	—	375
Miscellaneous.....	1,455	8,194	9,612	11,801	48,423	124,244
<b>TOTAL.....£</b>	<b>29,604</b>	<b>91,328</b>	<b>95,102</b>	<b>377,049</b>	<b>643,484</b>	<b>1,601,216</b>

\* Diamond Tax to end of 1917 only has been assessed. † Details not available. Included in total.

2. **Public Expenditure.**—The main item of expenditure to 31st March, 1920, was that on the Garrison, which included the Police Force, and amounted to £2,421,817 from August, 1915, to March, 1920. All other heads of Administrative expenditure for the same period together amounted to £618,197, making a combined total of £3,039,814. The total expenditure to 31st March, 1921, was £4,205,778.

Particulars are given hereunder as to expenditure since August, 1915:—

## EXPENDITURE, AUGUST, 1915, TO MARCH, 1921.

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Administration.....	8,119	15,294	12,327	20,016	30,090	288,954
Native Affairs.....	5,602	*31,521	7,899	10,996	8,738	12,426
Education.....	470	8,184	12,012	13,399	17,993	34,900
Mines.....	168	174	261	301	2,279	4,858
Justice.....	8,210	13,812	13,148	17,501	20,560	50,185
Prisons.....	1,853	3,836	5,891	4,938	9,120	20,520
Customs and Excise.....	424	465	33	153	788	1,735
Posts and Telegraphs.....	9,720	13,045	19,283	21,614	33,363	49,427
Public Works †.....	23,671	41,615	27,489	27,542	44,082	138,580
Agriculture.....	3,172	3,002	3,666	8,833	17,559	27,832
Garrison.....	152,674	580,744	547,943	619,054	621,202	22,748
Audit.....	—	—	—	—	—	1,536
Irrigation.....	—	—	—	—	—	41,606
Lands, Deeds, and Surveys....	—	—	—	—	—	37,015
Public Health.....	—	—	—	—	—	16,521
S.W.A. Police.....	—	—	—	—	—	180,518
<b>Ordinary Expenditure...£</b>	<b>219,080</b>	<b>714,192</b>	<b>650,052</b>	<b>744,407</b>	<b>712,074</b>	<b>929,379</b>
<b>Capital Expenditure...£</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>236,585</b>
<b>TOTAL.....£</b>	<b>219,080</b>	<b>714,192</b>	<b>650,052</b>	<b>744,407</b>	<b>712,074</b>	<b>1,165,964</b>

\* Includes Ovamboland expedition.

† Also includes Irrigation to 1919-20.

**3. Financial Organization.**—The territory under the German Government had not reached the independent stage of British self-governing colonies. The Landessrath was merely an advisory body, and all Fiscal Edicts were issued by the Governor. The estimates of Revenue and Expenditure prepared in the territory required the sanction of the Imperial Reichstag. The supervision of the Imperial Government was held to be justified on the grounds that Imperial grants were made annually to the Protectorate, although these grants merely approximated the cost of the military establishment. The Imperial Government guaranteed the loans issued for the purpose of building railways. The control of all revenue and expenditure, including that of the Railways, but excluding Post and Telegraph Revenue, was exercised by the *Finanz Referent* under the Governor. The Post and Telegraph Department was a branch of the Imperial Department, and quite distinct from the Protectorate Administration. Certain Revenues were assigned by the Governor to Municipal and District Councils. These included Dog Tax, Liquor, Bar, Hotel, and Trade Licences. The local authorities were also empowered to raise funds for local purposes by means of an Income Tax.

After the British occupation, changes were made to bring the administration into line with the administration of the Union, but no fundamental changes were made in the taxation laws. The Administration was financed by grants from the Union War Loan Vote to March, 1920. Since that date the Administration has been financed from revenue raised in the territory. The Railways were taken over and financed by the Railways and Harbours Department of the Union; but the German tariff of charges was retained.

The Municipal Councils continued to exist, and the German practice of assigned revenues was followed by the British Administration. The District Councils were abolished.

Generally, the revenues payable under the German laws have been collected and utilized in part payment of the cost of administration. The Customs revenues have been collected and retained in the Union; but from the 1st April, 1919, these were credited to the territory. The Union Treasury was authorized to exercise financial control in the territory.

The provisions of the Exchequer and Audit Act, 1911, of the Union of South Africa were applied to South-West Africa as from the 1st April, 1921. The financial regulations framed under the Act were also applied as far as they could be made applicable, and financial regulations to meet local requirements were also issued.

**4. Banking Facilities.**—Immediately after the occupation the National Bank and the Standard Bank of South Africa both established branches in the territory. These institutions have branches in all the larger towns. The German banks continued to carry on their business. The principal one is the Deutsche-Afrika Bank, with branches at Windhoek, Swakopmund, and Luderitz.

The remaining German banks are more correctly described as mortgage banks and co-operative farmers' associations, and operate on a very small scale. They consist of the Genossenschafts at Windhoek, the Spar and Darlehens Kasse at Gibeon, the Nord Bank at Omaruru, and the Bodenkredit Gesellschaft (later the Commercial Bank of South Africa, Ltd.), with branches at Windhoek, Luderitz, and Swakopmund.

PART II.

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THE SOUTH AFRICAN HIGH COMMISSION,  
BASUTOLAND,  
BECHUANALAND PROTECTORATE,  
AND  
SWAZILAND.



## INTRODUCTORY.

### SOUTH AFRICAN HIGH COMMISSION.

1. **The Office of High Commissioner.**—The Office of High Commissioner in and for South Africa was created by Letters Patent in 1878. In 1879 a second High Commissioner was appointed, to whom was assigned South-Eastern Africa, including Zululand and Amatzongaland; but this arrangement ceased in 1881, when a Special Commissioner for Zulu affairs was appointed, who was also Governor of Natal (which now includes Zululand and Amatzongaland). The High Commissioner for South Africa, who, under the Commission of 1889, was the officer for the time being administering the Government of the Cape, represents the Crown in all matters occurring in South Africa beyond the limits of the Union. He was, till 1899, charged with the conduct of British relations with the South African Republic (Transvaal) and the Orange Free State, as well as those with native states and tribes outside the Colonies of the Cape and Natal, including Swaziland, which was administered by the Government of the South African Republic under the Convention of 1894.

The High Commissioner is Governor of Basutoland, supervises the affairs of the Bechuanaland Protectorate and of Swaziland, and exercises the control provided by Order-in-Council over the Administration of the British South Africa Company in Southern and Northern Rhodesia. The Southern Rhodesia Order-in-Council, 1898, and the Northern Rhodesia Order-in-Council, 1911, provide respectively for a control by the High Commissioner over legislation, important appointments, and native affairs in Southern and Northern Rhodesia, and for the appointment of a Resident Commissioner, who is paid from Imperial funds and acts as the local representative of the High Commissioner and the Imperial Government. The office of High Commissioner, which was formerly held by the Governor of Cape Colony, was, by a Commission dated the 6th October, 1900, vested in Lord Milner; by a similar Commission, dated the 15th March, 1905, in Lord Selborne; by a Commission, dated the 30th March, 1910, in Lord Gladstone; by a Commission, dated the 14th May, 1914, in Lord Buxton; and by a Commission, dated the 5th August, 1920, in Major-General His Royal Highness Prince Arthur of Connaught, K.G., P.C., K.T., G.C.M.G., G.C.V.O., C.B., A.D.C., who is also Governor-General of the Union of South Africa.

2. **Principal Officers.**—The following is a list of the principal officers on the staff of the High Commissioner. Their salaries are paid out of Imperial funds.

#### STAFF OF HIGH COMMISSIONER.

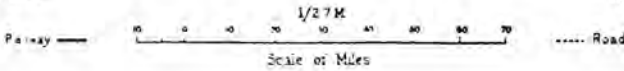
Imperial Secretary and Accountant....	H. J. Stanley, C.M.G.
Assistant Imperial Secretary.....	C. L. O'Brien Dutton.
Chief Clerk.....	Shirley Eales.
Auditor.....	A. Warren.

# BASUTOLAND



G.S. CD. 1.15 Ref No 170

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## CHAPTER I.

## BASUTOLAND.

## § 1. History.

1. **Origin.**—The Basuto appear to have been composed of the remnants of several tribes which were broken up in the wars waged by Moselikatze, the King of the Matabele, in the early years of the last century. These remnants were united in about 1818 under Moshesh, a chief of great ability, who ruled for many years. In 1852 war broke out between Moshesh and the British Government; the Basuto were defeated by Sir G. Cathcart at the battle of the Berea Mountain, and Moshesh sent in his submission and made peace. A few years later, in 1856, disputes arose between Moshesh and the Orange Free State respecting boundary questions, and hostilities resulted which lasted from 1856 to 1858, with indecisive results, and were concluded by the *Treaty of Aliwal*, 1858. Collisions nevertheless frequently recurred.

In 1865 the war broke out afresh, and Moshesh again claimed the protection of the Governor, Sir Philip Wodehouse. He declined to interpose actively, but dispatched a British Commissioner to Thaba Bosigo, the capital of Basutoland, to settle the difficulties. This measure met with little success, and in the end the Boers were successful, and Moshesh sued for peace. At the Treaty of Thaba Bosigo, April, 1866, he recognized the permanent cession of a portion of his district and acknowledged himself a subject of the Orange Free State.

The peace was of short duration, the war was renewed, and the Basuto, pressed by the Boers, were on the brink of destruction, when they again appealed to be taken under the authority of the Queen. In January, 1868, Sir Philip Wodehouse received authority to recognize Moshesh and his tribe as British subjects, and for the incorporation of their territory. This was carried into effect by a proclamation dated 12th March, 1868, and the event is now commemorated by observing this date as a public holiday, known as *Mosheshoe's Day*.

2. **Annexation to the Cape Colony.**—The country remained in a very unsettled condition until it was annexed to the Cape Colony by an Act of the Cape Legislature, No. 12 of 1871. The Act expressly declared that Basutoland was not to be subject to the general law of the Colony, and gave the Governor power to legislate for it by proclamation, and to extend to it by proclamation any Cape Act not otherwise in force therein.

The subsequent history of Basutoland was one of much trouble and disturbance.

In March, 1879, Moirosi, the chief of the Quthing district, in the south-east of Basutoland, rescued from justice his son, Doda, who had been arrested for horse-stealing. When the Colonial authorities demanded his surrender, Moirosi broke out into open defiance. Owing to the great natural strength of his country and stronghold, considerable difficulty was experienced in subduing him; but in December of that year his stronghold was carried by storm, and he himself fell in the assault. The proposals of the Colonial Government to divide the territory occupied by the adherents of this chief into lots for occupation by European settlers gave rise to great discontent among the Basuto who had remained loyal. This discontent was further increased by the extension to Basutoland of the Cape *Peace Preservation Act* of 1878, providing for a general disarmament. This was effected by proclamation in April, 1880, and culminated in the revolt of almost the whole tribe when an attempt was made to put the Act in force. The rebellion spread to the native territories east and south of Basutoland, East Griqualand, Tambookieland, and the Ponomisi, where the rising was signalized by the treacherous murder of Mr. Hope, the Magistrate, and other Europeans.

Strenuous efforts were made by the Colony to reduce the Basuto to submission by force of arms, but without decisive success, though the loss of their cattle and the interruption of cultivation caused great distress amongst them. Early in 1881 overtures for an arrangement were made by the leading chiefs, and, at the instance of Her Majesty's Government, the High Commissioner acted as arbiter between the Colonial Government and the Basuto.



The terms of his award were the registration of arms, the payment of compensation to those natives who had remained loyal by the tribe, and also the payment of a fine of 5000 head of cattle. The award was accepted by the Basuto and the fine paid; but little was done towards fulfilling the other conditions. The Colonial Ministry, with a view to facilitating a settlement, cancelled the award and induced the Cape Parliament to assume the burden of compensating the loyals. The *Disarmament Proclamation* was also repealed, and at a Pitso held on the 24th of April, 1883, a very liberal constitution was offered to the Basuto. Masupha, however, the chief of the Berea district, with several other chiefs of influence, held aloof and practically declared their intention to have no further connection with the Colonial Government. The tribe generally was understood to wish to be under the direct authority of the Imperial Government.

**3. Disannexation from the Cape.**—In the meantime a strong feeling in favour of the entire abandonment of Basutoland had grown up in the Colony, and at the request of the Colonial Ministry the Imperial Government decided to undertake for a time the administration of the country on condition that satisfactory evidence was given by the Basuto of their desire to remain under the British Crown, that the Orange Free State should undertake to cause the frontier to be respected by its subjects, and that the Colony should pay over towards the cost of administration the Customs duties received on goods imported into Basutoland. This offer was accepted by the Colony, and provision was made in the *Basutoland Disannexation Act*, 1883, for the payment of £20,000 a year. The Orange Free State also intimated its willingness to comply with the conditions so far as it was concerned.

A great national Pitso of the Basuto was held on the 29th of November, 1883, attended by the representatives of more than two-thirds of the whole tribe, who unanimously expressed their willingness to comply with the conditions on which the Imperial Government was prepared to assume the responsibility of the administration of the country. Several important chiefs who were not at the Pitso subsequently expressed their concurrence in this resolution. Masupha alone refused to accept the offers of the Government, and expressed the desire to remain independent. Her Majesty's Government upon this decided that their conditions were sufficiently complied with, advised the Queen to sanction the *Disannexation Act*, and took steps for carrying on the government under the immediate authority of the Crown from the 13th March, 1884. Masupha tendered his submission in 1886, and asked for a magistrate to be resident in his district.

## § 2. Description.

**1. Physical Features.**—Basutoland forms an irregular oval within the Union of South Africa; the main axis, about 150 miles in length, lying in a north-easterly direction. The Orange Free State Province, Natal and the Cape Province form its boundaries. Its area is 11,716 square miles, or nearly as large as Belgium.

It lies between 29 and 30 degrees south lat., and between 27 and 28 degrees east long.

A portion of the great Drakensberg range of mountains forms the eastern boundary of Basutoland. Peaks in this range rise to heights of eleven and twelve thousand feet. Westward the country is occupied by the Malutis, mountains inferior in height to the Drakensberg. They form a jumbled mass so closely packed that the valleys are of the narrowest, and there is little ground which can be cultivated. It is only along the western border that mountains give place to hills and the cultivation of larger portions of land becomes possible.

**2. Meteorology.**—The range of temperature is approximately from a maximum of 93° F. to a minimum of 11° F. The average rainfall is 30 inches.

## § 3. Administration.

**1. Central and District Administration.**—The territory is now governed by a Resident Commissioner under the direction of the High Commissioner for South Africa, the latter possessing the legislative authority, which is exercised by proclamation.

The chiefs adjudicate on cases between natives, with a right of appeal to the Magistrates' Courts, where all cases between the natives and Europeans are brought.

For fiscal and other purposes the country is divided into seven districts, namely, Maseru, Leribe, Molale's Hoek, Berea, Mafeteng, Quthing, and Qacha's Nek. Each of the districts is sub-divided into wards, presided over by hereditary chiefs allied to the Moshesh family.

2. **Basutoland Council.**—There is a Basutoland Council consisting of a hundred members, all natives, ninety-five being nominated by the chiefs and five by the Government. The Council is consultative and advisory, and deals chiefly with the domestic affairs of the nation. It has no executive powers.

3. **Principal Officers.**—The following list gives particulars of the principal officers on the establishment :—

Resident Commissioner : Lieut.-Col. Sir E. C. F. Garraway, K.C.M.G.  
 Deputy Resident Commissioner : John Pears Murray.  
 Government Secretary : Reginald Montagu Bosworth Smith.  
 Financial Secretary : Thomas Alfred Williams.

Assistant Commissioners :

Leribe District..... Edward D'Urban Blyth.  
 Mafeteng District..... Edward Hamilton Cole.  
 Berea District..... Llewelyn Griffith.  
 Mofale's Hoek District... Andrew T. Bond.  
 Quthing District..... James Hugh Sims.  
 Maseru District..... Frank Layton Ford.  
 Qacha's Nek District.... Frank Jenner.

Principal Medical Officer : Edward Charles Long, C.M.G.  
 Deputy Principal Medical Officer and Superintendent Leper Asylum :  
 Neil Morrison Macfarlane, M.D.

Medical Officers :

Leribe District..... Henry Edwardes Griffiths.  
 Mofale's Hoek District... William Robert Nattle.  
 Mafeteng District..... Harold Rundle Fitz Nattle.  
 Quthing District..... Emile Edouard Charles Vollet.  
 Qacha's Nek District.... John Wightman Stirling.  
 Maseru District..... Hamilton Dyke.

Principal Veterinary Surgeon : Frank Arthur Verney.  
 Director of Public Works : Harrison Wyatt Gibson.  
 Director of Education : Frederick Hugh Dutton, M.A.  
 Director Government Industrial School : H. R. Vimpany.  
 Comptroller of Stores : Stephen Bernard Dutton.  
 Agricultural Officer : Lawrence Ford Wachter.  
 Chief Clerk, Master of Court, and Registrar : Ernest Godfrey Dutton.  
 Accounting Clerk : Reginald Ernest Goodman.

Inspectors of Police :

Lockhart Clementi.		Thomas Brereton Kennan, M.C.
Hugh Ashton.		Douglas Walsham How (Staff Officer, B.M.P.).

Sub-Inspectors :

Francis Arthur Piers.		Ernest Edward Strong.
Rowland Webster Booth.		Reginald Seymour Balf.
Reginald Collier.		James Smith.
Douglas St. Pierre Bunbury.		Harry Alston Smith.

4. **Capital.**—The Capital town is Maseru, which is the headquarters of the Government. It is situated on the Caledon River 86 miles by rail east of Bloemfontein. The population in 1921 was given as 399 Europeans, 1,890 natives, and 30 other coloured persons.

§ 4. Population.

1. **General.**—Censuses of the population of Basutoland were taken in 1904, 1911, and 1921, simultaneously with censuses taken in other parts of South Africa. No census was, however, taken in 1918. The following tables give particulars of the population at the three censuses mentioned :—

## (i) POPULATION OF BASUTOLAND, 1904, 1911, AND 1921.

YEAR.	European.	NATIVE AND COLOURED.			Grand Total.
		Bantu.	Mixed and Other Coloured.	Total.	
1904—					
Male.....	520	163,216	137	163,853	163,873
Female.....	375	184,515	86	184,600	184,975
TOTAL.....	895	347,731	222	347,953	348,848
1911—					
Male.....	799	182,583	720*	183,303	184,102
Female.....	597	219,224	584*	219,808	220,405
TOTAL.....	1,396	401,807	1,304*	403,111	404,507
1921—					
Male.....	866	222,342	627†	222,969	223,835
Female.....	737	273,595	614†	274,209	274,946
TOTAL.....	1,603	495,937	1,241†	497,178	498,781

\* Including 8 males and 3 females, race not specified.

† Including 172 Asiatics—121 males, 51 females.

## (ii) POPULATION OF BASUTOLAND IN DISTRICTS, 1921.

DISTRICT.	EUROPEAN.			NATIVE AND COLOURED.*			GRAND TOTAL.
	Males.	Females.	Total.	Males.	Females.	Total.	
Leribe.....	142	118	260	46,484	61,521	108,005	108,265
Berea.....	78	54	132	24,195	32,615	56,810	56,942
Maseru.....	809	303	612	44,669	51,075	95,744	100,256
Maleteng.....	139	123	262	30,131	37,309	67,440	67,702
Mohale's Hoek.....	88	71	159	27,272	33,577	60,849	61,008
Quthing.....	68	47	115	17,533	20,014	37,547	38,202
Qacha's Nek.....	42	21	63	32,085	33,538	65,623	66,286
TOTAL.....	866	737	1,603	222,969	274,209	497,178	498,781

## (iii) DENSITY, ETC., OF POPULATION (OTHER THAN EUROPEAN) OF BASUTOLAND, 1904, 1911, AND 1921.

Description.	1904.	1911.	1921.
Number of persons to the square mile.....	29.70	34.41	42.44
Number of acres per head of the population.....	21.55	18.60	15.08
Number of occupied huts to the square mile.....	7.40	9.54	—
Number of persons to an occupied hut.....	4.01	3.61	—

## (iv) RELIGIONS OF BASUTOLAND POPULATION, 1921.

Religions.	European.	Bantu.	Other.	All Races.
<b>Christian—</b>				
French Protestant Church and Paris Evangelical Mission.....	53	66,883	272	67,208
Church of Rome.....	154	38,894	58	39,106
Anglican Communion.....	770	18,839	270	19,879
African Methodist Episcopal (including Ethiopian).....	—	6,181	—	6,181
Primitive Methodist.....	146	—	118	1,692
Wesleyan Methodist.....		1,428		
Dutch Churches.....	221	320	56	597
Presbyterian.....	190	—	14	204
Others.....	34	3,204	10	3,248
<b>TOTAL.....</b>	<b>1,568</b>	<b>135,749</b>	<b>798</b>	<b>138,115</b>
<b>Non-Christian—</b>				
Jewish.....	4	—	—	4
Hindu.....	—	—	14	14
Mohammedan.....	—	—	102	102
Other.....	—	—	6	6
<b>TOTAL.....</b>	<b>4</b>	<b>—</b>	<b>122</b>	<b>126</b>
No Religion.....	2	359,117	2	359,121
Unknown, Unspecified, and Indefinite.....	29	1,071	319	1,419
<b>GRAND TOTAL.....</b>	<b>1,603</b>	<b>495,937</b>	<b>1,241</b>	<b>498,781</b>

## § 5. Vital Statistics and Migration.

1. **Births, Deaths and Marriages.**—The registration of births is not compulsory. Registers are kept in District Offices, but are only made use of by Europeans. The registration of deaths is also not compulsory, and no statistics can be given under these two heads.

All Christian and Civil marriages are registered in the Office of the Government Secretary, Maseru. The following figures represent the number of marriages so registered during the years specified:—

**MARRIAGES REGISTERED IN BASUTOLAND.**

Year.....	1916	1917	1918	1919	1920	1921
Number.....	611	574	486	734	688	492

Most of the marriages among the natives are contracted according to native custom, the usual dowry of cattle being paid.

2. **Migration.**—There are no restrictions governing the entrance of Europeans into Basutoland, excepting under a recent proclamation whereby all *former enemy aliens* must first obtain a permit from the Government Secretary before they can enter the Territory. Every native entering or leaving the Territory must be in possession of an official pass.

## § 6. Public Health and Sanitation.

1. **Basutoland Medical Service.**—The Basutoland Medical Service, which supervises the public health and sanitation of the Territory, is organized on a departmental basis. Administration is in the hands of the Principal Medical Officer, who is responsible for all expenditure under the Medical Vote. The Leper Asylum is a separate department with a special vote.

In addition to public health and sanitation, the Medical Department administers the Government Hospitals and Dispensaries, and provides free medical attendance for all Government officials and their families. The hospitals and dispensaries were primarily

inaugurated to combat witchcraft, which was extensively practised when the present Administration took over Basutoland from the Cape Colony.

Beginning in 1885 with one medical officer and a so-called native hospital, which was little more than a couple of rooms, without nurses or proper furniture and appliances, the system has gradually developed, until now there are five Government Hospitals, which are well equipped on modern lines, and staffed, partly with trained European, and partly with native nurses. The Maseru Hospital is ranked as a Class I hospital by the Cape Medical Council. Each hospital has an out-patient department and dispensary, at which all Basutoland natives are treated at certain hours at a fee of 1s. for each attendance. Native in-patients pay nothing. A few beds are reserved for Europeans. Officials and their wives, when admitted to hospital, pay maintenance fees, which are based on a sliding scale; other European patients pay 15s. per diem.

All fees collected are paid into revenue. With the exception of these fees the whole cost of administration is borne by Government.

There is a Government Medical Officer for each district, and at some sub-stations there are private practitioners, who are paid at Cape District Surgeons' rates for attendance on officials and for medico-legal work.

#### BASUTOLAND HOSPITALS, 1921-22.

(a) Institutions and Staff—	Number	(b) Patients in 1921—	Number
Hospitals.....	5	In-patients.....	2,288
Beds.....	144	Out-patients.....	34,146
Medical Staff (all non-resident)	9	(c) Revenue and Expenditure in 1921-22.	
Nursing Staff—		Revenue.....	£ 2,055
European.....	15	Expenditure (including Salaries of Medical Staff).....	24,244
Native.....	31		
Clerks (European).....	1		
Native Dispensers and Assistants	9		
Other Native Employees.....	30		

2. **Control of Public Health and Sanitation.**—This is provided for under the Medical and Pharmacy Proclamation, No. 17 of 1921, and the Public Health Proclamation, No. 18 of 1921.

#### § 7. Education.

1. **General.**—The work of education in the Territory is carried out almost exclusively by the missionaries. In December, 1921, there were 451 elementary schools for native scholars, with 31,511 pupils on the roll, and six institutions with 690 pupils. The total average attendance in schools and institutions was 22,076. There is a Government Industrial School at Maseru, which was erected at a cost of approximately £10,000. Native youths are here instructed in carpentry, wagon-making, blacksmith's work, building and stone-cutting. There are seven European schools with a total of 133 scholars.

#### § 8. Labour and Wages.

1. **General.**—During the year ended 31st December, 1921, passes to leave the Territory were issued to 67,550 natives for the purpose of working on mines, farms, domestic and miscellaneous work. There is very little scope for labour in the Territory. Wages for road-making and general labour range from 1s. 3d. to 1s. 6d. per diem. The conditions governing the cost of living approximate those existing in the contiguous portions of the Orange Free State.

#### § 9. Administration of Justice.

1. **Administration of Justice.**—The Basutoland Courts of law consist (a) of the Resident Commissioner's Court, which constitutes the Supreme Court of Basutoland, and from which an appeal lies to the Privy Council; (b) Courts of Assistant Commissioners, who may inflict sentences not exceeding two years imprisonment with hard labour, or fines not exceeding £50, with civil jurisdiction up to £500.

The laws administered are the same as the Cape of Good Hope up to 18th March, 1884, until repealed or altered by proclamation of the High Commissioner, who is also empowered to make by proclamation such laws as may be necessary for the peace, order, and good government of the Territory. Native law, so far as it is not repugnant to European law, is administered by Basuto Chiefs and Headmen.

2. **Prisons.**—There are seven gaols and two lock-ups in the Territory, and regulations as to the government of prisons have been promulgated by High Commissioner's proclamation

3. **Police.**—The Basutoland Mounted Police consists of the Resident Commissioner, as Commanding Officer, four inspectors and ten sub-inspectors, one chief constable, five constables, and 298 native non-commissioned officers and privates. There are also forty-two special police, who are employed on the eastern and south-eastern borders in the prevention of stock theft and liquor running.

### § 10. Defence.

1. **Organization for Defence.**—During the late war 165 Europeans went on active service, and 1,397 natives were sent overseas with the South African Native Labour Contingent. Besides these, a number of natives went to South-West and East Africa as drivers, and in other capacities, but no record of them is obtainable.

2. **Special War Efforts.**—The chiefs and people contributed £50,026 towards Imperial War Funds. The sum of £19,093 was contributed to the different war relief funds by Europeans; and £2,861 by natives.

### § 11. Land and Agriculture.

1. **Land Settlement.**—There is no ownership or tenure of land in the Territory. Land is held under the communal system, and is apportioned to the people by the chiefs. There are no farmers in the country other than natives, the European population consisting mainly of Government officials, missionaries, traders, and labour agents.

No effort has as yet been made in the way of irrigation. The rivers are swift and generally flow between high banks. At the different Government stations a fair supply of good water is conveyed in pipes from fountains for domestic use.

2. **Agriculture.**—The principal agricultural and pastoral products are wool, mohair, wheat, maize, kaffir corn, cattle, sheep, and horses. The country is considerably overstocked at present. Efforts are being made by the Administration to improve the breed of horses by the introduction of good sires, the services of which are obtainable by the native for a nominal fee. Several thousand well-bred Merino rams were introduced some years ago, and distributed gratis among the native owners. This measure undoubtedly improved the wool, for which the Basuto obtain very good prices.

#### NUMBER OF LIVE STOCK AT CENSUSES OF 1904, 1911, AND 1921.

Year.	Cattle.	Horses.	Mules and Donkeys.	Sheep.	Goats.
1904.....	209,883	61,677	—	—	—
1911—					
Owned by Natives.....	432,748	86,610	1,307	1,363,680	987,009
Owned by Europeans.....	4,663	1,387	108	5,319	1,856
TOTAL.....	437,411	87,997	1,415	1,368,999	988,868
1921—					
Owned by Natives.....	574,415	152,325	6,284	1,854,420	804,257
Owned by Europeans..... (Villages only.)	6,251	1,408	300	5,286	1,101
TOTAL.....	580,666	153,733	6,584	1,859,712	805,358

3. **Forests.**—There are no forests, and there is very little indigenous wood. Government tree nurseries have been established, and endeavours are made to induce the natives to plant trees by supplying young trees free of cost. The land, however, is taken up for agriculture and pasture, and there is practically none to spare for forestry on any large scale.

4. **Mining and Industrial Activities.**—There are no mines in the Territory, and the chiefs and people are averse from prospecting of any kind. No industrial development has yet taken place.

## § 12. Commerce.

1. **Trade.**—There are 185 licensed traders in the territory who purchase the produce from the natives, and do a fairly large trade in blankets, clothing, prints, foodstuffs, etc.

2. **Imports and Exports.**—The following returns show the imports and exports for a series of years.

With regard to the imports, the values given in 1909 were oversea cost with the exception of colonial produce and manufactures. At present, however, the traders are only able to give the invoice cost of merchandise at the coast or wherever purchased.

The returns of exports hereunder were compiled from statistics furnished by the traders themselves; for, since the constitution of the Union of South Africa, Basutoland has received a certain proportion of the duties collected by the Union Government, and the usual customs statistics are no longer available. The last available statistics showed that in 1909 the total value of imports was £258,994, and of exports was £349,884. These figures have now been practically trebled. Wool and mohair represent the major portion of the increase in the exports; but a great proportion of the increase between 1909 and 1918 is due to the enhanced prices obtained for wool and mohair in recent years. Nevertheless these items alone show an increase in quantity of approximately 3,000,000 lb.

(i) **BASUTOLAND VALUE OF IMPORTS OF GENERAL MERCHANDISE, 1909 TO 1921.**

	1909.	1916.	1917.	1918.	1919.	1920.	1921.
Value.....£	258,994	660,979	901,332	882,339	1,069,303	1,219,388*	556,453†

\* Including Government imports, £38,401.

† Including Government imports, £37,503.

(ii) **BASUTOLAND.—QUANTITY AND VALUE OF EXPORTS, 1919 TO 1921.**

Description.	1919.		1920.		1921.	
	Quantity.	Value.	Quantity.	Value.	Quantity.	Value.
Horses and Mules.....No.	207	£ 2,687	270	2,784	449	3,005
Cattle.....	11,636	98,905	12,290	106,284	9,370	44,573
Sheep and Goats.....	240	291	2,155	2,022	6,357	3,657
Kafir Corn.....lb.	6,466,600	32,843	3,823,800	20,553	17,146*	8,563
Maize and Maize-Meal... "	10,426,800	44,911	5,750,800	21,352	43,478*	16,992
Wheat and Wheat-Meal... "	51,230,800	357,278	17,739,000	218,386	110,383*	152,762
Oats and Barley..... "	521,550	1,794	16,500	108	62*	43
Beans and Peas..... "	1,455,000	7,779	619,000	4,763	1,623*	1,800
Mohair..... "	2,245,749	213,039	2,250,741	112,358	2,330,006	63,756
Wool..... "	10,083,556	593,742	10,030,954	418,785	12,826,772	211,981
Hides..... "	196,251	11,684	210,960	9,090	60,215	899
Skins..... "	384,778	14,354	375,489	11,903	86,433	732
Miscellaneous..... "	—	752	—	1,450	—	1,685
<b>TOTAL VALUE OF EXPORTS £</b>	—	1,380,119	—	937,938	—	510,448

\* Bags.

## § 13. Railways, Roads, and Posts.

1. **Railways and Roads.**—There are no railways in Basutoland with the exception of one mile of the South African Railways which enters Basutoland at Maseru from the Orange Free State.

A good main road runs from Leribe in North Basutoland to Quthing in the south, connecting up all Government stations with the exception of Qacha's Nek, which is situated on the Drakensberg on the south-east border, and is only accessible to wheel traffic from East Griqualand. All the District stations lie on or near the border, and are connected by good roads with the nearest Union town or railway station.

The principal District stations after Maseru are: Leribe, about twelve miles from Ficksburg; Mafeteng, about sixteen miles from Wepener; and Mohale's Hoek, about thirty miles from Zastron.

Excepting the Orange River, at which there is a pont, all rivers of any size on the main road are bridged. The bridge over the Phuthiatsana or Little Caledon River, nine miles from Maseru, is deserving of notice, as being entirely of stone, and has one 80-ft. and two 40-ft. arches. The Caledon River, which forms the western and north-western borders, is bridged at Ficksburg near Leribe, Peka, and Maseru, the latter being a combined railway and road bridge.

**2. Posts, Telegraphs and Telephones.**—There are nine Post and Telegraph Offices, and a good many postal agencies. The postal service is administered by the Postmaster-General of the Union, and deposits and withdrawals may be made with the Union Post Office Savings Bank at these offices. All the District offices are connected from north to south by telephone. The system is principally used by the Administration, but is also available for public use.

**§ 14. Finance.**

**1. Revenue.**—The Territory is financially self-supporting, the principal sources of revenue being the Native Tax, Customs, and Licences. The following table shows the Revenue collected under the different heads during a series of years:—

**BASUTOLAND PUBLIC REVENUE, 1917-18 TO 1920-21.**

Description.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£
Native Tax.....	104,144	106,124	107,291	103,440
Customs.....	46,239	59,707	63,283	86,855
Post Office.....	5,615	5,823	6,678	7,890
Licences.....	7,098	7,373	7,632	7,813
Fees of Court or Office.....	617	766	812	1,330
Judicial Fines.....	2,684	2,769	4,118	4,119
Fees for services rendered.....	3,140	3,542	2,263	2,396
Interest.....	3,868	3,461	3,781	4,014
Miscellaneous.....	1,623	1,803	4,027	5,491
<b>TOTAL.....£</b>	<b>175,028</b>	<b>191,428</b>	<b>199,855</b>	<b>226,324</b>

**2. Expenditure.**—The principal items of expenditure are Establishments, Police, Public Works, Medical Services, Education, and the Leper Settlement. Although a considerable amount has been expended annually as "Capital expenditure," the balance of assets in excess of liabilities on the 31st March, 1921, amounted to £102,370. The following is a statement of the expenditure in detail during a series of years:—

**BASUTOLAND.—EXPENDITURE FROM PUBLIC FUNDS, 1917-18 TO 1920-21.**

Description.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£
Establishments.....	19,185	22,543	23,496	23,809
Police.....	25,312	26,992	28,574	40,425
Post Office.....	6,247	6,984	7,975	9,627
Allowances—Chiefs, Headmen.....	9,751	9,650	12,206	11,459
Administration of Justice.....	5,642	5,399	5,324	7,796
Public Works Department.....	2,593	2,905	3,073	3,687
Public Works Recurrent.....	21,573	22,439	24,102	32,296
Public Works Extraordinary.....	1,261	267	—	—
Medical.....	13,863	17,704	18,964	24,244
Education.....	20,453	21,953	23,892	26,745
Audit.....	598	635	659	693
Miscellaneous.....	2,723	3,736	8,046	6,270
Agriculture.....	6,033	5,183	6,285	9,970
Prevention of East Coast Fever.....	6,747	5,447	4,840	5,080
National Council.....	1,788	1,983	1,916	2,113
Pensions.....	4,528	4,703	4,676	6,348
Leper Settlement.....	15,094	18,824	17,384	25,802
Capital Expenditure.....	9,965	6,253	9,580	11,425
<b>TOTAL.....£</b>	<b>173,198</b>	<b>180,881</b>	<b>202,441</b>	<b>252,953</b>

**3. Banking.**—There are branches of the Standard Bank and National Bank at Maseru; and the Bloemfontein Board of Executors and Trust Company, Ltd., has opened a branch at the same place.





## CHAPTER II.

## BECHUANALAND PROTECTORATE.

## § 1. History.

1. **Proclamation of British Protectorate.**—During the year 1885 Sir Charles Warren, who was in command of an expedition dispatched from England to pacify Southern Bechuanaland, where for some time previously hostilities had been proceeding between the Bechuana and Boers from the South African Republic, visited the principal chiefs in Northern Bechuanaland (known as the *Bechuanaland Protectorate*), namely, Khama, Gaseitsiwe, and Sebele, and as a result a British Protectorate was proclaimed over their territories. No further steps were taken until the year 1891, when, by an Order-in-Council, dated 9th May, the limits of the Bechuanaland Protectorate were more clearly defined, and the High Commissioner for South Africa was authorized to appoint such officers as might appear to him to be necessary to provide for the administration of justice, the raising of revenue, and generally for the peace, order, and good government of all persons within the limits of the Order. Sir Sidney Shippard, the Administrator of Bechuanaland, was appointed Resident Commissioner. An Assistant Commissioner was also appointed for the Southern Protectorate and another for the Northern Protectorate, the laws in force in the Colony of the Cape of Good Hope on the 10th day of June, 1891, being declared in force in the territory, *mutatis mutandis*, and so far as not inapplicable. Subsequent legislation has been effected by proclamation of the High Commissioner.

2. **Relations with the British South Africa Company.**—For fiscal and other purposes the Protectorate was treated as a portion of the Crown Colony of British Bechuanaland until the 15th of November, 1895, when the latter was annexed to the Cape Colony. In the autumn of that year arrangements were made for the transfer of the administration of the Bechuanaland Protectorate, with the exception of certain reserves for native chiefs, to the *British South Africa Company*. The country occupied by the Bamalete Tribe, and so much of the Bora-Tshidi Barolong country as lies within the limits of the Protectorate, were transferred to the Administration of the *British South Africa Company*, Dr. L. S. Jameson being appointed Resident Commissioner therefor. The Company's police were moved down to a camp in the Protectorate, at Pitsane Potlugo. From that spot, on the 29th day of December, Dr. Jameson crossed the border of the South African Republic with his police, and marched towards Johannesburg, which was at the time in a state of great unrest. Being defeated by the Boers at Doornkop, he surrendered on the 2nd January, 1896. In consequence of this raid, the administration of the two areas above referred to was retransferred to the Imperial Government, by whom the Protectorate, in its entirety, is still governed under the name of the Bechuanaland Protectorate. It includes the Tati District, which is a portion of old Matabeleland conceded in 1887 by Lobengula to Mr. S. H. Edwards.

3. **Proclamation of Crown Lands.**—In 1895 the Chiefs Khama, Sebele, and Bathoen visited England, and each of them abandoned all rights and jurisdiction in and over certain portion of his former territory. The lands thus abandoned by them were, by Order-in-Council, dated the 16th day of May, 1904, declared Crown Lands, and all rights of His Majesty in or in relation thereto were vested in the High Commissioner for South Africa, who was empowered to make grants or leases of such lands on such terms and conditions as he might think fit, subject to any directions received from one of His Majesty's Principal Secretaries of State. Title to these lands was subsequently granted to the *British South Africa Company, Limited*, subject to certain reservations, and these lands are now known as the Tuli, Gaberones, and Lobatsi Blocks of farms.

By virtue of the Order-in-Council dated the 10th January, 1910, all other land situate within the limits of the Bechuanaland Protectorate, elsewhere than in the Tati District, was, and still is, vested in His Majesty's High Commissioner for South Africa, subject to

all the provisions of the Order-in-Council of the 16th May, 1904, and to the following exceptions:—

- (1) Such land as is either—
  - (a) included in any native reserve duly set apart by proclamation; or
  - (b) the subject of any grant duly made by or on behalf of His Majesty: and
- (2) the forty-one farms known as "the Barolong Farms," held by members of the Barolong Tribe by virtue of certificates of occupation issued by the Chief Montsioa on the 28th day of March, 1895.

**4. Later Developments.**—During the period 1896–97 the existing railway line connecting the Union of South Africa with Rhodesia was constructed by the Bechuanaland Railway Company, authorized thereto by High Commissioner's proclamations.

In 1898 a limited number of farms were allotted at and in the neighbourhood of Ghanzi, in the Ngamiland District of the territory, to settlers, some of whom had trekked thereto as prospectors in 1894.

In 1899 the boundaries of the Bamangwato, Batawana, Bakgatla, and Bangwaketse Native Tribes were established and defined by proclamation, and in 1909 the boundaries of the Bamalete Native Reserve were similarly fixed.

In 1911 the *Tati Concessions, Limited*, and its successors and assigns, were confirmed by Proclamation No. 2 of 1911 in the full, free, and undisturbed possession as owners of all the land within the Tati District, subject to all the terms and conditions of the said Proclamation, certain lands being assigned as a reserve for the occupation of natives. This reserve is under the control of the Government. The natives residing within it hold and occupy the land included therein, subject to such rules and regulations as are from time to time proclaimed by the High Commissioner; and, subject to certain conditions safeguarding the interests of the natives, the Company (now the *Tati Company, Limited*) retains the mining rights (including precious stones) over this native reserve.

In 1920 a European Advisory Council and a Native Advisory Council were established to advise the Resident Commissioner in matters affecting the Europeans and natives respectively.

## § 2. Boundaries, Area, and Physical Characteristics.

**1. Boundaries.**—The territory of the Bechuanaland Protectorate is bounded on the south and east by the Union of South Africa, on the north-east by Southern Rhodesia, on the north by the Zambesi and Chobe (Linyanti) Rivers, and on the west by the territory of South-West Africa.

It has not been surveyed as a whole, but its area is estimated at 275,000 square miles. Its mean altitude is about 3,300 feet.

**2. Meteorology and Physical Features.**—The winter climate (May to August) is delightful. The heat during the other months is great, but there are occasional short, sudden and therefore treacherous changes from extreme heat to cold. Malarial fever is prevalent, being particularly severe in the neighbourhood of water-courses and other low-lying places, where, during and immediately after the season of the heavy rains (December to end of April), the dense bush, thick undergrowth, and rank vegetation afford excellent shelter to mosquitoes. The rainfall varies from 20 to 25 inches in a year, though heavier falls have been recorded.

The eastern portion of the territory has some fine hill scenery in comparatively close proximity to the Transvaal border. The remainder of the Protectorate, which, at first sight, appears to be perfectly flat, is, in reality, undulating, rich in grasses, shrubs, and trees, with occasional outcrops of limestone, but mostly of a sandy and waterless character. Old and well-defined river-courses indicate, however, that at one time the country was well watered, as indeed is still the case north and north-east of Lake Ngami.

## § 3. Administration.

The form of government is very similar to that which obtains in Basutoland. The territory is administered by a Resident Commissioner under the direction of the High Commissioner for South Africa, the latter possessing the legislative authority, which is exercised by proclamation.

The territory is, for administrative purposes, divided into two districts, known as the Northern and Southern Districts, each with an Assistant Commissioner. These two districts are themselves sub-divided into others, each with a magistrate, these officials being assisted in the maintenance of law and order by a force of police.

The Headquarters of the Administration are at Mafeking, in the Cape Province.

PRINCIPAL OFFICERS OF THE ADMINISTRATION.

Resident Commissioner....	James Comyn Macgregor, C.M.G.	Acting Assistant Resident Magistrate, Molepolole	Sub-Inspector C. M. Ledebor.
Government Secretary and Assistant Commissioner, Southern Protectorate	Jules Ellenberger, I.S.O.	Resident Magistrate, Ghanzi	A. L. Cuzen.
Financial Secretary, Master of the Resident Commissioner's Court, and Registrar of Deeds	M. Williams.	Staff Officer and Chief Customs Officer	Chief Inspector H. Fielding.
Chief Clerk and Registrar	H. H. Price.	Inspectors.....	C. R. Nettelton, H. Martin, H. D. Hannay, R. O'M. Reilly.
Crown Prosecutor.....	S. A. Minchin, LL.B.	Sub-Inspectors (with local rank of Captain)	G. B. Moseley, F. T. O. Garbutt, H. B. Ncala.
Local Auditor.....	A. Warren.	Sub-Inspectors.....	C. M. Ledebor, H. B. Poole, V. G. Gash, G. E. Nettelton, G. C. Guilbert, V. Ellenberger.
School Inspector.....	F. H. Dutton, M.A.	Principal Medical Officer..	Donald M. MacRae, M.D., M.S.
Controller of Stores.....	A. E. Fosdike.	Medical Officer, Gaborones.	Duncan M. MacRae, M.A., M.D., B.S.
Assistant Commissioner, Northern Protectorate	Lieut.-Col. R. M. Dandel.	Medical Officer, Serowe...	Peter D. Strachan, M.A., M.D.
Clerk and Assistant Resident Magistrate	E. H. M. Drury, M.B.E.	Medical Officer, Francistown	Desmond Drew, B.A., M.B., B.Ch.
Resident Magistrate, Ngami-land	A. G. Stigand.	Chief Veterinary Officer...	W. H. Chase, F.R.C.V.S.
Resident Magistrate, Gaborones	E. O. Butler.	Veterinary Surgeon.....	F. M. Hill.
Acting Resident Magistrate, Kanye	Captain Moseley.	Scab Inspector.....	C. E. Betts (honorary rank of Sub-Inspector)
Acting Resident Magistrate, Serowe	Inspector H. D. Hannay	President of the Special Court of the Bechuanaland Protectorate	G. T. Morice, K.C.
Acting Resident Magistrate, Lobatsi	Inspector R. O'M. Reilly.		
Acting Resident Magistrate, Kazungula District	Sub-Inspector H. B. Neale (local rank of Captain)		
Acting Assistant Resident Magistrate, Tuli Block	Sub-Inspector F. T. O. Garbutt (local rank of Captain)		

§ 4. Population.

1. **General.**—The following gives particulars regarding the population of the Protectorate according to the censuses taken in 1911 and 1921:—

(i) **POPULATION—CENSUSES OF 1911 AND 1921.**

Year.	European.	Bantu.	Asiatic.	Other Coloured.	Total.
1911....	1,692	123,303	52	355	125,350
1921....	1,743	150,185		1,003	152,983

(ii) **BECHUANALAND—NATIVE POPULATION BY DISTRICTS, SEX, AND AGES, CENSUS OF 1921.**

District.	Male.		Female.		Total.
	Under 16.	16 and over.	Under 16.	16 and over.	
Bamangwato Reserve.....	12,413	19,210	10,117	16,307	58,047
Bakwena Reserve.....	2,803	2,075	2,401	3,283	11,162
Bangwaketse Reserve.....	4,581	4,003	3,878	5,004	17,466
Bakgatla Reserve.....	3,031	2,417	3,073	3,023	11,604
Bamahele Reserve.....	1,327	708	1,265	1,278	4,578
Batawana Reserve.....	3,550	5,433	3,244	5,222	17,449
Batlakwa.....	284	256	285	374	1,199
Tuli District.....	2,870	3,570	2,468	2,000	11,877
Tuli Block.....	220	650	202	203	1,374
Gaborones Block.....	61	180	50	92	392
Lobatsi Block.....	264	280	224	233	1,001
Karolong Farms.....	846	630	740	938	3,154
Ghanzi District.....	350	543	302	503	1,698
Kazungula District.....	432	690	386	607	2,115
Nyehi.....	177	199	185	275	830
Molopo Strip.....	408	242	321	314	1,285
Lehututu District.....	1,008	921	830	1,230	4,004
Railway Strip.....	195	373	170	236	944
<b>TOTAL.....</b>	<b>31,852</b>	<b>42,998</b>	<b>30,147</b>	<b>42,181</b>	<b>150,185</b>

The European or white population of the territory is widely scattered.

The principal native villages are:—

	Tribe.	Estimated Population.
Serowe.....	(Bamangwato).....	25,000
Kanye.....	(Bangwaketse).....	12,000
Molepolole.....	(Bakwena).....	9,000
Maun.....	(Batawana).....	5,000
Mochudi.....	(Bakgatla).....	8,000
Ramoutsa.....	(Bamalete).....	3,500

## § 5. Vital Statistics and Migration.

**1. Registration of Births, Deaths, and Marriages.**—The registration of births is voluntary and governed by Act No. 20 of 1880 of the Colony of the Cape of Good Hope, which is applicable to the Bechuanaland Protectorate.

The only details registered are those of non-natives.

The solemnization of marriages is governed by Proclamation No. 1 of 1917, as amended by Proclamation No. 14 of 1917. Most natives secure their brides by the payment of "bogadi" cattle to her parents.

**2. Migration Regulations (Europeans).**—There are no Migration Regulations concerning the entrance of Europeans into the Bechuanaland Protectorate, except as regards persons who are citizens or subjects of States with which His Majesty the King was at war at any time during the year 1918. Such persons may not enter the territory without a permit issued by the Government Secretary.

## § 6. Public Health.

**1. Public Health Laws.**—The provisions of the Public Health Acts of the Colony of the Cape of Good Hope passed previous to 10th June, 1891, are, *mutatis mutandis*, in force within the territory; and the provisions of Part I of the *Police Offences Act*, No. 27 of 1882 have been applied by proclamation to the areas of Gaborones, Francistown, Lobatsi, and Palapye Road.

No one may practise within the territory as a physician, surgeon, apothecary, chemist, or druggist without being licensed to do so, and to that end must first produce his diploma to the Resident Commissioner.

**2. Hospitals and Medical Service.**—There are no hospitals in the territory, apart from a small one at Gaborones, and the more serious cases are removed to the Victoria Hospital at Mafeking, towards the erection of which the Bechuanaland Protectorate Administration made a substantial contribution.

The Principal Medical Officer resides at Mafeking. There are medical officers at Gaborones, Serowe, and Francistown. Apart from these, railway medical officers travel up and down the railway line, which is a section of the proposed Cape to Cairo Railway.

## § 7. Education and Religion.

**1. Schools.**—In 1920-21 there were in the territory seven schools for Europeans, each in receipt of a Government grant-in-aid; and a small farm school at Ramaquabane. These were attended by approximately 140 children. There was also one school for coloured children, with an attendance of 14, and there were 60 native schools attended by about 3,955 children. These schools were also in receipt of a Government grant. The Government grant-in-aid of education for that period amounted to £2,156. Apart from this, the Bakwena, Bangwaketse, and Bamalete Tribes contribute voluntarily towards education in their respective reserves.

Most of these schools are making good progress, but the custom of the Bechuana of sending a great number of their boys to distant cattle posts for the whole year, and of taking their families with them to their lands for long periods of the school year, greatly retards material improvement. The number of schools has doubled during the past two years, with a corresponding increase in the number of pupils, but many of these schools are not in being for the whole year. Making due allowance for the seasonal variation in attendance, there seem to be signs of the awakening of a new spirit among the Bechuana in regard to education.

At the census of 1921, 16,344 males and 20,175 females were returned as literate and 60,684 males and 52,982 females as illiterate.

2. **Churches.**—Religious work is carried on in the territory by representatives of various denominations. There are churches for Europeans at Francistown and Serowe, and clergymen of the Anglican and Wesleyan Churches occasionally hold services for Europeans along the railway line. As regards natives, each principal village has a spacious church building, paid for chiefly by the natives themselves; and places of worship are also to be found in the majority of the smaller villages.

### § 8. Labour and Wages.

1. **Labour in the Protectorate.**—The European population of the Protectorate being small, and there being no industries of any magnitude in the territory, the demand for native labour within its borders is consequently restricted, and confined chiefly to work in farming operations within the comparatively small areas open to white settlers in the Tati and Ghanzi Districts and in the Tuli, Gaberones, and Lobatsi Blocks of farms.

2. **Labour Recruiting.**—The Protectorate offers a large field of operations, however, for recruiters of native labour for work on the mines and elsewhere outside of the territory; but no person may act as a labour agent within the Protectorate unless he is the holder of a current, non-transferable, licence for that purpose, issued to him by the Resident Commissioner or by some officer duly authorized by the Resident Commissioner to issue such licences.

Any persons applying for a labour agent's licence is required to deposit £100 or to find security to the like amount to the satisfaction of the Resident Commissioner or other authorized officer, and must also fix a *domicilium citandi* and *executandi* within the territory where all civil process in respect of any breach of contract or recovery of wages may be served. Every application for such licence must be accompanied by a statement in writing, signed by the proposed employer, giving his name and address, the nature of the proposed employment, the rate of wages at which the native labourers are to be engaged, and any further particulars as to the proposed terms of service which the officer issuing the licence may demand. No concession or contract by which any native chief or headman purports to bind himself or his people to provide labourers is valid.

The native tribes of the territory are well behaved as a whole, ready to act on the advice of the Resident Commissioner and of his officers, and the Administration is therefore in the happy position of being free from labour problems which affect other countries.

3. **Wages and Cost of Living.**—The conditions as to wages and the increase caused by the war in the cost of foodstuffs and other necessaries of life are, to all intents and purposes, similar to those at present existing in the Union of South Africa.

4. **Sale of Intoxicating Liquor.**—No intoxicating liquor may be introduced into the territory without the permission in writing of the Resident Commissioner, of an Assistant Commissioner, magistrate, or commissioned officer of police. The sale or gift of liquor to any native is strictly prohibited. By the word "Native" is understood "any aboriginal native belonging to any native tribe, including half-castes and all persons of mixed race living as members of any native community, tribe, kraal, or location."

Apart from the licence issued to the Rhodesia Railways, Limited, for the sale of refreshments on passenger trains running through the Bechuanaland Protectorate, there are only seven licences for the sale of liquor in the territory. These are granted in respect of premises along the railway line at places where accommodation is necessarily provided for travellers.

### § 9. Administration of Justice.

1. **Courts of Law.**—The Resident Commissioner exercises all the powers of the Supreme Court of the (late) Cape Colony, but no original civil action, suit, or proceeding can be instituted in his Court, and, except in cases of murder, it is not competent to institute or bring any criminal proceedings before his Court in the first instance, or otherwise than by way of review or appeal from the decision of a Court of Assistant Commissioner, Resident Magistrate, Assistant Resident Magistrate, or Special Justice of the Peace.

Until 1912 Assistant Commissioners and Resident Magistrates had jurisdiction in all civil and criminal cases, except murder, subject to the right of appeal to the Resident Commissioner and to the Sovereign-in-Council; but their jurisdiction did not extend to any matter in which natives of the same tribe were concerned, unless in the opinion of such Court the exercise of such jurisdiction was necessary in the interests of peace or for the prevention or punishment of acts of violence to person or property.

Until 1912, also, the trial of every person charged with murder had, under section 4 of the *Bechuanaland Protectorate Proclamation*, No. 2 of 1896, to be held before a Court consisting of the Resident Commissioner, as President, and any two Assistant Commissioners or Resident Magistrates of the territory. But since 1912 a Special Court, called the *Special*

*Court of the Bechuanaland Protectorate*, was established for the trial of such cases (civil and criminal) as are hereinafter mentioned and (save as hereinafter otherwise stated) to exclude such cases from the jurisdiction of the Courts of Resident Commissioner, Assistant Commissioner, and Resident Magistrate. The Special Court is held at such time and at such place or places as are publicly notified by the Resident Commissioner, and consists of a Judge or Advocate of the Supreme Court of South Africa, appointed by the High Commissioner to be President of the Court, and any two Assistant Commissioners nominated by the Resident Commissioner.

Such Court has jurisdiction in respect of—

- (a) civil actions in which either party is a European, and in which the claim or value of any property in dispute exceeds £1000, or in which the action is for the divorce of persons joined in matrimony or for a declaration of nullity of marriage;
- (b) criminal cases in which the accused is a European and is charged on indictment with any of the following offences: treason, murder, culpable homicide, rape, perjury, arson, offences relating to the coinage, and if the property, the subject of the offence, exceeds £1000, theft, receiving stolen property knowing the same to have been stolen, robbery, forgery, uttering forged documents knowing the same to be forged, fraud, and attempts to commit any offence in this sub-section mentioned;
- (c) Such cases pending in the Court of Resident Commissioner or in the Court established under section 4 of Proclamation No. 2 of 1896 as such Court may, on its own mere motion, remove to the said Special Court;
- (d) such civil actions pending in any Court of Assistant Commissioner or Resident Magistrate in which either party is a European as such Court may, either on application to it by either party to the action or on its own mere motion, remove to the said Special Court;

and neither the Court of the Resident Commissioner nor a Court of Assistant Commissioner or Resident Magistrate now has jurisdiction in any cases mentioned in (a) or (b) above, otherwise than for conducting a preliminary examination, unless both of the parties or the accused, as the case may be, apply to have the case tried before such Court and such Court grants such application where the case is within its jurisdiction.

A right of appeal to the Privy Council lies against any final judgment, decree, sentence, or order of the said Special Court.

When the Special Court is not sitting, any Court of Assistant Commissioner or Resident Magistrate may hear and determine—

- (a) all motions and applications (including applications for arrests and interdicts of persons and things) in respect of any claim, debt, or matter in dispute which is within the jurisdiction of the said Special Court, whether an action in respect thereof is pending in the said Special Court or not;
- (b) all actions for provisional sentence which are within the jurisdiction of the said Special Court;
- (c) all trial cases commenced in the said Special Court in which either the plaintiff or the defendant is in default or in which consent to judgment is filed by the defendant; where such Court would but for the provisions of the last preceding section have had jurisdiction to hear and determine such case;

and in all such cases an appeal lies from the decision of a Court of Assistant Commissioner or Resident Magistrate to the said Special Court.

The rules of the Cape of Good Hope, Provincial Division, of the Supreme Court of South Africa in force on the 1st day of October, 1912, apply, *mutatis mutandis*, in the Special Court of the Bechuanaland Protectorate.

The rules, orders, and regulations respecting the manner and form of proceeding in civil and criminal cases before the Court of the Resident Commissioner are, *mutatis mutandis*, and as far as the circumstances of the territory admit, the same as those of the Supreme Court of the Colony of the Cape of Good Hope, and the procedure in the Courts of Assistant Commissioners and Resident Magistrates is, subject to a similar proviso, the same as that which was in force in the said Colony on the 10th day of June, 1891.

Courts of Assistant Resident Magistrates, first established in 1898, have such jurisdiction in all matters and cases, civil and criminal, as was conferred prior to the 10th day of June, 1891, on the Courts of Resident Magistrates of the Colony of the Cape of Good Hope, but their jurisdiction does not extend to cases in which natives belonging to one and the same tribe are concerned, except where it is necessary in the interests of peace or for the prevention or punishment of acts of violence to person or property.

The native chiefs adjudicate on cases arising among natives of their respective tribes, and legislation has recently been introduced which provides for appeals against judgments of native chiefs in the Bechuanaland Protectorate. Such appeals lie in the first instance to a Court composed of the Assistant Commissioner or Magistrate of the district and of the chief whose judgment is appealed from. If the Assistant Commissioner or Magistrate

and the chief agree, but the complainant is dissatisfied with their decision, a further appeal lies to the Resident Commissioner. In the event of the Assistant Commissioner or Magistrate and the chief disagreeing, then the Resident Commissioner decides the matter in dispute.

The jurisdiction of Special Justices of the Peace in the Bechuanaland Protectorate is similar to that which was conferred on Special Justices of the Peace of the Cape Colony prior to the 10th June, 1891; the punishment which may be inflicted by them on offenders is a fine of £2 or imprisonment with or without hard labour for one month, and all cases tried by them must be sent for review.

Apart from the Resident Commissioner's Court and the Special Court of the Bechuanaland Protectorate, there are in the territory two Courts of Assistant Commissioner (one for the Northern and one for the Southern District); seven Courts of Resident Magistrate (at Gaborones, Kanye, Maun (Ngamiland), Serowe, Lobatse, Kazungula, and Ghanzi); three Courts of Assistant Resident Magistrate (at Francistown, Molepolole, and Tuli Block), respectively.

There are also a number of Justices of the Peace throughout the territory.

**CRIMINAL CASES ADJUDICATED UPON IN BECHUANALAND PROTECTORATE, 1915-16 TO 1920-21.**

1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
844	466	449	445	499	434

These figures do not include cases tried by native chiefs in accordance with native law.

**2. Prisons.**—There is a prison at Francistown and one at Gaborones. At other centres there are lock-ups. The Prison Regulations published under Government Notice No. 1108 of 13th November, 1893, framed under and by virtue of the provisions of Act No. 23 of 1888 of the Cape Colony, are in force, in so far as applicable, throughout the Bechuanaland Protectorate.

**§ 10. Defence and Police Organization.**

**1. General.**—There is no Defence Force. For the maintenance of law and order, however, there is a force of police known as the *Bechuanaland Protectorate Police*, numbering 174. This force is under the direct control of the Resident Commissioner, and Part 2 of the *Cape Mounted Riflemen Act* (Cape of Good Hope), No. 9 of 1878, is, *mutatis mutandis*, in force and applicable to all members of the police. There are 14 European officers and 44 European non-commissioned officers and men; also 166 native non-commissioned officers and men mainly drawn from Basutoland. In addition, there are 86 Bechuana employed as messengers. The police are stationed in small detachments at various posts in the territory.

**2. War Service.**—During the recent war a number of the European police took their discharge in order to engage upon military service, and as many police and officials as could be spared without serious detriment to the public service were granted leave for active service. Those who perforce had to remain in the territory were loyally assisted by the natives in guarding the eastern and western borders of the territory, which was invaded in two places only:—

- (a) on its south-eastern border by a party of rebels from the Transvaal Province, who were evidently endeavouring to find their way to South-West Africa, but were surrounded and surrendered before they had proceeded very far into the Bechuanaland Protectorate. (Gacetsiwe, the late Chief of the Bangwaketse tribe, and his men, gave valuable assistance on this occasion);
- (b) on the western border, where a force of Germans attacked and burnt the Bechuanaland Protectorate Police out-station at Kwaganag, killing one messenger.

**3. Arms and Ammunition.**—No arms or ammunition may be brought into the territory or delivered to anyone within its boundaries without the permission in writing of the Resident Commissioner or of an Assistant Commissioner or Magistrate duly authorized by the Resident Commissioner to grant such permission.

**§ 11. Land and Water Supply.**

**1. Land Tenure.**—The amount of transfer duty payable in the territory is two pounds per centum.

No policy has yet been disclosed as regards the Crown Lands defined by the Order-in-Council of the 10th January, 1910, and no occupation or ownership or claims of right to



occupation or ownership by any person of European birth or descent in respect of any land within the limits of the territory and no concession or grant of any right, title, or privilege to deal with or authorize the occupation or ownership of any such land can be recognized as valid or legal unless or until approved in such mode as has been or may hereafter be appointed by the High Commissioner.

Outside of the Native Reserves no tribal claims to land in the Protectorate can be acknowledged by His Majesty's Government unless such claims are based upon an occupation commencing at a date prior to the Proclamation of the High Commissioner constituting such land a Protectorate or incorporating such land in the Protectorate, or unless such land has been subsequently occupied with the express consent of the High Commissioner.

No concession by any native chief whether or not accompanied or supported by any power of attorney or instrument or document of procuration and no power of attorney or instrument or document of procuration granted by any such chief coupled with an interest in favour of some other person whether such interest be apparent or not in the face of such power, instrument, or document, can be recognized by any Court of Law unless and until sanctioned and approved by His Majesty's Secretary of State.

The Native Reserves are held under tribal tenure and are unalienable. No person of European birth or descent may carry on business of any description therein without having first obtained the consent of the chief and his councillors.

**2. Water Supply.**—There are no irrigation works in the Protectorate. Apart from the rivers Marico, Limpopo, Zambesi, and Chobe, and apart from the Okavango marshes and their outlets, there are practically no surface waters in the territory, except in the rainy season. In the dry season, when the rain-pools disappear, water can, however, usually be had at no great depth by sinking in the sandy beds of the larger rivers.

Water-boring and well-sinking operations, in comparatively close proximity to the eastern border of the territory, have given good results in some localities, and have proved utter failures in others, solid red granite being often encountered.

Several attempts have been made, by the Administration, to open up the waters to the west, through the Kalahari. These have yielded only meagre results. The water struck was sometimes very brackish. It is possible, however, and the opinion has often been expressed, that, by deep boring, the waterless and useless tract of land now known as the Kalahari Desert may yet be transformed into one of the finest ranching countries in the world.

## § 12. Agriculture and Pastoral Production.

**1. Agriculture.**—Although maize, kaffir corn, beans, pumpkins, and melons are reaped in large quantities by the natives when the season is favourable, yet the rainfall is insufficient, or too uneven and uncertain in its distribution, to render agriculture anything but a hazardous pursuit.

**2. Live Stock.**—The number of horned cattle, according to the census in 1911, was 323,911, notwithstanding the fact that, fifteen years before, rinderpest had swept through the territory, carrying off approximately 95 per cent. of its cattle. There were also, in 1911, 358,336 sheep and goats. According to the census taken in 1921, the following live stock was owned by natives and Europeans in the territory :—

### BECHUANALAND—LIVE STOCK OWNED BY EUROPEANS AND NATIVES, CENSUS OF 1921.

Heading.	Cattle.	Sheep.	Goats.	Horses and Mules.	Donkeys.
Owned by Natives.....	426,344	120,186	237,740	2,264	0,206
Owned by Europeans.....	68,718	12,268	10,231	403	2,278
TOTAL.....	495,062	132,454	247,971	2,757	8,484

**3. Export of Cattle.**—For several years prior to 1917–18 the only horned cattle which the Union Government would permit to enter the Union from the Protectorate were slaughter cattle consigned in sealed trucks to approved abattoirs, where the animals had to be slaughtered immediately on arrival. In that year, however, the Union Government, recognizing that the Southern Protectorate was a clean cattle district, decided to allow the introduction therefrom of breeding animals as well as slaughter cattle, and subsequently extended this concession to animals from Ngamiland. On 1st June, 1917, a quarantine camp was therefore established at Ramathlabama, on the southern boundary of the territory, the conditions

of export being that animals should serve a fourteen days' quarantine in a fenced camp, that they should be inspected by a veterinary surgeon on entry and before release, and that during the period of quarantine they should be under the daily supervision of a competent stock inspector. This arrangement still holds good; but cattle from the Ngamiland District are not allowed into the quarantine camp unless they are accompanied by a certificate, signed by a responsible officer, to the effect that they have been in the Southern Protectorate for three months immediately prior to the date of application to enter the quarantine station.

A duty of 5s. 0d. is payable upon every head of cattle exported from the territory, and no cattle may be exported therefrom except through a port of exit appointed by the High Commissioner.

There are at present six such ports of exit, namely: Ramathlabama, on the southern boundary of the territory (16 miles north of Mafeking); Ramaquabane, on the Rhodesian border; Sequane, on the south-eastern border of the territory; Kwaganae, on the border of the territory of South-West Africa; and Kavimba and Kazungula in the north-eastern corner of the territory.

**4. Licensed Sale of Stock.**—Persons, other than those licensed as general traders within the territory, who desire to purchase, or acquire by exchange or barter, stock within the Protectorate, for export therefrom, are required to obtain a licence to do so. Applicants for such licences deposit £100, or find security to the like amount to the satisfaction of the Resident Commissioner or other authorized officer, and are required also to fix a *domicilium citandi* and *executandi* within the territory. Such deposit or security may be taken in execution in whole or in part for the purpose of satisfying judgments of any competent court within the Bechuanaland Protectorate whereby the person who made such deposit or found such security is required to pay any sum whether by way of damages, costs, or otherwise, to any person domiciled within the Protectorate. Such licences are issued subject to such conditions as to the local limits within which cattle may be purchased or acquired as the Resident Commissioner may impose, and the issue or renewal thereof may be refused without any reason being given.

The term "stock" includes any horse, mare, gelding, colt, filly, mule, or ass; any bull, cow, ox, heifer, or calf; and any sheep, goat, or pig or domesticated ostrich.

Horned cattle to the number of 32,450 were exported from the territory to the Union of South Africa in the year 1920-21, as against 23,569 in 1919-20. In addition to small stock sent to Rhodesia, 15,086 sheep and goats were exported to the Union in 1920-21 as against 19,602 head in 1919-20.

**5. Restrictions on Export.**—The export of cattle from the Bamangwato Reserve, where pleuro-pneumonia exists, is strictly prohibited, as is also the removal of cattle from any place within that Reserve to any other place beyond its boundaries.

As a precautionary measure against the introduction of contagious animal diseases—especially East Coast fever, the spread of which to the territory the Administration has so far succeeded in preventing—no cattle, sheep, pigs, goats, horses, mules, and donkeys, and no hay, horns and skins, and no vehicle (except railway vehicles and motor cars) or wagon-gear, cart-gear, or harness, may be introduced into the Bechuanaland Protectorate without the written permission of the Resident Commissioner; and no horned cattle may be removed from one district to another within the territory without the permission in writing of an Assistant Commissioner or magistrate or other authorized official. The Resident Commissioner has power to order, in case of emergency, that all movement of cattle from any place to any other place within the territory be forthwith stopped.

**6. Equines.**—Equines are very liable to contract the disease of horse-sickness in the territory, and it is generally fatal. There are consequently and comparatively speaking very few horses and mules in the Protectorate.

**7. Forest Resources.**—The territory is well wooded, and a large quantity of dead wood for fuel is exported by rail from the Southern Protectorate. A considerable quantity of timber suitable for mining props is also sent out of the country.

**8. Co-operative Societies.**—The formation, registration, and management of Co-operative Agricultural Societies within the territory are governed by Proclamation No. 2 of 1910.

### § 13. Mines.

**Gold and Silver.**—The only portion of the territory in which gold mining has, so far, been carried on, is the Yati district. This has been done, on a small scale, for years. The output for the year 1920-21 was 4,783 oz. of gold and 479 oz. of silver, of a total value of £20,176.

### § 14. Trade.

The imports consist chiefly of blankets, articles of clothing, ploughs, iron and tin ware, and groceries. The exports consist mainly of horned cattle, small stock, hides, skins, and wood, and, in seasons of abundant harvest, a certain quantity of maize and Kaffir corn is exported.

No statistics of the imports and exports into and from the Bechuanaland Protectorate are now kept. For Customs purposes the territory is dealt with, by agreement, as a part of the Union of South Africa, the Treasury of the Union paying out quarterly to the Bechuanaland Protectorate a sum bearing to the total Customs revenue of the Union in each year the same proportion as the average amount of the Customs revenue of the said territory for the three completed financial years last preceding the taking effect of the South Africa Act, 1909. That proportion is 27·622 per cent. of the total customs revenue of the Union. The territory collects its own customs duties on spirits and beer manufactured in the Union of South Africa, or in any British Protectorate or Possession in South Africa, the Government of which has entered into a Customs agreement with the Union.

### § 15. Railways and Roads.

**1. Railway Construction.**—On 3rd August, 1894, an agreement was entered into between the High Commissioner for South Africa as Governor of British Bechuanaland, the British South Africa Company, and the Bechuanaland Railway Company (now Rhodesia Railways, Ltd.), for the construction and working of a railway by the railway company from Vryburg in British Bechuanaland, to Palapye in the Bechuanaland Protectorate. This agreement was later supplemented by an amending agreement between the same parties. These two documents form the schedule to Proclamation No. 227 of British Bechuanaland.

The railway line having been constructed, under the provisions of that Proclamation, from Vryburg to Ramathlabama—upon the southern boundary of the Bechuanaland Protectorate—the Bechuanaland Railway Company was authorized and empowered by a Proclamation dated the 23rd November, 1896, to construct, equip, maintain, and work, subject to the provisions thereof and to the terms of the two agreements alluded to, a line of railway from the southern boundary of the territory to a point at or near Palapye, and, for that purpose, to enter upon and take possession of land of a uniform width throughout of one hundred yards, and such land in addition as might be required for all junctions, sidings, and stations, and for all other works and approaches.

The extension of this line by the Bechuanaland Railway Company to the northern boundary of the Bechuanaland Protectorate, was authorized by a subsequent Proclamation; and in view of the Matabele and Mashona rebellion in 1896, and the fact that in that year all ox traffic from the Cape to the north was dislocated by rinderpest, the construction was pushed on with great rapidity by the contractors, the line reaching Bulawayo on the 19th October, 1897.

**2. Railway through Tati District.**—In 1910, as the result of negotiations extending over some years, the Tati Concessions, Limited (now the Tati Company, Limited) and the Bechuanaland Railway Company (now Rhodesia Railways, Limited) entered into an agreement (see Schedule 3 to the Bechuanaland Protectorate Proclamation No. 2 of 1911) whereby the former conveyed to the latter, in addition to certain land at Francistown and subject to certain conditions, a strip of land—along the line of railway they constructed—of a uniform width of one hundred yards throughout the Tati District.

**3. Length of Railway.**—The length of the railway line running through the Bechuanaland Protectorate is 403 miles, including about 70 miles through the Tati District. The line enters the Protectorate at Ramathlabama Spruit, sixteen miles north of Mafeking and 886 miles north of Cape Town, and leaves it at mileage 1289 (about half-way between Ramaquabane Siding and Plumtree).

The Rhodesia Railways, Limited, have constructed several dams in connection with the working of the line, viz. :—

	Capacity in Gallons.
Lobatsi.....	15,000,000
Metsimaswaana (Notwane Siding).....	45,000,000
Mileage 1197.....	5,000,000
Palapye.....	15,000,000
Tsessebe (Inchwe River).....	12,000,000
Pilane.....	9,000,000

There is no other line of railway in the Bechuanaland Protectorate.

4. **Roads.**—The road from railway stations and sidings to the principal villages serve for motor transport, but about fifty miles west of the railway line ox-transport becomes an absolute necessity.

### § 16. Posts, Telegraphs, and Telephones.

1. **Postal System.**—The administration and control of the postal department in the Protectorate is, subject to the authority of the Resident Commissioner, vested in the Postmaster-General of the Union of South Africa.

From June, 1891, to August, 1916, the Post Office Acts of the Colony of the Cape of Good Hope passed prior to June, 1891, were, *mutatis mutandis*, in force within the Bechuanaland Protectorate, as also certain other Post Office Acts promulgated subsequent to June, 1891, and made applicable to the territory by Proclamation. All these Acts were repealed by Act No. 10 of 1911 (*The Post Office Administration and Shipping Combinations Discouragement Act, 1911*) of the Union of South Africa, but still remained in force in the Protectorate until 18th August, 1916, when, by Proclamation No. 28 of 1916, the said Act No. 10 of 1911 was, with certain exceptions, *mutatis mutandis*, applied to the Protectorate.

2. **Telegraphs and Telephones.**—The telegraph and telephone lines erected in the Protectorate, connecting the Union of South Africa with Rhodesia, are owned and worked by the Rhodesian Administration. They run parallel to the railway line. The only telegraph and telephone branch is from Palapye Road to Serowe, a distance of approximately 35 miles. In addition there is a line of telephone from Lobatsi Railway Station to "Woodlands" (the British South Africa Company's experiment farm), a distance of about seven miles, and one from Palapye Road to Macloutsie.

The rate for telegrams exchanged between the Bechuanaland Protectorate and other parts of South Africa is 2d. per word.

The Electric Telegraph Acts No. 20 of 1861, No. 5 of 1862, No. 4 of 1877, and No. 41 of 1882, are still in force in the Bechuanaland Protectorate *mutatis mutandis*.

No person may establish or use any apparatus or installation for the transmission of messages or other communications by means of electrical energy without the aid of wires, without having previously obtained a licence for these purposes.

A censorship of postal and telegraphic matter was established by Proclamation No. 60 of 1914.

3. **Post Offices and Postal Revenue.**—There are seventeen Post Offices and Postal Agencies in the Protectorate, namely:—

Francistown.....	} Money Order, Savings' Bank, Post and Telegraph Offices.
Lobatsi.....	
Serowe.....	
Gaberones Railway Station...	} Postal Order and Telegraph Agencies.
Mahalapye Railway Station...	
Mochudi Railway Station.....	
Palapye Road Railway Station..	
Gaberones Police Camp.....	
Kanye.....	} Postal Order Agencies.
Molepolole.....	
Palla Road.....	
Ramoutsa Siding.....	
Tsessebe.....	
Pitsani Siding.....	
Kasane.....	
Maun.....	
Ghanzi.....	

During the year 1920-21 the issues of postal and money orders totalled 11,176, with a value of £8,734, as against 10,760, valued at £8,195 during 1919-20.

In 1920-21 3,271 orders were paid out to the value of £3,575, as against 3,968 valued at £3,900 in 1919-20.

The value of postage stamps sold in 1920-21 was £2,461.

The rate of postage on letters posted within the territory for delivery therein or for delivery in the Union of South Africa, Southern and Northern Rhodesia, and the Province of Mozambique, is 2d. for each ounce or fraction thereof.

## § 17. Finance.

1. **Revenue and Expenditure.**—There is no Public Debt in the Bechuanaland Protectorate. Until and including the financial year 1914-15 (1st April to 31st March) the excess of expenditure over revenue was met by an Imperial grant-in-aid; and since 1915-16 the revenue of the territory has generally exceeded the expenditure. The excess of assets over liabilities on the 31st March, 1921, was £3,399.

The revenue receipts under the various heads are given below for six financial years.

**REVENUE.—BECHUANALAND PROTECTORATE, 1915-16 TO 1920-21.**

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Customs.....	15,066	16,489	15,044	19,383	20,986	27,810
Hut-Tax.....	39,854	36,452	38,573	40,750	38,020	38,446
Licences.....	3,488	4,916	4,839	5,133	6,325	6,554
Revenue Stamps.....	895	365	466	579	686	804
Posts.....	6,891	6,598	7,113	7,555	7,655	9,620
Sales of Government Property.....	315	265	427	823	565	684
Quit Rent, Lease Rent, and Transfer Duty.....	—	—	—	—	—	—
Rentals and Transfer Duty.....	2,473	570	577	1,066	618	1,753
Fines and Fees.....	—	—	—	—	—	—
Judicial Fines.....	593	479	473	773	1,522	555
Miscellaneous.....	648	829	1,002	699	319	931
Sale of Crown Lands.....	—	—	—	—	—	—
Export Duty on Cattle.....	—	2,385	2,955	3,321	3,420	8,924
Cattle Tax.....	—	—	—	—	848	3,332
B.P. Native Fund.....	—	—	—	—	—	2,343
<b>TOTAL.....£</b>	<b>70,223</b>	<b>69,348</b>	<b>71,469</b>	<b>80,282</b>	<b>81,564</b>	<b>101,765</b>

The subjoined table gives the expenditure under the various heads for six financial years.

**EXPENDITURE.—BECHUANALAND PROTECTORATE, 1915-16 TO 1920-21.**

Description.	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
Pensions.....	1,669	2,448	1,610	1,277	1,601	2,489
Resident Commissioner.....	4,049	3,328	4,907	5,869	6,282	6,198
Legal.....	2,420	2,178	2,226	2,337	2,626	4,197
District Administration.....	5,763	5,879	5,757	5,864	6,221	8,519
Posts.....	2,710	2,801	3,817	3,846	3,989	4,259
Customs.....	50	50	50	50	50	50
Police.....	84,562	32,345	29,766	33,590	40,283	55,497
Miscellaneous.....	7,222	7,843	3,534	3,267	5,009	3,293
Public Works Recurrent.....	3,088	2,471	2,809	3,334	3,096	2,468
Public Works Extraordinary.....	2,362	1,219	2,792	2,626	1,056	4,097
Medical.....	775	771	1,294	2,620	2,200	2,962
Education.....	1,441	1,387	1,464	2,000	2,057	2,317
Veterinary.....	2,509	2,358	2,803	4,833	11,933	10,739
Native Tax Commission, etc.....	—	—	4,610	5,203	5,148	5,000
<b>TOTAL.....£</b>	<b>68,622</b>	<b>65,076</b>	<b>67,439</b>	<b>76,716</b>	<b>91,611</b>	<b>112,091</b>

2. **Hut Tax.**—The hut tax is £1 per annum, and is payable in respect of every hut occupied as a dwelling-place by a native or natives; and, if a hut is occupied by two or more male natives of full age, the sum of £1 is payable by each of them. The collection of this tax in the Native Reserves is made by the chiefs, who have been appointed collectors in their respective reserves, and receive a remuneration not exceeding 10 per cent. of the

value of the tax collected by them. Outside of the Native Reserves the tax is collected by officers appointed for that purpose by the Resident Commissioner. An additional tax of 3s. per hut was levied as from 1st April, 1920, to be credited to a native fund created for the purpose of carrying out general improvements in the Native Reserves.

3. **Licences.**—By Proclamation, No. 14 of 1897, dated 30th September, 1897, as amended by Proclamation No. 23 of 1914, the undermentioned Acts of the Cape Colony, with regard to stamp and licence duties, were specially declared in force in the Protectorate, with certain modifications, in so far as they were at that date in force within the said Colony, and in so far as not inconsistent with or repugnant to any laws in force in the territory, namely :—

Act No. 3 of 1864.	Act No. 20 of 1884.
Act No. 13 of 1870.	Act No. 13 of 1886.
Act No. 15 of 1877.	Act No. 38 of 1887.

The following is the scale of licences in operation in the Protectorate. These licences are issued for calendar years, unless otherwise stated.

**BECHUANALAND PROTECTORATE LICENCES.**

Description of Licence (Annual).	Whole Year.		Half-Year.		Remarks.
	£	s. d.	£	s. d.	
Agent of a Foreign Firm.....	10	0 0	5	0 0	—
Apothecary, Chemist, and Druggist	5	0 0	2	10 0	—
Assurance Company, Society, or Association (Fire, Accident, or Life)	—	—	—	—	£5 first year, 3d. per £1 of premium received in the territory for second and subsequent years; minimum, £5; maximum, £50.
Auctioneer.....	10	0 0	5	0 0	—
Baker.....	5	0 0	2	10 0	—
Bank.....	—	—	—	—	For every £100 of its paid-up capital, ¼d.
Broker.....	5	0 0	2	10 0	—
Butcher.....	5	0 0	2	10 0	—
Cigarettes (manufactured or for sale)	1	0 0	—	—	1st April in one year to 31st March in the next.
Dealer in Aerated Waters, Cigars, and Tobacco	1	10 0	0	15 0	—
Game (to carry and use a gun)..	1	0 0	—	—	—
Game (to sell or export for sale).	2	0 0	1	0 0	—
Gunpowder.....	5	0 0	2	10 0	—
Importer.....	12	0 0	6	0 0	—
Labour Agent.....	25	0 0	12	10 0	See Chapter IX.
Joint Stock Company.....	—	—	—	—	1s. on every £100 of the subscribed capital.
Ostrich Feather Buyer.....	5	0 0	2	10 0	—
Pawnbroker.....	10	0 0	5	0 0	—
Railway Administration or Company (Refreshment Cars)	60	0 0	—	—	—
Trader (from fixed stand).....	Minimum, 15 0 0 Maximum, 50 0 0	—	Minimum, 7 10 0 Maximum, 25 0 0	—	On aggregate amount of sales during preceding year. As to trading in Native Reserves, see fourth paragraph of § 12.
Stock Buyer (for export).....	50	0 0	25	0 0	See § 12.
Wine and Spirits :—					
Wholesale.....	30	0 0	15	0 0	—
Retail.....	30	0 0	15	0 0	—
Midnight Privilege.....	5	0 0	2	10 0	—
Temporary.....	—	—	—	—	10s. per diem.

## BECHUANALAND PROTECTORATE LICENCES—(continued).

<i>Other Licences.</i>		£	s.	d.
Game (to hunt "large game") :—				
Full season (1st March to 31st August), or any period exceeding three calendar months		20	0	0
For three calendar months or for any period exceeding two calendar months		12	0	0
For two calendar months or any period exceeding one calendar month....		8	0	0
For one calendar month or any period exceeding 14 days.....		4	0	0
For fourteen days or any shorter period.....		2	0	0

These licences are only issued to persons who wish to shoot for sport or to obtain specimens of the various species; and are not granted to those who are likely to abuse them or to shoot for the profit to be made out of the meat, skins, or horns. The number of head allowed to be shot under any licence is strictly limited, and is, under ordinary conditions, confined to one or two specimens of each variety. No licences are issued to shoot or capture hen ostriches, and the removal or being in possession of the eggs of these birds is not permitted. Persons applying for licences to shoot large game must satisfy the Resident Commissioner that they are fit and proper persons to hold them.

	£	s.	d.
Hawker—For three months or any lesser period for each vehicle.....	5	0	0
Marriage, Special.....	5	0	0
Wireless Telegraphy.....	100	0	0
Certificate of Admission to Practice—			
As an Advocate.....	20	0	0
As an Attorney.....	20	0	0
As a Notary Public.....	12	10	0
As a Conveyancer.....	12	10	0
As a Medical Practitioner.....	5	0	0
As an Apothecary, Chemist, and Druggist.....	2	10	0
As a Dentist.....	2	10	0

4. **Banking.**—There are no commercial banks in the Protectorate.





## CHAPTER III.

## SWAZILAND.

## § 1. History.\*

1. **Introduction.**—There are no written records from which a history of the Swazis could be compiled and what is given here of the early history has been obtained entirely from native sources.

The Swazis, in their ceremonies and customs, laws and superstitions are akin to the Zulu and other tribes of the south-eastern littoral. The constitution of the Swazi nation is made up of the king, the chiefs, the indunas, and last, but not least, the witchdoctors. The indunas represent the people, for, while the office of induna is, as a rule, hereditary, the appointment of an unpopular man to the post would not usually be made.

The Council, or *Ilibandhla*, is composed of the indunas of the nation under the presidency of the induna of the royal kraal. They advise the king on administrative and judicial affairs of state. Above the indunas are the chiefs of the districts. These are the *Abantuwana ba Mukosi* or children of the kings. These people, in most cases, are the descendants in the elder male line of dynastic chiefs of the tribe. Appeals from the judicial decisions of the indunas are made to them and from them to the king.

The *Malangeni*, the name for the collective body of the *Abantuwana ba Mukosi* form part of the *Ilibandhla*, but they rarely take part in the deliberations of the Council on routine affairs.

The establishment of a Protectorate has done away with such of the native customs as are plainly incompatible with civilized government, but the Administration has not interfered unduly with native customs. The Council still exists as an advisory body. An important influence in the unity of the tribe is the presence of magic medicines or charms conferring the power to control the elements in so far as making rain is concerned. The pre-eminence of the Swazi kings as rainmakers has been generally recognized by other tribes. While the king has nominal control of the rain medicine he is not allowed to have its custody. The person who should have charge of the medicine is the king's mother, known as the *Ndhlovukazi* or Cow Elephant. If the heir is a minor on the death of his father the king, the *Ndhlovukazi* becomes Queen Regent, until such time as the heir is old enough to be installed. This would not take place, except in abnormal circumstances, until he is about twenty years of age.

This introduction would not be complete without a reference to the subject of witchcraft, the practice of which is closely connected with every part of the life of the Swazis. It is their form of religion. Every household has its own snake, the spirit of a father or grandfather which is called upon in time of trouble, and to whom sacrifices are made when necessary. No actual communication can, however, be established with the spirits except through the witchdoctors, who undergo a special training, and who, like all mediums, must have certain mental qualifications. If the trouble is not averted or removed by sacrifice, the witchdoctors are called in to ascertain who is responsible. Sorcerers, poisoners, and others who commit evil deeds would be smelt out by the agency of the witchdoctors, and thus the country would be kept clean. The Swazis have by no means lost their belief in witchcraft though it cannot now be openly practised.

2. **Origin and Early History.**—There is no tradition of a northern origin amongst the Swazis. They are known to the other native tribes as the *Amangwane*, and their country as *Kwa Ngunu*. The reports of the early Portuguese on the Zambesi and the East Coast of Africa and the tradition of a northern origin, common to many of the tribes, point to a large Bantu migration from across the Zambesi to the southern lands. The migration took place towards the end of the sixteenth century. The tribes now forming the Zulu nation, the Amaxosa, Amabaca, Amahlubi, Amaswazi, and others may be the descendants of these people. The main horde of migrants is generally referred to as the *Abambo*. Judging by the close resemblance existing to-day in their language and customs it is reasonable to suppose that most of the tribes of the south-eastern littoral have sprung from some recent common stock from which the Swazis are also descendants. Having settled in the country now known as Natal, including Zululand, they showed a tendency to separate into small tribes. This soon had the effect of the formation of independent tribelets, and this was the position existing immediately before Tshaka again made a nation of the tribes under his sway, amongst whom, however, the Swazis were not included.

\* Information derived from "A History of the Swazis," by permission of the author, de S. M. G. Honey, Esq., C.M.G., Resident Commissioner of Swaziland.

The genealogy of the Swazi kings is traced back through twenty-one names to Umatalatala, who is most probably a legendary person. The last four reigned for an aggregate period of sixty years, and, adopting therefore fifteen years as a reasonable estimate for the reign of each chief prior to Ndungunya, who reigned about 1790-1815, the genealogy given by the Swazis would point to the fact that Umatalatala lived about the middle of the sixteenth century, or possibly about the date of the migration of the *Abambo*. Umatalatala is said to have lived in what is now southern Tongaland, and to have had three sons, Msutu, Mtonga, and Mswazi. The names Msutu and Mtonga point probably to the Abscutu and Amatonga peoples, and Umatalatala was perhaps the Adam of the Bantu races.

Msutu, Mtonga, and Mswazi moved westwards with their people. Mswazi quarrelled first with Msutu and then with Mtonga, and they left him. He settled within the present southern boundary of Swaziland, where he built his kraal—the Zombode, "the place of rest." It is not known whether he and his people displaced earlier occupants. His tribe must have been small, but in course of time it extended its boundaries. The country was named the *Tshiselweni*, the "hot country," on account of the frequent burning of kraals by enemies. Native tradition is silent as to the events occurring between the time of Mswazi I. and Sobhuza I., 1565-1815.

Towards the end of the eighteenth century the Swazis were ruled by Ndungunya. It is probable that at this time there was only the one clan, the descendants of Mswazi I. and his people. The three largest tribes between the Tugela River and Delagoa Bay were the Mtetwa, the Ndwandwe, and the Swazi. About 1780, Dingiswayo gained the chieftainship of the Mtetwa tribe after a long exile, during which he is said to have come into contact with white men, from whom he adopted the idea of a military organization. He succeeded in reducing all the surrounding tribes, including the Swazis, but not the Ndwandwe.

**3. History during the Zulu Supremacy.**—Ndungunya died about 1815, and was succeeded by Sobhuza, better known as Somhlolo, "the Wonder." The Ndwandwe tribes had not succumbed to Dingiswayo. They were the immediate neighbours of the Swazis and their relations must have been friendly, for Sobhuza married two of the daughters of the Ndwandwe chief. The one, Tandile, also known as Lazwide or Lazidi, the daughter of Zwide, became chief wife.

Tshaka had succeeded Senzangakona as chief of the small Zulu tribe about 1810, and after Dingiswayo's death at the hand of Zwide in 1818, he became chief of the larger Mtetwa tribe and overlord of all the tributary tribes, which have since been known as the Zulus. Sometime in between these dates, and after the death of Ndungunya, a dispute arose between the Ndwandwe and the Swazis over some lands, and Sobhuza was forced by Zwide to flee with his people towards the north. They reached the Mankaiana Mountains where they were welcomed by a small Zulu-speaking clan, the Maseku. Crossing the Great Usutu River Sobhuza camped near the present site of Bremersdorp. He commenced his conquest of the country by reducing the Nsukumbili, one of the aboriginal Sesuto-speaking clans inhabiting the Mdimba Mountains. After he had reduced several other clans the remainder came under his protection voluntarily or retreated west or north. Sobhuza maintained good relations with Tshaka and is said to have visited him. He sent him two of his daughters as wives. Tshaka was murdered and succeeded by his brother Dingana (Dingaan) in 1828.

Just before or just after the death of Sobhuza, in the year 1839, Dingana conceived the idea of retreating to the north to rid himself of the menace constituted by the presence of the Boers in his vicinity. He sent four regiments to clear the way. These were badly defeated by the Swazis, and Dingana not long after suffered death at the hands of the Swazis, in his flight after defeat by the Boers and his brother Mpande (Panda).

Sobhuza's kraal was the Langeni, near the Mdimba Mountains, and here he died in 1836. Within a period of a quarter of a century he had subjected to himself the foreign clans spread over some ten thousand square miles of territory. Sobhuza was succeeded by his son Mswazi II. On his accession a systematic military organization of the Swazi nation was put in hand, and regiments were formed mainly for protection from the Zulus. Mswazi's *impis* were sent out to extend his father's conquests and to bring in cattle and slaves. A military kraal, the Mjindini, was built beyond the site of the present Transvaal town of Barberton, and served as a base for operations towards the north. While Mswazi's relations with the Boers, with whom he had come in contact, were good, the Zulus under Mpande constituted a standing menace. Mswazi therefore decided to ask for the protection of the Queen of England, and sent a deputation to Mr. (afterwards Sir) Theophilus Shepstone (Somtseu) to seek the Queen's protection. Shepstone made representations to Mpande, who agreed to cease raiding the Swazis. The Swazis and Zulus have lived in amity from that time.

**4. First Relations with Europeans.**—In 1846 emigrant Boers occupied the Lydenburg district, which was in the possession of the Bapedi and other weak tribes. The Boers

decided to purchase the land from Mswazi, who, they considered, had acquired it by conquest. Mswazi sold the territory for one hundred breeding cattle. His rights to this area were probably nebulous, but in 1855 he signed a document purporting to cede the actual territory over which he ruled to the Lydenburg Republic. In 1860 he granted to a white man a local land concession, the precursor of many others. Early in Mswazi's reign Boers and other Europeans began to come into the country to hunt the game then abundant.

Mswazi died in 1868 at the comparatively early age of about forty-five years. For the Swazis the days of Mswazi were days of conquest and independence. The heir to the chieftainship was Ludonga, a boy of about eleven years of age. Before the time arrived for his proclamation as head of the nation he died, in the year 1874. Mbandeni, a son of Mswazi, then a boy of about seventeen years of age was chosen, and he was duly proclaimed as king in 1875. The Government of the South African Republic sent a party of Boers under the late Mr. G. M. Rudolph, C.M.G., to demonstrate by their presence the sovereignty of the Republic.

The districts of Zoutpansberg and Lydenburg continued to form raiding grounds for the Swazia. Sikukuni had caused trouble to the Boers, to whom assistance had been rendered by the Swazis, and the annexation of the Transvaal in 1877 did not improve the relations of the Europeans with the tribe. It became necessary in 1879 to organize a force against Sikukuni, and the aid of the Swazis was asked for by Sir Evelyn Wood (Lukuni). Eight thousand Swazis under their commander-in-chief, Mbovana, took the field with the British captain, McLeod (Mafu). They fought for a month before Sikukuni's people, the Bapedi, were reduced. In this year (1879) also took place the Zulu war. The Swazis say they were asked by the English to furnish a contingent against the Zulus, but they were not prepared to do this, as they were on friendly terms with that tribe.

**5. The Concessions.**—As stated above, the first concession was granted by Mswazi in 1876. When Mr. Rudolph, as the representative of the South African Republic, attended the proclaiming of Mbandeni as king in 1875 an agreement was drawn up and signed by Mbandeni. This confirmed all earlier cessions, and in effect constituted Swaziland a Protectorate of the Republic. The position of Swaziland was subsequently regulated in the *Convention of Pretoria* (1881), which expressly stipulated the independence of Swaziland. This stipulation was reaffirmed in the *Convention of London* (1884), which replaced that of 1881. Soon after his accession, in 1876, Mbandeni granted the first land concession. In the early eighties he gave numerous concessions to Boers for the winter grazing of their sheep. Coincident with the rush of the Boers for grazing veld came the discovery, in 1882, of gold on the western border. A concession was obtained for minerals, and others followed. The position in the year 1886 was that the subjects of the Republic had obtained large territorial and grazing concessions, while many concessions to work minerals had been granted to British subjects over the same areas. As between the Swazis themselves and the Boers, elements of friction lay in the collection of taxes and the alleged seizure of cattle from kraals close to the border, claimed by both sides as being within their own territory. Mbandeni evidently feared a collision between his people and the Boers, and he was too sensible of the consequences to view such a contingency except with the greatest alarm. The number of concessionaires was increasing every day, and the king was utterly unable to devise any effective system of control for the whites. In 1887 he appointed Mr. Theophilus Shepstone, a son of Sir Theophilus Shepstone, as his resident adviser and agent, after appealing in vain for British protection. One of Mr. Shepstone's earliest acts was to call a meeting of concessionaires in May, 1887. The meeting decided to appoint from their number twenty-five to form a committee to frame rules for the government of the whites. The appointment of the committee met with considerable opposition from the Boer graziers, a section of whom refused to recognize it.

Shepstone opened a register of concessions, and the committee imposed certain licence duties. Another white committee was elected at the beginning of August, 1888, and Mbandeni then granted a charter delegating to it judicial and fiscal powers of government, subject to his confirmation in so far as whites were concerned. By the year 1889, it was evident that considerable friction existed between the whites. The concessionaires desired better security for their rights than a savage state could afford. It had become apparent that the white committee had not the necessary influence or power to secure effective control, and the Republic itself desired the annexation of Swaziland, while the High Commissioner had become convinced that some power of intervention was necessary. Eventually the appointment of a Joint Commission was agreed to, the British Government appointing Colonel Sir Francis de Winton, K.C.M.G., C.B., as Commissioner, with Colonel Martin as secretary, and Mr. W. P. Schreiner as legal adviser. The Republican Commission consisted of Generals Joubert and Smit, Dr. Krause as legal adviser, and Mr. Van Alphen as secretary. The members of the Commission arrived in Swaziland on the 30th November, 1889, but the king had died in the previous month. On the death of Mbandeni, his son Ubhunu or Ngwane, then only about fourteen years of age, was selected to succeed. Mr. Shepstone was reinstated as adviser to the nation and lost little time in dissolving the white committee.

6. **History to 1902.**—With the approval of the Queen Regent and the chiefs, a Provisional Government Committee with full powers to adjudicate in matters affecting whites, and to frame laws for the governance of whites, was set up. This Provisional Committee was set up to ensure some form of control until the two Governments could receive and act on the reports of their Commissioners. The committee was appointed at first for four months, and then for another four months, and thereafter it was given fuller powers and remained in office until, under a Convention entered into four years later, the Republic assumed administrative control of the country. The members of the Provisional Government Committee were Mr. Shepstone (chairman), representing the Swazi nation, and Colonel Martin and Mr. J. D. Esselen, representing respectively the English and Republican Governments. A Convention between the two Governments was drawn up and signed in August, 1890. It provided for the continuance of the Provisional Joint Government and the appointment of a High Court to adjudicate, *inter alia*, on the initial validity of the concessions granted by the king. The independence of the Swazis was reaffirmed. An organic proclamation by the Swazi authorities gave effect to the provisions of the Convention in so far as was necessary. Neither the Provisional Government nor the Judiciary were to exercise power in purely native matters. The judges appointed to the Chief Court were Judge Kotze (President) and Judges Juta and Du Toit. Within a few months the Chief Court dealt with and confirmed the initial validity of most of the concessions granted. Judges Kotze and Juta then left the country and the Court became a Court presided over by one judge.

A Government Secretary and Treasurer, an Attorney-General, a Registrar and Master, a Commandant of Police, and five District Justices of the Peace were also appointed, with the necessary staffs. The Provisional Government levied taxes on the white population and customs duties on imported goods, though a proportion of the latter had to be refunded to holders of free import concessions. Little revenue was derived, and there was an annual deficit of about £14,000, which the two protecting Governments made up in equal shares. Dual control did not prove a success, however, and further negotiations took place between the High Commissioner and President Kruger resulting in yet another Convention, that of 1893, which gave the Republic the right to obtain from the Queen Regent of Swaziland and her Council an organic proclamation ceding rights and powers of jurisdiction, protection, and administration over Swaziland without incorporation. The internal affairs of the Swazis were to be conducted by themselves, and their customs, where not inconsistent with civilized laws, were to be respected. The Swazi authorities flatly refused to sign the organic proclamation which contained the above provisions, and finally they were granted permission to send a deputation to England to represent their case. The reply given to the deputation failed to alter the attitude of the chiefs. Further negotiations then took place between the High Commissioner and President Kruger, and finally the last Convention entered into on the subject of Swaziland was signed in 1894. This Convention embodied the conditions of the one of 1893, without, however, requiring the prior consent of the Swazis. Provision was made, *inter alia*, for payments due to the king under the Private Revenue Concession, for native taxation after the expiry of a period of three years, for the appointment of a local administration, and the continuance of the Chief Court. The sale of liquor to natives was prohibited; British subjects were guaranteed in the enjoyment of their concession rights; and the Swazis were guaranteed in their continued use and occupation of land then in their possession. The Imperial Government reserved the right to appoint a British consular officer to reside in Swaziland.

Early in 1895 the Republic appointed Mr. J. C. Krogh as Special Commissioner with an administrative staff. General Botha, later Prime Minister of the Union of South Africa, was for a time stationed at Mbabane as Resident Justice of the Peace. Mr. Shepstone became Registrar of Deeds for Swaziland, stationed at Pretoria, and Mr. J. Smuts, I.S.O., was appointed Resident British Consul.

Up to 1894 little development by the white inhabitants had taken place. Only a few gold mines were being worked. In practically all the concessions granted by the late Swazi king his own sovereignty and the rights of the natives had been reserved; but the question of what the rights of the natives were in relation to those of the concessionaire did not then arise in an acute form.

Ubhunu had by this date arrived at an age to take control, and Labotsibeni, his mother, had become the *Nahlonukazi*, the Queen Regent and rainmaker. Ubhunu, according to reports, combined most of the vices with few of the redeeming traits of statesmanship or mercy for which some of his forefathers were notable. In 1898 he first came into conflict with the Government by the killing of Mbaba, the induna of his kraal. He was summoned to appear before the judicial authorities at Bredersdorp. Fearing the consequences, he fled to Zululand, but was subsequently prevailed upon by the High Commissioner to return. An administrative inquiry was held by the presiding Judge of the Chief Court and he was eventually fined £500.

The Mbaba affair served the purpose of bringing to the notice of the contracting Governments the necessity of the assumption, under legal process, of some jurisdiction in purely native matters. A protocol to the Convention of 1894 was therefore signed; this reserved for trial by European courts offences of a serious nature and took away from the native authorities the power to inflict the death penalty. The effect of this was to convert the king of Swaziland into a paramount chief, subject, like his people, to the jurisdiction of the European courts.

Ubhunu died in 1899, and the outbreak of the war in October, 1899, resulted in the withdrawal of the Dutch Administration from Swaziland, the Swazis being left to their own devices until the end of the war in 1902.

As regards the concessions, which had so decisively influenced the course of the history outlined above, their validity was recognized by the court appointed in 1890; but this fact had not removed the essential difficulties of the whole question. In 1902 the position was, therefore, virtually identical with that of the previous years.

**7. History under the Transvaal Government.**—Soon after peace was signed Lord Milner sent Mr. Enraght Moony as Special Commissioner to Swaziland. He was accompanied by a small administrative staff and a force of South African Constabulary. The headquarters of the administration were established at Mbabane, Bremersdorp, the former capital having been destroyed during the Boer war.

The first act of the new Commissioner was to disarm the Swazis. The Special Commissioner had no specific powers, but he assumed such judicial functions as were necessary to preserve order, and his acts were later on legalized by Proclamation under an Order of the King-in-Council (1903). This Order placed the administration of Swaziland directly under the Governor of the Transvaal, who was invested with extensive powers. The paramount and other chiefs were to continue to exercise civil jurisdiction in purely native matters, in accordance with their customs, in so far as they were not inconsistent with civilized law. The small amount of criminal jurisdiction remaining to them after the protocol of 1898 was now taken away.

In the latter part of 1904 Lord Milner issued the *Swaziland Administration Proclamation* of 1904. This provided for the administration of the country and dealt with the concessions question in its many aspects. The laws of the Transvaal in force at that date were applied to Swaziland *mutatis mutandis*. The native chiefs were to continue to exercise civil jurisdiction in purely native matters. A Commission was to be appointed to inquire into all concessions and to decide questions of boundary disputes, and, in fact, to regulate the rights of concessionaires and place them on such a basis as to prevent any conflict of rights in the future. Provision was made for the expropriation of monopoly and industrial concessions, and for the survey of all surface and mineral rights, and for the raising of a loan to meet the necessary expenditure.

A survey of all territorial and mineral concessions was at once begun and the value of the monopoly concessions was inquired into, and expropriation took place. By the year 1908 the Commission had issued its decisions in regard to the other concessions, and surveys were completed accordingly. Provision was made for the grant of freehold title in respect of all land concessions for ninety-nine years and over, subject to the reservation of mineral rights and any servitudes existing. The rights of the natives were safeguarded under the Proclamation, which preserved to them the continued use and occupation of the land then in their possession and of all grazing or agricultural rights to which they were then entitled; and the Commission was given power, subject to the approval of the Governor, to set apart a portion or portions of concessions for the sole and exclusive use and occupation of natives, the remaining portion or portions of such concessions not to be subject to such use and occupation.

**8. History since 1906.**—Lord Milner left South Africa in 1905, and was succeeded by Lord Selborne, who paid a visit to Swaziland in 1906 to study local conditions and to decide the principle on which the partition of concessions was to be carried out. Before this had been decided upon, Swaziland was, by Order-in-Council, dated the 1st December, 1906, removed from the control of the Governor of the Transvaal to that of the High Commissioner for South Africa, and a Proclamation was issued in March, 1907 (*The Swaziland Administration Proclamation*, 1907), providing for the appointment of a Resident Commissioner, a Government Secretary, Assistant Commissioners, and the establishment of a Police Force. The laws of the Transvaal then in force in Swaziland were re-enacted, *mutatis mutandis*; the Roman-Dutch Common Law was declared to be in force; and a Court of Resident Commissioner was established, having all the powers of a Superior Court, together with Courts of Assistant Commissioners with limited jurisdiction. The paramount chief and other chiefs were confirmed in their civil jurisdiction subject to appeal to the Resident Commissioner. While the Transvaal Government ceased to have any control in Swaziland, the local administration has continued nevertheless to receive the advice

and assistance of technical officers of the Agricultural, Mines, and other Departments of the Union. Deeds and Survey services remain under the control of the relative Departments at Pretoria, and the Postmaster-General of the Union conducts postal administration. Mr. F. Enraght Moony was appointed as Resident Commissioner, and on his retirement, in 1907, he was succeeded by Mr. (now Sir Robert) Coryndon, K.C.M.G. Soon after the *Swaziland Administration Proclamation, 1907*, was issued, Lord Selborne issued a Proclamation, the *Swaziland Concessions Partition Proclamation, 1907*, which decided the principle on which the relative rights of concessionaires and natives on concessions was to be determined. From every land and grazing concession one-third was to be taken for the sole and exclusive use of the natives, the remaining two-thirds to be freed from native use and occupation.

The native chiefs were hostile to the scheme and sought and obtained permission to send a deputation to have an audience of His Majesty the King. They were unsuccessful in the object of their mission. Mr. George Grey was appointed to carry out the work of demarcating the native areas, and he performed this task without interference by the natives.

By the year 1910, although diagrams of surveys had not yet been completed, every owner of land or mineral rights in Swaziland knew his exact standing and what constituted his property. One of the provisions of the settlement was that for a period of five years from the 1st July, 1909, no natives then resident on private land could be compelled to move therefrom; and after the expiry of that period no native could remain on private land except by agreement with the owner thereof.

Simple and effective machinery was subsequently provided in Proclamation No. 24 of 1913 for the removal of natives from concessions after the period of five years had elapsed. This took place in 1914 and there was no large movement of natives from concessions. Those who desired to move did so voluntarily, and the remainder made terms with the concessionaires and remained on their farms. In no instance was it necessary forcibly to eject any native family from a concession.

Special legislation was required to deal with mineral and land concessions existing over the same areas of ground, and a Commission was appointed in 1909 to deal with the question. The recommendations resulted in the issue of various Proclamations regulating the use of water and of the rights ancillary to the mineral concessions. Provision was also made whereby the rights under one class of concession later dated to another class of concession could be exercised without interference by the owners of the latter, and the exercise of mineral rights on native areas was also regulated.

Further developments, relating principally to the government of the Territory and the administration of justice, are noticed below in §§ 3 and 6.

The High Commissioner, Lord Buxton, visited the Territory in September, 1917, and received deputations representative of the European residents and saw the chief regent and the principal chiefs.

## § 2. Boundaries, Area, and Physical Characteristics.

1. **Boundaries and Area.**—Swaziland is bounded on the north, west, and south by the Transvaal Province, and on the east by Portuguese territory and Zululand. The area of Swaziland is 6,678 square miles.

2. **Physical Characteristics, Climate, Etc.**—The Territory is divided geographically into three longitudinal regions of roughly equal breadth, running from north to south, and known locally as the *high*, *middle*, and *low* or *bush veld*. The mountainous region on the west rises to an altitude of over 4,000 feet. The *middle veld* is about 2,000 feet lower, while the *low veld*, bounded on the east by the Lebombo Mountains, has an average height of not more than 1,000 feet.

The mountainous region, or *high veld*, is free from malaria, which is present in the *low veld*, and in a slight degree in the *middle veld* during some of the summer months. The first two regions are remarkably well watered. Innumerable small streams unite with the large rivers which traverse the country from west to east. Except for these the *low veld* is not very well watered. The climate is ideal except for a few months in summer when the heat is somewhat excessive in parts. The *high veld* portion, however, seldom experiences any excessive heat, a spell of hot weather being almost invariably followed by cooling mists.

3. **Meteorology.**—Both the rainfall and the temperature vary considerably with the altitude of the stations. The average rainfall as recorded during 1920 at the four principal stations—Mbabane 3,800 feet, Piggs Peak 4,500 feet, Croydon 1,175 feet, and Natalia Ranch 800 feet—was 46.3 inches; the average rainfall throughout the Territory for the preceding twelve years being 44.48 inches.

The following return shows the temperature recorded at Mbabane (*high veld*) and Croydon (*low veld*). The figures given in regard to Mbabane may be taken as typical of the hilly parts of the country, while those at Croydon are typical of the *low veld* generally. The *middle veld* varies as to rainfall and temperature between the two stations referred to.

**RECORDED TEMPERATURE, MBABANE AND CROYDON.**

YEAR.	MBABANE.			CROYDON.		
	Mean Max.	Mean Min.	Mean Temp.	Mean Max.	Mean Min.	Mean Temp.
1916.....	71·2	54·0	62·6	86·0	57·0	71·5
1917.....	72·0	53·0	62·5	84·0	55·0	69·5
1918.....	73·2	52·6	62·9	86·1	56·1	71·1
1919.....	73·1	51·7	62·3	85·3	56·5	70·9
1920.....	73·6	51·8	62·7	85·2	56·6	70·9

**§ 3. Administration.**

1. **Central Administration.**—By an Order-in-Council, dated the 1st December, 1906, Swaziland was placed directly under the control of the High Commissioner for South Africa, and a Proclamation was issued in March, 1907, providing for the appointment of a Resident Commissioner, a Government Secretary, Assistant Commissioners, and the establishment of a Police Force. The headquarters of the Administration are at Mbabane, a small village, picturesquely situated on the hills, at an altitude of 4,000 feet, and overlooking the *middle veld*. It is reached by good roads from Ermelo, Breyten, and Carolina in the Transvaal, the latter town being distant about ninety miles. The journey by mail-car from Carolina takes about six hours. Mbabane can also be reached from the Portuguese railhead at Goba, by road through Bremersdorp, the former capital. The journey by motor-car, over a fair road, usually takes between eight and nine hours.

The Swazi Tins, Limited, which have, for a considerable number of years, carried on alluvial tin mining at Mbabane, supply at a nominal cost electric light for the streets and houses in the village.

A Proclamation was issued in 1912, constituting the township and empowering the High Commissioner to make general regulations for the government of townships. An ample supply of water for the requirements of the village is supplied by the Swazi Tins, Limited, under an agreement with the Government.

**2. Principal Officers of Administration.**—

*Headquarters, Mbabane.*

Resident Commissioner: de S. M. G. Honey, C.M.G.	Financial Secretary: L. Luscombe.
Deputy Resident Commissioner and Government Secretary: B. Nicholson, D.S.O., M.C.	Chief Clerk: L. Pottick. Master, Registrar, Sheriff: W. W. Usher.

*Hlatikulu District.*

Assistant Commissioner, Hlatikulu: A. G. Marwick.	Deputy Assistant Commissioner: H. McCarter
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*Mbabane District.*

Assistant Commissioner, Mbabane: B. H. Warner, B.A.	Resident Justice of the Peace, Bremersdorp: S. B. Williams.
Deputy Assistant Commissioner: W. W. Usher.	

*Peak District.*

Assistant Commissioner, Peak: Vacant.

*Ubombo District.*

Acting Assistant Commissioner, Ubombo: T. A. F. Steward.

*Mankaiana District.*

Assistant Commissioner: D. H. Harvey.

*Police.*

Assistant Commissioner, commanding Swaziland Police: Maj. C. H. Gilson, D.S.O.

*Medical.*

Principal Medical Officer: R. Jamieson, F.R.C.S.

*Veterinary.*

Principal Veterinary Officer: W. A. Elder, F.R.C.V.S.

3. **Local Administration.**—There is no council or village board. The streets are kept in repair by the Government and no rates are charged. The sanitary organization of Mbabane is under Government supervision and householders pay a nominal amount per month for this service.

§ 4. Population and Vital Statistics.

1. **Population.**—The following table gives the population of Swaziland in 1911 and 1921 :—

POPULATION OF SWAZILAND, 1911 AND 1921.

Race.	1911.			1921.		
	Male.	Female.	Total.	Male.	Female.	Total.
European.....	623	460	1,083	1,230	966	2,205
Bantu.....	44,098	54,635	98,733	52,761	57,534	110,295
Asiatic.....	84	59	143	7	—	7
Other Coloured...				254	190	444
<b>TOTAL.....</b>	<b>44,805</b>	<b>55,154</b>	<b>99,959</b>	<b>54,261</b>	<b>58,690</b>	<b>112,951</b>

A small percentage of the natives in southern Swaziland consists of Zulus. There are two European villages in Swaziland—Mbabane with a European population of 249 and Bremersdorp with a European population of 118. Other European centres are the Government stations at Hlatikulu, Mankaiana, Stegi, and Pigg's Peak.

2. **Vital Statistics.**—(i) *Registration of Births, Deaths, and Marriages.*—The registration of births and deaths and the solemnization of European and native marriages are regulated respectively by the following Transvaal Laws, viz., Proclamation No. 27 of 1900, Law No. 3 of 1871, and Law No. 3 of 1897, which are in force in Swaziland, by virtue of the *Swaziland Administration Proclamations* of 1904 and 1907. The general requirements under these laws are the same as in the Transvaal. The registration of native births, deaths, and marriages (other than marriages under European law) is not yet enforced.

(ii) *Births, Deaths, and Marriages Registered.*—The total number of births, deaths, and marriages, European and coloured, registered during a period of years is shown in the following table :—

BIRTHS, DEATHS, AND MARRIAGES REGISTERED IN SWAZILAND.

YEAR.	BIRTHS.	DEATHS.	MARRIAGES.	
			European.	Coloured.
1915.....	42	12	6	45
1916.....	42	18	5	45
1917.....	49	18	7	41
1918.....	34	22	9	15
1919.....	50	25	10	65
1920.....	49	23	12	62

3. **Health.**—Swaziland varies in altitude from about 4,000 feet on its western border to about 400 feet near the eastern border, and consequently all kinds of climate are represented, from that of the Transvaal *high veld* to almost tropical *low veld*. While the former is one of the healthiest portions of South Africa, in the *low veld* on the eastern side there is a good deal of malaria in the hot season, and some dysentery. Both, however, are easily avoided by taking the precautions ordinarily considered necessary in any



sub-tropical country, and quite a number of white men lead healthy lives in the very middle of the *low veld*. The natives, on the whole, are of good physique and suffer little from epidemic diseases. The medical service consists of three doctors, two hospital assistants, and one nurse.

### § 5. Educational Organization and Social Conditions.

**1. Government-aided Education.**—Government schools of an elementary type are established at various centres in the country. There is also a Government school for natives at Zombode, the kraal of the paramount chief. A primary and secondary school has been established at Mbabane by the Venerable Archdeacon C. C. Watts, M.A. This school receives a Government grant and charges no tuition fees. It is attended by boarding and day scholars of both sexes. Several of the pupils have passed the matriculation examination. In the year 1920 there were 54 scholars on the roll. Archdeacon Watts also established a school for coloured children near Mbabane. This also receives a Government grant. In addition to the above, the various missions conduct schools and classes in connection with their mission work for natives. These also receive Government grants. Boarding bursaries at the rate of 4s. per child per week are paid by the Government for all white pupils whose parents are in poor circumstances and who reside three miles or more from school. There are very few white children who are not receiving education. The schools are inspected annually by the Inspector of the Basutoland Government, for whose services the Swaziland Administration makes an annual contribution.

At present there are 11 schools for white children in the Territory. The average attendance during the year 1920 was 286.

The average attendance at the Polonjeni coloured school was 59 and at the Government school for natives at Zombode 151.

There are about 2,200 native pupils at the various mission schools. A number of the more advanced pupils, both boys and girls, are sent out every year to be trained in the Union—at Lovedale, Tiger Kloof, and the Indaleni and Amanzimtoti Institutes. The young paramount chief was educated at Zombode and Lovedale. The cost of tuition and board for these pupils is paid from the *Swazi National Fund*, which was created with the concurrence of the Swazi chiefs, for purposes of direct benefit to the natives. Each native taxpayer is required by law to pay 2s. per annum to the fund, the expenditure from which is under the control of the Government.

**2. Churches and Missionary Activities.**—There are fifteen religious bodies carrying on work in Swaziland, as follows:—

Church of England.  
Wesleyan Methodist.  
Dutch Reformed Church.  
S.A. Reformed Church.  
Gereformeerde Church.  
South African General Mission.  
Roman Catholic.  
Pentecostal Church of the Nazarene.

International Holiness Union.  
Evangelic Lutheran.  
African Methodist Episcopalian.  
Independent Methodist.  
Full Gospel Mission of Norway.  
Christian Catholic Apostolic Church of Zion.  
Scandinavian Alliance Mission.  
Swedish Mission.

As far as possible, the native missions avoid encroaching on each other's spheres of work. Religious instruction is given by the different bodies at about 38 different centres, where the average attendance during 1920 totalled 2,200. The Church of England and the Roman Catholic Church also have churches at Mbabane for Europeans and a church has been built at Bremersdorp.

Mission work was begun amongst the natives many years ago by the Reverend Joseph Allison, an enthusiastic Wesleyan pioneer missionary. He started work at Mahamba with the permission of the Swazi authorities. There the Swazi king, Mswazi, visited him, and for the first time saw a white man.

Some years later missionaries of the Church of England erected the first permanent mission station in Swaziland, at the Usutu.

The South African General Mission followed and the Wesleyans reopened their work in the Territory.

When the country was taken over by the Crown, after the South African war, and law and order became more established, the missions had a better opportunity. The Wesleyans developed their work very largely with good schools; the Church of England also extended from the Usutu to various outstations, while the South African General Mission enlarged its sphere of work. In addition to these, the Scandinavian Alliance Mission, and later on the Roman Catholic Church, established missions in various parts of the Territory.

Apart from the regular schools, the natives are being educated in a variety of ways. They acquire something of the superficial culture of the Europeans from every white man

with whom they come in contact. They are, however, notoriously difficult from a missionary point of view. They do not take kindly to Christianity, not because they are irreligious, but because they find the restrictions somewhat irksome. They are eager for all the advantages and privileges religion has to offer them, but they do not like the responsibilities.

**3. Labour.**—There is a fair local demand for native agricultural and mine labourers, and about 600 natives are employed on the two tin mining companies working in Swaziland. The country has not, however, advanced sufficiently to absorb all the native labour available, and consequently the Swazis go out freely to work on the Transvaal mines, where the demand for their labour increases every year. There are about 5,000 Swazis in constant employment on the mines. The recruiting of labour is under the control of the Transvaal Native Recruiting Corporation, which has agents in the various districts. Many of the natives, however, go out to seek work of their own accord.

### § 6. Administration of Justice.

**1. Superior Courts.**—By the *Swaziland Administration Proclamation, 1907*, a Court of Resident Commissioner with all the powers of a Superior Court, was established. The laws of the Transvaal then in force in Swaziland were re-enacted, *mutatis mutandis*, and the Roman-Dutch Common Law was declared to be in force. In 1912 this Proclamation was amended and a Special Court was substituted for the Resident Commissioner's Court, with an advocate of the Provincial Division of the Transvaal as president. The other members of this Court consist of the Resident Commissioner, the Deputy Resident Commissioner, and the Assistant Commissioners of the various districts. The Court holds sessions at least twice a year. All cases which come before it are dealt with by three members, sitting without a jury. This Court has jurisdiction in all civil and criminal cases arising, or which shall have arisen in Swaziland, including the right of reviewing the proceedings of and hearing appeals from any inferior court of justice in Swaziland. When the Court is not in session, the Resident Commissioner or Deputy Resident Commissioner as a member of the Special Court is competent—

- (a) to review the criminal proceedings of the Courts of Assistant Commissioner when the sentence exceeds three months' imprisonment, or a fine of £25, or any sentence of whipping, and to hear appeals in all civil and criminal cases against any judgment, sentence, or final order of Courts of Assistant Commissioner;
- (b) to exercise the civil jurisdiction of the Special Court in all motions and applications and in all actions for provisional sentence, and in all cases in which all parties apply to have the case tried before the Resident Commissioner. In any case, other than a review of criminal proceedings, there is a right of appeal to the full Court.

Death sentences can only be carried out upon the special warrant of the High Commissioner. There is a right of appeal to the Privy Council against any final judgment of the Special Court, where the matter in dispute is of the value of £500 or upwards.

**2. Lower Courts.**—Under the *Swaziland Administration Proclamation, 1907*, the High Commissioner appointed Courts of Assistant Commissioner with jurisdiction in all civil proceedings in which neither party is a white person, and in criminal proceedings in which the accused is not a white person. These Courts have no jurisdiction to try summarily any persons charged with treason, murder, attempt to murder, culpable homicide, rape, attempt to commit rape, or sedition; and in these cases and in other serious cases, preparatory examinations are taken under the *Criminal Procedure Code, 1903*, of the Transvaal, which is in force in Swaziland. The jurisdiction of Courts of Assistant Commissioner as regards white persons, in both civil and criminal matters, is the same as was conferred on courts of magistrates in the Transvaal at that time.

There is one Court of Resident Justice of the Peace, established at Bremersdorp.

**3. Native Courts.**—Under the above-mentioned Proclamation, the paramount chief and other native chiefs of Swaziland are authorized to continue to exercise jurisdiction according to native law and custom in all civil disputes in which natives only are concerned. An appeal lies from the decision of any such chief to the Resident Commissioner, whose decision is final.

**4. Police.**—A Police Force, known as the Swaziland Police, has been established under the command of an Assistant Commissioner. The present strength of the Force is:—European: 3 officers, 1 warrant officer, 18 non-commissioned officers and men; Native: 1 native officer, and 175 non-commissioned officers and men.

**5. Criminal Statistics.**—During the year 1920 the number of cases reported to the police was 1,998. Of this number 121 were not brought before the Courts for want of

evidence. In all 2,175 persons were brought before the various Courts. Of this number 144 were discharged, 112 committed for trial in the Superior Courts, and 1,919 summarily convicted.

The following tables show the number of convictions and acquittals during a series of years:—

**SUMMARY CONVICTIONS FOR CRIMINAL OFFENCES IN SWAZILAND,  
1916 TO 1920.**

Description.	1916.	1917.	1918.	1919.	1920.
Offences against the person.....	145	117	104	131	257
Offences against property.....	156	189	206	245	189
Offences against revenue.....	—	—	—	—	—
Tax and pass laws.....	1,656	4,494	2,788	1,219	1,176
Other offences.....	635	365	367	444	245
Number of persons acquitted.....	221	189	197	254	144

**CONVICTIONS IN THE SUPERIOR COURTS OF SWAZILAND,  
1916 TO 1920.**

Description.	1916.	1917.	1918.	1919.	1920.
Homicides.....	29	25	10	74	14
Other offences against the person.....	4	5	8	4	48
Offences against property.....	1	30	1	3	12
Other offences.....	4	1	1	1	1
Number of persons acquitted.....	47	14	9	69	26

**§ 7. Organization for Defence or War.**

1. **General.**—In addition to the police force constituted as stated previously, in each of the five districts of Swaziland there is a rifle club, every member of which holds a Government rifle and 100 rounds of ammunition. An undertaking is signed by the members: "in case of emergency to respond in person . . . to any call in defence of life or property in Swaziland, or the preservation of order therein when called upon by the Resident Commissioner, or his lawful deputy." There are about 145 members belonging to these rifle clubs and most of them could be mobilized as a mounted force.

On the outbreak of war in 1914, it was considered advisable to arm the white residents of the Territory. This was done through the agency of the local rifle clubs. Soon after, when the rebellion in the Union of South Africa broke out, the members of the rifle club at Mbabane willingly underwent a course of mounted and dismounted training to be ready for any eventualities. There were 63 members of this rifle club at the outbreak of the rebellion. Each member supplied his own horse.

2. **South-West Africa Campaign.**—In October, 1914, the Swaziland Troop raised by volunteer effort and consisting of one officer and thirty-one non-commissioned officers and men, was attached to the Imperial Light Horse for service in the South-West Africa Protectorate. This troop retained its status as a territorial unit throughout, and did excellent work. At the conclusion of the campaign, the personnel almost without exception volunteered for further service in Europe and German East Africa; and, with the exception of those officials who could not be spared from their duties in the Protectorate, rejoined accordingly.

3. **Native Labour Contingent.**—In September, 1916, the Imperial Government having expressed a desire that a Native Labour Contingent should be recruited for service overseas, steps were taken to ensure the representation of Swaziland, and the chief regent and principal chiefs were consulted with this end in view. The result was somewhat disappointing.

The natives expressed themselves as willing to fight for the King against other natives, but the fear of the seas acted as a deterrent, and only sixty-seven natives were recruited and despatched. These were attached to the 5th Battalion, and were reported upon as having rendered excellent service.

**4. Personnel and Casualties.**—During the war, Swaziland contributed in personnel, 47 officers, 91 other ranks, 1 nursing sister, and 1 to the Voluntary Aid Department.

The table hereunder shows the variety of service rendered and the areas in which the men fought. Many officers and men served in several campaigns.

Rank	South African Rebellion.	German South-West Africa.	German East Africa.	Europe.	Meopotamia.	Egypt and Palestine.
Officers.....	1	24	12	39	5	2
Other ranks.....	2	43	41	39	—	3
TOTAL.....	3	67	53	78	5	5

**HONOURS AND DECORATIONS WON.**

C.M.G.	O.B.E.	D.S.O.	M.B.E.	M.C.	D.F.C.	R.A.F.C.	Italian Silver Medal for Valour.	D.C.M.
1	1	3	1	6	1	1	1	1

**CASUALTIES.**

Killed and died, 14; wounded, 9.

**5. War Funds.**—(i) *Swaziland War Relief Fund.*—This fund was inaugurated at the beginning of hostilities, and had for its objects the relief of any distress caused to persons who had volunteered and served in service during the war, or to their relatives or dependents wherever resident. Generous responses were made to the appeals issued, and a substantial sum was collected. The whole amount has been distributed.

(ii) *Swazi National War Fund.*—The chief regent with the principal chiefs voluntarily suggested that they should raise a fund from the natives of Swaziland, as a contribution to the war. This fund was raised without Government assistance and resulted in a total contribution of £3,000, which was sent to the King, and was, by His Majesty's Command, devoted to the purchase of two aeroplanes for the Royal Air Force.

**§ 8. Land Settlement.**

**1. Present Position.**—The grant of land, mineral, grazing, and other concessions has been dealt with in § 1 of this chapter. The present owners of land derive their titles from the original concessions granted by the Swazi kings, and provision exists whereby these titles, if granted in respect of periods of ninety-nine years or over, may be converted into freehold grants. These were inquired into by the Chief Court of Swaziland in 1890, and most of the concessions were confirmed. These concessions were duly registered in the books of the Swazi nation, by their agent and adviser, the late Mr. T. Shepstone, C.M.G., and registration has been continued in the Swaziland Deeds Office, which is under the charge of the Registrar of Deeds for the Transvaal.

Land survey, tenure, and occupation and registration of land are based on the same principles as those in the Transvaal. The Surveyor-General of the Transvaal acts in a similar capacity for Swaziland.

The area of Crown land (both unencumbered and encumbered) which has so far been alienated amounts to 360,490 morgen; while there are 124,000 morgen (unencumbered) and 47,375 morgen (encumbered) of Crown land not yet alienated.

**2. Possibilities for Land Settlement Purposes.**—At the time of the settlement of the concessions, many of the Dutch and other settlers in the country were in poor circumstances, and the Government allotted to many of them, on easy terms, suitable plots of land, varying from 420 to 1,050 acres in extent. The results generally have been excellent. Most of the land now owned by the Crown is situated in the *low veld*.

### § 9. Agriculture, Game, and Fish.

**1. Live Stock and Pastoral Production.**—(i) *Horses and Mules.*—Owing to the prevalence of horse-sickness, Swaziland is not a horse or mule breeding country, but both classes of animal are used extensively.

(ii) *Asses.*—A small number of asses are bred in the Territory.

(iii) *Cattle.*—It is reported by old residents that in the very early days, before the invasion of rinderpest in 1894, the country teemed with cattle, and a rough estimate of the number is given at 300,000 head. Rinderpest in 1894 and 1897 and East Coast fever in 1902, made great ravages. At the 1911 Census the number of cattle was 57,601.

Since 1911, the campaign against East Coast fever has been most successful and cattle have increased very rapidly. The number in 1920 was estimated at approximately 193,000. Dipping is compulsory everywhere, and the Europeans and natives have alike realized its value.

Swaziland, especially the *bushveld*, is one of the finest of cattle-raising centres. In 1913 cattle ranches were established in the *bushveld*, and one of these, the largest, is now running approximately 10,000 head of mixed breeding stock. Pure-bred bulls of the Friesland, Shorthorn, Hereford, Aberdeen-Angus, and Devon breeds have been introduced; but, as yet, it is not possible to state definitely which breed is the best to cross with the local cattle, which are themselves of a fairly good type for the purpose, and give a high annual percentage of calves.

From 1902 to 1916, the Union of South Africa prohibited the export of cattle from Swaziland into the Union. This prohibition still exists, except in respect of cattle for slaughter purposes.

During the year 1920, 3,649 head were exported for slaughter purposes, and, owing to the fact that cattle from the *bushveld* can be put on the market in prime condition in the winter and early spring, good prices were realized. Dairying is likely to assume importance as an industry in view of the high prices now being obtained for butter and cream.

#### NUMBER OF CATTLE, HORSES, MULES, ASSES, AND PIGS ACCORDING TO CENSUS OF 1904, 1911, AND 1921.

Year.	Cattle.	Horses.	Asses.	Mules.	Pigs.
1904.....	37,432	505	517	236	4,343
1911.....	57,601	541	1,538	329	8,994
1921.....	210,391	1,449	4,274	284	—

(iv) *Sheep and Wool.*—Approximately 300,000 sheep come into Swaziland from the Union annually, for the purpose of winter grazing. The general farming of woolled sheep the year round has not been generally tried, but a few flocks kept on the hills have done well. No wool is exported.

(v) *Goats and Mohair.*—The goats in Swaziland are of the common South African goat breed. There are no Angora goats in the country.

The Census returns of native sheep and goats are as follows:—

1904.....	87,085
1911.....	163,593
1921.....	118,790

(vi) *Poultry.*—At the 1904 Census the number of all kinds of poultry was returned at 3,484; while at the 1911 Census the number had increased to 10,179.

**2. Agricultural Production.**—(i) *Cultivation of Cereals.*—The summer rains begin in September and continue until March or April. The principal crop raised in the country is maize, grown in all parts. Great care is being exercised by Europeans in the selection of their seed. The chief breeds grown are: Hickory King, Mercer, Chester County, Iowa Silver Mine, Natal Horsetooth. Exhibits placed on the Johannesburg and Maritzburg Shows more than held their own against maize grown in the Union.

Kaffir corn is extensively grown by the natives, and wheat, oats, rye, and barley to a limited extent by European farmers with facilities for irrigation.

The agricultural census of 1921 showed the following production of cereals in Swaziland :—Maize, 29,025 bags ; kaffir corn, 1,136 bags ; wheat, 110 bags ; oats (forage), 58,100 lb.

(ii) *Fruit Cultivation and Sugar Production.*—All classes of fruit grow well. Citrus fruits, apples, pears, peaches, apricots, plums, strawberries grow on the high parts ; citrus and all sub-tropical and tropical fruits in the middle and low parts. The Government Horticulturist of the Transvaal has reported very favourably on the prospects of fruit-growing, and he was especially impressed with the suitability of the climate and soil for citrus fruits and mangoes. All fruit at present produced is consumed in the Territory, but many citrus plantations are being started. Pending the construction of a railway, production will be limited for want of a market.

The growing of sugar-cane is only in the experimental stage.

(iii) *Cotton.*—A commencement has been made in the cotton industry, and during the year 1920 approximately 1,000 acres were put under cultivation. Experiments with many varieties have been carried out, but it is not yet definitely established which variety will give most satisfaction.

Swaziland is believed to be essentially a cotton-producing country of the future. The rainfall, averaging from 30 to 40 inches ; the absence of frosts, excepting along some of the streams ; the abundance of sunshine and fertility of the soil, supply the requisites for successful cotton production. According to the Census of 1921 the production of cotton in Swaziland was 585,981 lb.

(iv) *Tobacco.*—For the production of bright or yellow leaf, the soil, on the whole, is not suitable, though there are restricted areas which are suitable for the production of this type of leaf. The dark or heavy types of leaf are believed to be best suited to the soil conditions, although cigar tobacco is worth a trial. At the present time the natives consume practically all the tobacco grown in Swaziland. This trade demands a dark red, heavy, oily leaf of good texture suitable for snuff. In the Lebombo flats and on the Lebombo there are considerable areas which will produce good bright tobacco.

In 1920-21 the tobacco production of Swaziland was 285,720 lb.

3. **Forest Resources.**—The whole of the low veld is heavily bushed, and isolated forests or " bushes " exist in kloofs in the Drakensberg Range. There are no indigenous timbers in sufficient quantities to repay exploitation commercially, except for rough purposes, such as timbering mines. Guns and wattles thrive well in the mountainous parts of the west.

4. **Diseases of Animals.**—The diseases most prevalent are tick-borne diseases, i.e. East Coast fever, ordinary redwater, anaplasmosis, and heartwater. Owing to the dipping facilities in the country, none of these diseases constitutes a deterrent to ranching.

(i) *East Coast Fever.*—Since the dipping operations were commenced in 1911, East Coast fever, which was then prevalent over the whole country, has practically disappeared, there only being two infected areas in the country in 1919. The outbreaks and deaths from this disease are shown in the following table :—

	Outbreaks.	Deaths.
1915.....	43	302
1916.....	21	312
1917.....	6	10
1918.....	2	1
1919.....	3	61
1920.....	1	10

(ii) *Ordinary Redwater, Anaplasmosis, and Heartwater.*—These diseases are also controlled by the regular dipping insisted upon.

(iii) *Contagious Abortion.*—This disease is widespread and appears to be endemic in the native cattle. As immunity is, therefore, soon acquired the losses are not great.

(iv) *Blackquarter.*—This appears to be on the increase. General preventive inoculation is being introduced, and where it has already been carried out, the results are excellent.

(v) *Horse-sickness.*—The virulency of this disease depends upon the rainy season and the altitude.

5. **Government Agricultural Farm.**—The establishment of an agricultural and experiment farm is under consideration, where it will be possible to train the natives in improved methods of cultivation, and the production of pure breeds of the best and most suitable seed maize, cotton, tobacco, etc.

A bacteriological laboratory has been erected. This will enable the local conditions of human and stock diseases to be more easily examined than is possible at present.

6. **Game.**—The following antelope are represented in Swaziland, viz. :—

Kudu.	Impala.	Duiker.
Inyala.	Reedbuck.	Red duiker.
Roan antelope.	Bushbuck.	Blue duiker or piti.
Blue wildebeeste.	Mountain reedbuck.	Klipspringer.
Waterbuck.	Vaal rhebuck.	Steinbuck.
Sassaby.	Oribi.	Sharpe's steinbuck.

From time to time a few elephant, rhinoceros, hippo, and zebra come into Swaziland from adjoining territories.

Game birds are well represented and comprise a large number of species of *Francofin* partridges and pheasants and guinea-fowl.

7. **Fish.**—There are several varieties of freshwater fish in the rivers of Swaziland, and tiger fish are found in the Usutu, Mbuluzi, Black Mbuluzi, and Lomati Rivers. Trout ova and fry are being introduced from the hatcheries in the Cape. Sir Robert Coryndon introduced some trout fry in 1908, which were put in the Black Mbuluzi River in October of that year. Further stocking is now taking place.

### § 10. Mining and Industrial Activities.

1. **General.**—Mining in Swaziland is carried out under the authority of concessions granted by the late Swazi king Mbandeni. These concessions are subject to the payment of certain royalties and a profits tax.

There are at present only two companies, the Swaziland Tins, Ltd., and the McCreeedy Tins, Ltd., engaged in mining in the Territory. They are mining for *alluvial tin* in the vicinity of Mbabane, where it is found in payable quantities. *Gold mining* was carried on for some years at the Pigg's Peak and other mines, but owing to the increased cost of this class of mining little work is being done. The Crown owns a few mineral areas, and legal provision has been made for the exploitation of these by the public in the event of payable minerals being discovered. Considerable quantities of gold have been recovered from the Forbes Reef and Pigg's Peak Mines on the west; and there appears to be no reason why further exploitation of this known mineralized area should not take place at an early date in the future. Large deposits of coal exist in the *low veld*; but beyond prospecting operations nothing has been done to exploit these. The war has had a deterrent effect on all branches of industry, with the exception of ranching.

2. **Mineral Production.**—The following table shows the output of tin and gold :—

**MINERAL PRODUCTION OF SWAZILAND, 1910-11 TO 1920.**

Year.	Cassiterite Tin.		Fine Gold.	
	Quantity.	Value.	Quantity.	Value.
	Tons.	£	Oz.	£
1910-11 (31st March)...	476	42,250	13,543	57,530
1911-12 ( " )...	313	32,397	14,781	62,783
1912-13 ( " )...	385	37,946	13,011	55,266
1913-14 ( " )...	492	51,220	11,324	48,104
1914-15 ( " )...	496	43,256	9,310	39,552
1915-16 ( " )...	584	56,067	6,497	29,595
1916-17 ( " )...	502	50,632	4,633	19,682
1917-18 ( " )...	510	60,221	—	—
1918-19 ( " )...	482	77,020	—	—
1919-20 ( " )...	449	66,676	—	—
1920 (calendar).....	410	59,254	276	1,380

### § 11. Trade.

1. **Regulation of Customs.**—By an agreement with the Government of the Union of South Africa, dated 30th June, 1910, Swaziland is dealt with, for Customs purposes, as part of the Union. Payments due to Swaziland are assessed on the proportion which the

average of the collections for the three years ended 31st March, 1911, bears to the total Customs collection of the Union in each year. No statistics of imports and exports are now kept. The imports consist principally of maize, flour, groceries, wearing apparel, hardware, spirits, tobacco, and kaffir truck, while the principal export is cassiterite tin.

The revenue received by Swaziland from these sources during the last three years is shown hereunder :—

1916-17.....	£8,339
1917-18.....	8,052
1918-19.....	10,497
1919-20.....	10,372
1920-21 (31st March, 1921).....	14,343

The value of the imports for the two years ended 31st March, 1910, was as follows :—

**IMPORTS INTO SWAZILAND, 1908-09 TO 1909-10.**

DESCRIPTION.	1908-09.			1909-10.		
	Value of South African Produce.	Value of Produce not South African.	Total.	Value of South African Produce.	Value of Produce not South African.	Total.
	£	£	£	£	£	£
Animals, living.....	173	—	173	54	—	54
Articles of food and drink....	16,306	6,945	23,341	10,393	7,304	17,697
Raw materials.....	1,583	1,045	2,628	—	—	—
Manufactured articles.....	3,060	16,953	20,013	2,702	22,312	25,014
Government stores.....	—	1,073	1,155	—	544	544
Specie.....	—	—	—	—	1,000	1,000
<b>TOTAL.....£</b>	<b>21,294</b>	<b>26,016</b>	<b>47,310</b>	<b>13,149</b>	<b>31,160</b>	<b>44,309</b>

The total exports for the year 1908-09 were valued at £56,206, including gold and tin, and for the year 1909-10 were valued at £90,348.

**2. Trade and Cost of Living.**—There has been little variation in the imports owing to the small European population, and to the elementary requirements of the natives. The volume of trade is small, and has been adversely affected by the war.

The cost of living has increased and prices generally are high, largely due to the cost of transport of goods from distant railheads.

The following were the average prices of foodstuffs obtaining throughout the year :—

Flour..... per bag 196 lb.	£	s.	d.	Beef..... per lb.	0	0	9
Maize..... per bag 200 lb.	1	10	0	Mutton..... per lb.	0	1	1
Kaffir corn..... per bag 260 lb.	1	15	0	Cheese..... per lb.	0	3	8
Potatoes..... per bag 150 lb.	1	15	0	Eggs..... per doz.	0	3	0
Butter..... per lb.	0	3	3	Cattle..... per head	7	0	0
Milk..... per quart	0	0	4	Horses..... per head	25	0	0
Rice..... per lb.	0	0	10	Sheep..... per head	1	5	6
Sugar..... per lb.	0	0	7	Goats..... per head	0	10	0
Bread..... per lb.	0	0	9				

It was not found necessary during the war to take special steps for the control of prices.

**§ 12. Roads and Principal Routes of Communication.**

There are no railways in the Territory, and the lack of them has hindered the development of the country. Farmers are unable to find a market for their produce except amongst the Swazis, whose needs, outside the maize supply, are small.

The main roads in the Territory are kept in as good repair as possible, but a good deal remains to be done in improving and extending means of communication generally. Steps are being taken, which, it is hoped, will result in considerable improvement in this respect.

There are good roads to Mbabane from Ermelo, Breyten, or Carolina, and there is a fairly good road from Mbabane to Delagoa Bay. It is possible to motor through



Swaziland from the Transvaal to Delagoa Bay, and, with the improvements now taking place to the through road, both in the Transvaal and in Swaziland, this route will no doubt be largely made use of in the winter months. The main port of entry for the southern portion of Swaziland is from Piet Retief, whence roads extend to Mankaisana, Hlatikulu, and elsewhere in the southern districts.

### § 13. Posts, Telegraphs, Telephones, and Savings Banks.

1. **General.**—By Proclamation No. 5 of 1907, the High Commissioner is empowered from time to time to enter into agreements with the Government of the Transvaal, for the carrying out by the said Government of postal and telegraph services and for the carrying on of post office savings banks. These services are now, by agreement, under the control of the Postmaster-General of the Union, but are paid for from Swaziland funds.

2. **Post Offices.**—At the end of the financial year 1920–21 there were thirteen post offices, and the following is a summary showing the numbers of offices in the different classes:—

Post offices.....	13
Money order and savings bank offices.....	5
Telegraph and telephone office.....	4

3. **Mail Services.**—The following is a list of the mail services in operation at 31st March, 1921:—

Route.		Times Weekly.	Con-veyance.	Time (Hours).	Cost per Annum.
Bremersdorp.....	Stegi.....	1	Foot	30	£ 86
Piet Retief.....	Sulphur Springs.....	2	"	4	83
Hlatikulu.....	Cross Roads.....	2	Cart	5	325
Hlatikulu.....	Moolhoek.....	2	Foot	4	12
Hluti.....	Bergplaats.....	2	"	9	—
Mankaisana.....	Piet Retief.....	2	"	12	75
Mbabane.....	Bremersdorp.....	3	Motor	2½	468
Mbabane.....	Carolina.....	3	"	7	452*
Mbabane.....	Forbes Reef.....	2	Foot	4	6
Piggs Peak.....	Barberton.....	3	"	14	183
Sandhlan.....	Amsterdam.....	1	"	6	—
Stegi.....	Portuguese Border.....	3	"	6	72

\* Proportionate amount is contributed by the Union Post Office.

4. **Revenue Collections and Expenditure.**—The revenue collected during 1920–21 amounted to £2,249, as against £1,223 in 1919–20. The expenditure was £3,526, as compared with £2,898 for the previous year.

5. **Postal Orders.**—The number of postal orders sold during 1919–20 was 10,729, valued at £5,447. 17s. 7d., with a total poundage of £51. 13s. 5d., against a poundage of £50. 4s. 9d. in 1918–19. 2,830 orders were paid out, to the value of £1,894. 11s. 6d.

6. **Money Orders.**—The number of orders issued in 1919–20 was 872, to the value of £6,164. 10s. 5d., and the commission collected amounted to £34. 8s. 6d., against £37. 2s. 6d. in 1918–19. The number paid out was 608, valued at £4,705. 14s. 11d.

7. **Savings Bank.**—The number of depositors decreased from 211 in 1918–19 to 204 in the following year, and the amount standing to their credit at the end of the year was £2,310. 19s. 9d., a reduction of £260. 16s. 0d. as compared with that of the preceding year. The deposits during the year 1919–20 were of the value of £1,497. 7s. 0d., and withdrawals £1,458. 10s. 8d., against £1,479. 16s. 0d. and £982. 10s. 1d. respectively in 1918–19. The rate of interest is 3 per cent. on ordinary accounts and 3½ per cent. on certificate accounts.

8. **Telegrams.**—Telegraph receipts amounted in 1919–20 to £528. 19s. 0d., against £552. 19s. 9d. in 1918–19. The number of telegrams forwarded from the Swaziland offices was 10,193, of which 8,304 were "paid" messages, 45 cablegrams, and the rest were Government telegrams. 8,647 messages were received during the year.

9. **Telephones.**—The amount representing call office receipts was £32. 18s. 6d., against £41. 13s. 3d. in the preceding year.

10. **Staff.**—At Mbabane, the postmaster and assistant, who form the staff, are Union Government officials, while elsewhere the post office work is done by local business people.

## § 14. Public and Private Finance.

1. Public Finance.—The following statements show the revenue, expenditure, and public debt of Swaziland:—

## (i) REVENUE.

Revenue.	FINANCIAL YEAR.					
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
Ordinary.....	£ 48,356	£ 57,006	£ 64,467	£ 67,573	£ 67,845	£ 72,556
Extraordinary.....	20,174	14,972	6,328	5,769	24,313	16,818
<b>TOTAL.....£</b>	<b>68,530</b>	<b>71,978</b>	<b>70,795</b>	<b>73,342</b>	<b>92,158</b>	<b>89,373</b>

## (ii) DETAILS OF REVENUE.

HEAD.	FINANCIAL YEAR.					
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
<i>Ordinary.</i>	£	£	£	£	£	£
Licences.....	2,102	1,994	2,564	2,817	2,524	2,531
Native tax*	26,136	33,516	37,417	36,580	35,116	35,214
Dog tax.....	2,980	2,598	3,021	3,210	2,935	3,162
Native pass stamps.....	641	567	607	580	506	426
Fines, court fees, etc.....	1,277	880	2,356	2,596	1,190	1,379
Revenue stamps.....	1,109	1,100	1,089	1,005	1,223	1,202
Transfer duty.....	1,110	1,036	1,224	876	2,828	2,748
Customs.....	7,964	8,761	8,052	10,497	11,661	15,782
Posts and telegraphs.....	1,532	1,618	1,501	1,705	1,832	2,249
Concession rents.....	2,536	2,787	2,239	2,084	2,628	2,794
Base metal royalty.....	357	399	1,106	2,045	1,107	1,880
Miscellaneous.....	612	796	1,409	1,529	1,973	1,564
European cattle-dipping charges	—	946	1,285	1,585	1,799	2,075
Wheel tax.....	—	—	597	564	623	49
<b>TOTAL.....£</b>	<b>48,356</b>	<b>57,006</b>	<b>64,467</b>	<b>67,573</b>	<b>67,845</b>	<b>72,556</b>
<i>Extraordinary.</i>						
Crown lands, leases.....	13,497	10,290	3,208	3,244	13,459	13,606
Survey costs.....	5,612	4,333	3,022	2,418	3,182	1,914
Expropriation costs.....	1,065	349	98	107	175	58
Excess Profits Tax.....	—	—	—	—	7,497	1,240
<b>TOTAL.....£</b>	<b>20,174</b>	<b>14,972</b>	<b>6,328</b>	<b>5,769</b>	<b>24,313</b>	<b>16,818</b>
<b>GRAND TOTAL.....£</b>	<b>68,530</b>	<b>71,978</b>	<b>70,795</b>	<b>73,342</b>	<b>92,158</b>	<b>89,373</b>

\* The native tax is £1. 8s. for each adult male native and the same amount for a second or third wife by native custom.

## (iii) EXPENDITURE.

Expenditure.	FINANCIAL YEAR.					
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
Ordinary.....	£ 51,633	£ 63,340	£ 67,119	£ 74,589	£ 75,950	£ 98,001
Extraordinary.....	10,395	4,566	2,936	7,416	11,045	14,047
<b>TOTAL.....£</b>	<b>62,028</b>	<b>67,906</b>	<b>70,055</b>	<b>82,005</b>	<b>86,995</b>	<b>112,048</b>

## (iv) DETAILS OF EXPENDITURE.

HEADS.	FINANCIAL YEAR.					
	1915-16.	1916-17.	1917-18.	1918-19.	1919-20.	1920-21.
	£	£	£	£	£	£
<i>Ordinary.</i>						
Establishments.....	12,396	12,062	12,361	13,890	15,146	18,778
Police.....	12,855	13,927	14,652	17,032	17,173	20,145
Transport.....	966	1,087	715	2,082	1,966	2,067
Posts and telegraphs.....	2,341	2,432	2,639	2,932	3,138	3,525
Administration of justice.....	2,849	4,053	4,120	4,478	5,078	6,934
Public Works.....	—	—	—	—	—	1,450
Public Works—"Recurrent".....	1,752	5,539	3,787	5,721	5,084	7,131
Medical.....	3,241	2,737	3,388	3,475	4,733	5,608
Education.....	2,950	2,543	3,067	3,333	3,866	6,056
Veterinary.....	864	888	1,233	1,282	6,935	11,079
Allowances, etc.—Native chiefs.....	1,348	1,525	1,634	1,580	1,673	2,022
Penalons.....	1,045	928	1,025	1,078	1,299	1,726
Interest.....	3,338	3,337	3,338	3,337	3,338	3,338
Refunds of revenue.....	34*	—	—	—	—	—
Miscellaneous.....	1,711	1,602	2,136	1,472	2,658	4,495
Sinking fund.....	2,054	2,054	2,054	2,054	2,054	2,054
Deeds Registry—Survey services.....	1,889	1,785	1,825	1,849	1,811	1,584
East Coast fever eradication.....	—	6,841†	9,095	8,994	†	†
<b>TOTAL.....£</b>	<b>51,633</b>	<b>63,340</b>	<b>67,119</b>	<b>74,589</b>	<b>75,950</b>	<b>98,001</b>
<i>Extraordinary.</i>						
Concessions and partition expenses.....	236	43	61	27	—	—
East Coast fever eradication.....	5,453	1,236‡	1,186	754	1,011	853
Public works extraordinary.....	4,648	2,470	1,689	3,259	10,034	13,188
Various.....	56	707	—	3,376	—	206
<b>TOTAL.....£</b>	<b>10,395</b>	<b>4,456</b>	<b>2,936</b>	<b>7,416</b>	<b>11,045</b>	<b>14,047</b>
<b>GRAND TOTAL.....£</b>	<b>62,028</b>	<b>67,796</b>	<b>70,055</b>	<b>82,005</b>	<b>86,995</b>	<b>112,048</b>

\* Now accounted for by deduction from appropriate head of revenue.

† Expenditure on East Coast fever prevention accounted for under Veterinary.

‡ Cost construction dipping tanks.

## (v) PUBLIC DEBT.

Swaziland Consolidated Loan.....	£72,500
Interest 3½ per cent. per annum; repayable twenty-five years from 1st April, 1910; Proclamation No. 8 of 1910.	
Swazi Nation Trust Fund.....	£20,000
Interest 4 per cent. per annum; Proclamation No. 9 of 1908.	

2. **Banking Facilities.**—The National Bank of South Africa, Limited, has a branch at Mbabane and agencies are established at Hlatikulu and Mahamba (through the Piet Retief branch).

The head office of the National Bank of South Africa, Limited, is at Pretoria. The bank-note issues, etc., are carried out under Union Laws.

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APPENDIX.

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The Appendix contains information which only became available after the relevant chapters of this book had been passed through the press.

## INTRODUCTORY—STATISTICAL SERVICE AND SOURCES OF INFORMATION.

### § 2.—Records and Bibliography.

1. **Archives** (page 5).—In terms of the *Public Archives Act*, 1922, the following were appointed members of the Archives Commission:—Sir James Rose-Innes, K.C.M.G., K.C.; the Rt. Hon. J. X. Merriman, P.C., M.L.A.; A. C. G. Lloyd, Esq.; C. A. van Niekerk, Esq., M.L.A.; E. G. Jansen, Esq., M.L.A.; Dr. F. V. Engelenberg; Professor L. Fouche, B.A.; Thet. Litt. D.; C. T. M. Wilcocks, Esq., M.L.A.; Professor E. A. Walker, M.A.; and Professor S. F. N. Gie, B.A., Ph.D.

## CHAPTER I.

### HISTORY AND DESCRIPTION.

#### § 2. Table of Notable Events.

1922 (*contd.*) (page 19).—Declaration of General Strike by the South African Industrial Federation, followed by widespread revolutionary movement in the mining districts. Martial law proclaimed (10th March) and Government forces mobilized. Outbreak suppressed after a week's fighting, resulting in numerous casualties. Work resumed on the mines. Mozambique Convention denounced by Union Government (1st April) and negotiations for new agreement initiated. Rhodesian delegation at Cape Town to discuss terms of entry into Union. Rebellion of Bondelzwart Hottentots in South-West Africa. Military, police, and aeroplanes in action. Death of Sir W. Bissett Berry. Death of the Hon. H. S. Theron. Investigation by Union Government as to the possibility of establishing a new Union harbour on the Zululand coast. Provisional offer by Union Government to take over the bulk of the assets of the British South Africa Company in Southern Rhodesia for a sum of £6,836,000 accepted by shareholders. Union's terms for the incorporation of Rhodesia published (31st July). Death of General Berrange. Death of Lieutenant-General Sir J. L. van Deventer. Government agreement with the Marconi Company for the erection of a high-power wireless station for direct communication with England (7th September). Extension for two years, from 30th September, of the South African Ocean Mail Contract with the Union-Castle Company. Inauguration of the Witwatersrand University (4th October). Referendum taken in Rhodesia on question of entry into the Union (27th October); Union Government's terms rejected (8,774 votes against, 5,989 for).

#### § 3. Honours Held in Connection with the Union.

The honours enumerated below were conferred during the years 1921 and 1922 and are additional to those already mentioned in the Year Book (page 19):—

KNIGHT COMMANDER OF (THE MOST HONOURABLE ORDER OF) THE BATH—  
MILITARY DIVISION (K.C.B.).

HOY, Colonel Sir William Wilson, C.B.

KNIGHT BACHELOR (Kt.).

ANDERSSON, Colonel Charles Llewellyn, O.B.E.		JEPPE, Julius, C.B.E. THOMSON, William, M.A., D.Sc.
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MEMBER OF THE ORDER OF THE COMPANIONS OF HONOUR (C.H.).  
QUINAN, K.B.

COMPANION OF (THE MOST DISTINGUISHED ORDER OF) ST. MICHAEL AND  
ST. GEORGE (C.M.G.).

BARRETT, William Herbert. | HELTINGS, R. B.

OFFICER OF THE CIVIL DIVISION OF (THE MOST EXCELLENT ORDER OF)  
THE BRITISH EMPIRE (O.B.E.).

FINCH, J. R. | COLLIE, J.

MEMBER OF THE CIVIL DIVISION OF (THE MOST EXCELLENT ORDER OF)  
THE BRITISH EMPIRE (M.B.E.).

EDWARDS, I.

COMPANION OF THE IMPERIAL SERVICE ORDER (I.S.O.).

WATSON, Herbert Gordon.

## CHAPTER II.

### CONSTITUTION AND GOVERNMENT.

#### § 2. Central Administration.

11. **Chief Officers of the Public Service** (page 107).—The following changes occurred in the incumbency of the principal administrative posts of the Union Public Service :—

##### DEFENCE DEPARTMENT.

Secretary for Defence.....Brig.-General A. J. E. Brink, D.T.D., D.S.O.  
(Post combined with that of Chief of the General Staff.)

##### DEPARTMENT OF AGRICULTURE.

Under-Secretary (Agricultural Education)....E. J. Macmillan, B.S.A., resigned.

##### DEPARTMENT OF POSTS AND TELEGRAPHS.

Assistant Under-Secretary.....S. J. Gold, retired. (Post abolished.)

##### DEPARTMENT OF LANDS.

Surveyor-General (Pretoria)..... W. P. Murray.  
Surveyor-General (Bloemfontein)..... W. M. Edwards.

#### § 3. Parliament and Legislation.

6. **Members of the House of Assembly** (page 112).—The following change has occurred in the constitution of the House of Assembly :—

Province.	Electoral Division.	Name of Member.
Natal.....	Stamford Hill.....	Colonel F. H. P. Creswell.

8. **Acts of Parliament** (page 114).—The following is a list of Acts passed during the 1922 Session (excluding Appropriation Acts) :—

No. of Act.	Title of Act.	No. of Act.	Title of Act.
5	Financial Relations Fourth Extension.	23	Income Tax Act.
6	Indemnity and Trial of Offenders.	24	South-West Africa Affairs Act.
7	Frankenwald Estate Transfer Act.	25	South African Alkali and Lichtenburg Salt Pan Leases Act.
8	Crown Lands Disposal Act (Cape) Amendment.	26	Apprenticeship Act.
9	Public Archives Act.	27	Coal Act.
10	Rents Acts Extension and Further Amendment.	28	Co-operative Societies Act.
11	Fencing Act Amendment.	29	Death Duties Act.
12	Agricultural Pests Act Amendment.	30	Railways Construction Act.
13	Imports Regulation Act.	31	Coinage Act.
14	Prevention of Cruelty to Animals Act, 1914, Amendment.	32	Weights and Measures Act.
15	Deeds Registries Act, 1918, Amendment.	33	Defence Endowment Property and Account.
16	Agricultural Products Grading....	35	Customs and Excise Duties Amendment Act.
17	Angora Goat Export Prohibition (Repealing)	37	Exchequer and Audit Act Further Amendment.
20	South-West Africa Railways and Harbours.	38	Financial Adjustments Act.
21	Land Settlement Acts Further Amendment.	40	Land Bank Acts Further Amendment.
22	South Africa Defence Act Amendment.	41	Iron and Steel Industry Encouragement Act.
		42	Electricity Act.

### § 4. Provincial Administration.

5. **Chief Officers of the Provincial Administrations** (page 129).—The following changes have occurred in the incumbency of the principal administrative posts in the Cape of Good Hope :—

Provincial Secretary, with additional title of Chief Local Government Inspector.....	A. S. Weisbecker.
Assistant Provincial Secretary and Accounting Officer, with additional title of Controller of Educational Finance.....	J. P. J. Brunt.

### § 5. Provincial Councils and Legislations.

3. **Members of the Provincial Councils** (page 132).—The following changes have occurred in the constitution of the Provincial Councils of the Cape of Good Hope and the Orange Free State :—

Province.	Electoral Division.	Name of Member.
Cape of Good Hope.....	South Peninsula.....	A. J. Chiappini.
Orange Free State.....	Bloemfontein (East).....	J. H. Beyers.

### § 6. Miscellaneous.

F. **Consuls of Foreign Countries in the Union** (page 139).—The following have been appointed Consuls of various foreign countries in the Union :—

Country and Rank.	Name.	Station.
Brazil—		
Consul.....	J. Massey.....	Johannesburg.
Consul (Temporary).....	C. H. W. Flemming.....	Cape Town.
Chile—		
Consul.....	A. D. Hinde.....	Johannesburg (transferred from Durban).
Finland—		
Consul.....	C. F. Spilhaus.....	Cape Town.
Vice-Consul.....	J. W. C. Kittleson.....	Johannesburg.
Vice-Consul.....	N. Meyer.....	Durban.
Germany—		
Consul.....	R. Renner.....	Pretoria.
Norway—		
Vice-Consul.....	T. M. Hansson.....	Cape Town.
Portugal—		
Hon. Consul.....	J. F. Ferreira.....	Johannesburg.
Siam—		
Hon. Consul-General.....	C. A. Lagesen.....	Cape Town.
United States of America—		
Consul.....	G. K. Donald.....	Johannesburg.
Vice-Consul.....	R. R. Cellahan.....	Port Elizabeth.

## CHAPTER X.

### ADMINISTRATION OF JUSTICE.

#### § 6. Union Department of Justice.

3. **Judges and Staff of the Supreme Court** (page 373).—The following change has occurred in the personnel of the Supreme Court :—

Puisne Judge (Griqualand West) ..	The Hon. F. A. Hutton ( <i>vice</i> Sir J. H. Lange, deceased).
Puisne Judge (Eastern Districts) ..	The Hon. F. J. W. van der Riet ( <i>vice</i> the Hon. F. A. Hutton, transferred).
Puisne Judge (Transvaal).....	The Hon. R. A. Tindall ( <i>vice</i> the Hon. R. Gregorowski, deceased).
Puisne Judge (Native High Court, Natal)	C. F. Hignett ( <i>vice</i> J. C. C. Chadwick, retired).

5. **King's Counsel** (page 375).—The following have been appointed King's Counsel in the Union : Charles Edward Barry ; Ivon Grindley-Ferris ; Tielman Johannes de V. Roos (all in the Transvaal Province); and A. A. R. Hathorn (Natal).



## CHAPTER XII.

### ELECTORATE.

2. **Elections** (page 412).—The number of European male adults as enumerated at the Census of 1921 for the purpose of Parliamentary representation is shown in the following table:—

#### NUMBER OF EUROPEAN MALE ADULTS—CENSUS OF 1921.

Heading.	Cape of Good Hope.	Natal.	Transvaal.	Orange Free State.	Union.
Number enumerated within the Union.....	170,292	41,919	149,503	49,279	410,993
Number of Members of Imperial Forces enumerated...	814	26	14	2	856
<b>TOTAL NUMBER OF EUROPEAN MALE ADULTS* (CENSUS OF 1921).....</b>	<b>169,478</b>	<b>41,893</b>	<b>149,489</b>	<b>49,277</b>	<b>410,137</b>
<b>TOTAL NUMBER OF EUROPEAN MALE ADULTS* (CENSUS OF 1904).....</b>	<b>167,546</b>	<b>34,784</b>	<b>106,493</b>	<b>41,014</b>	<b>349,837</b>
<b>INCREASE.....</b>	<b>1,932</b>	<b>7,109</b>	<b>42,996</b>	<b>8,263</b>	<b>60,300</b>

The Fourth Delimitation Commission was appointed in December, 1922, under the chairmanship of the Hon. Sir J. H. Lange, Kt.†

## CHAPTER XVII.

### MINES.

#### § 2: Gold.

11a. **Mining Industry Board** (page 587).—The Mining Industry Board was appointed on the 15th April, 1922, with the following personnel: Sir W. H. Solomon, K.C.S.I., K.C.M.G. (chairman); the Right Hon. W. Brace; Sir R. N. Kotzé, Kt.; and Sir J. C. Beattie, Kt.; with Mr. James Collie as secretary.

In its report, which was published in November, 1922, the Board, after reviewing briefly the events which led up to its appointment, viz., the grave industrial disputes in the coal and gold mining and certain other industries on the Witwatersrand in the early part of the year, dealt *seriatim* with its various terms of reference and made recommendations as summarized hereunder.

- (i) *The effect and extent of the status quo agreement of 1918 on the gold mines of the Witwatersrand and the necessity for its continuance, variation, or abolition in whole or in part.*

The Board considered the significance and effects of the agreement and its relation to the *colour bar* established by the statutory mining regulations, and came to the conclusion that there was no necessity for the continuance of the agreement and that its abolition after the strike was fully justified.

- (ii) *The desirability or otherwise of establishing any system for regulating the ratio of European to native labour in the gold and coal mines of the Transvaal.*

The opinion of the Board was against such regulation by law, which it held to be the imposition of an artificial and unsound restriction on the discretion of the managerial authority on the different mines.

- (iii) *The possibility of classifying the mines into two or more grades which may employ different ratios of European to native labour or practise different systems of wages and overhead charges, and the establishment of machinery for effecting and controlling such classification.*

The Board's recommendation was opposed to this suggestion as one likely to do more harm than good.

\* As defined in *South Africa Act* (§ 34).

† Since deceased.

- (iv) *The methods to be adopted by the industry to effect economies, to promote efficiency, and to secure the maximum field for employment of white labour.*

On the question of *economies* generally the Board was unable to suggest any methods of effecting substantial savings either in stores and sundries or in salaries and wages. It was pointed out that since the strike the earnings of European employees (both daily paid and contractors) had been reduced to what the Board considered was the lowest level possible in the circumstances. No reduction in the wages of native employees was recommended, and in the case of certain semi-skilled native occupations the Board favoured an increase of pay.

On the promotion of *efficiency* the Board observed that in recent years the output per individual worker had fallen; and it recommended the following measures for the increase of productive efficiency: Restoration of managerial authority; rearrangement of underground work (better utilization of native labour, abandonment of the "one man, one job" principle); improved methods of work, *inter alia*, by training miners, underground officials, and natives, the wider adoption of machine drills, a reduction in the number of machines and natives placed under the supervision of one white man in many cases, and by the introduction of an efficiency propaganda; the adoption of co-operative or profit-sharing schemes where practicable; the increased employment of Europeans in certain cases; the withdrawal of the embargo on the employment of natives from north of latitude 22° S.; and the establishment of conciliation boards.

- (v) *The dispute in the coal-mining industry and between the Victoria Falls Power Company and its employees.*

The Board reviewed in some detail the facts of these two disputes and generally upheld the position of the employers on the question of wages, while deploring their failure to avert a strike by providing facilities for the further discussion of the points at issue.

In concluding its report, the Board set forth the particulars of its Conciliation Scheme, which had been agreed to by all the parties concerned as the result of a joint conference and which came into effect on the 1st October, 1922.

## SPECIAL ARTICLES.

### I.—Analysis of Results of Industrial Censuses, 1916 to 1921.\*

By R. A. LEHFELDT, D.Sc., Professor of Economics in the University of the Witwatersrand.

**1. Number of Establishments.**—An industrial census of the Union was first taken for the year ended 30th June, 1916, and has been taken annually since. It is, therefore, possible to get a good deal of information by comparing the statistics collected in the six successive years; but, of course, such a census is not perfect at the start—experience has to be acquired gradually as to the most useful facts to be asked for, the mode of collating the facts, and checking the accuracy of returns obtained. The earliest census is likely to be the least accurate, especially as many small workshops may have been overlooked by the enumerators, so that some caution must be exercised as to the increase shown from year to year. Fortunately, it is the small factories that are most easily overlooked, so the deficiency is rather in number than in output. The definition of a factory for the purposes of the census has been modified to include shops employing three persons, including the proprietor (at first it was four), even if no mechanical power is used, and even those employing two or one person if there is mechanical power or a steam boiler. Accordingly, the jump from 3,998 establishments in the first census to 5,305 in the second is partly due to the inclusion of small shops that were not previously enumerated. Since the second census no change in definition has been made, but the collection has been made more thorough, and now probably it may be regarded as complete.

The number of establishments has grown, since the first year, by 613, 50, 922, and 115 in successive years; but the number of new factories known to have been started has followed a more even course, being 1,173, 1,897, and 1,134 in the last three censuses. Some of these are temporary in character, such as bridge or irrigation works, but there is, of course, considerable mortality among ordinary factories. The dominating condition of the whole period was the war, which threw South Africa on its own resources and gave an abnormal stimulus to manufacturing. This must be remembered in making any deductions from the tables: it will appear strikingly when we come to deal below with the number of employees.

\* For the classification of manufacturing industries adopted in the censuses, and for detailed particulars of the latter, see Chapter XVIII (p. 631 *et seq.*).

If, in order to avoid the difficulty of complete enumeration of the small workshops, we consider only the larger establishments, arranged in four groups according as they employ more than 10, more than 20, 50, or 100 persons, we find that each of these classes has increased some 50 per cent. to 60 per cent. in size, but that large factories (over 100 hands) are gaining slightly on the others; just half the industrial population is now employed in them. At the same time opportunity for founding new small enterprises is still abundant; this is clear from the numbers of new workshops that spring up each year, and that survive.

Much the same story is told by the statistics of form of organization. Individual establishments, partnerships, and municipal enterprises have increased in number, but with fluctuations, a setback being noticeable in 1918; co-operative societies' factories fell in number from 60 in the second census to 17 in the fourth; and only factories belonging to companies have increased steadily each year.

**2. Number of Persons Engaged.**—The most important point dealt with in the statistics is the extent to which the population is supported by manufacturing (which, it should be noted, includes the building trades and mine workshops, but not mines). Beginning with Europeans, we find that the proportion of women and of juveniles is unusually small. Thus, in the fifth census, the Europeans employed 62,483 in number, including 6,759 females, or 12 per cent., and 2,151 males under eighteen years, or 4 per cent. (whereas in England, 25 per cent. of factory workers are females and 12 per cent. or 13 per cent. are juveniles). Factory employment is therefore practically an affair of adult males at the present time, and there is no tendency for the cheaper classes of European labour to increase. The number of European males over eighteen years has been as follows :—

**NUMBER OF EUROPEAN MALE ADULTS (OVER EIGHTEEN YEARS) EMPLOYED IN MANUFACTURING INDUSTRIES, 1915-16 TO 1920-21.**

Year.	Number.	Increase Over Previous Census.
1915-16.....	Doubtful	—
1916-17.....	39,353	—
1917-18.....	41,598	2,245
1918-19.....	44,967	3,369
1919-20.....	53,573	8,606
1920-21.....	54,818	1,245

} Average 4,740

But the number of European males of eighteen years and upwards in the country is not increasing faster than this. It is difficult to give satisfactory figures, as the disturbance of the war, in carrying many young men abroad, was felt at this time and was succeeded by the influenza epidemic. At the census of 1911 there were about 411,000; at that of 1918 (including absentees), 443,000; at that of May, 1921, 451,000, giving an average rate of increase during the decade of 4,000 per annum.

It appears therefore that for some years the progress of manufacturing absorbed practically the whole increase in the European population of the country. Such a state of things cannot continue, of course, and indeed the above figures show that by 1921 the trade depression had come, and the number of persons engaged in manufacture was no longer increasing much. There were, however, many complaints of unemployment even before that, so that it would be a matter of much interest to inquire how far the other industries of the country, i.e. mainly agriculture, are maintaining employment for Europeans.

Whilst the number of Europeans supported by manufacturing has shown a satisfactory increase, the number of non-Europeans has increased even faster. The percentage of Europeans, out of the whole, is as follows :—

**PERCENTAGE OF EUROPEANS EMPLOYED IN MANUFACTURING INDUSTRIES, 1915-16 TO 1920-21.**

Year.	Per Cent.	Year.	Per Cent.
1915-16.....	39·0	1918-19.....	37·4
1916-17.....	37·2	1919-20.....	35·5
1917-18.....	37·1	1920-21.....	35·0

These are the figures during a period of prosperity; one may ask what is likely to happen when employers are feeling the pinch of hard times. It is too early to answer that question yet, but we can get some light on it by examining the returns for particular industries that felt the depression of 1920-21 most acutely. Groups VI (Production of Clothing, etc.) and XV (Leather and Leatherware) were the worst hit, to judge by total employment, but if we judge by "value added by process of manufacture," Groups I (Treatment of Raw Material) and XI (Drugs, Chemicals, etc.) should also be considered. The proportion of European to total employment in these groups was as follows:—

**PERCENTAGE OF EUROPEANS EMPLOYED IN CERTAIN GROUPS OF INDUSTRY,  
1919-20 AND 1920-21.**

Group.	1919-20.	1920-21.
	Per cent.	Per cent.
I.—Treatment of Raw Materials, etc.....	9·4	7·6
VI.—Production of Clothing, etc.....	56·9	58·7
XI.—Drugs, Chemicals, etc.....	24·3	24·5
XV.—Leather and Leatherware.....	41·2	40·9

Classes VI and XV are those in which European wages are lowest, but Class XI stands rather high in that respect, and it is satisfactory to note that European workpeople seem to have maintained their position even in a time of depression.

The class that shows the greatest change in the matter of colour is XVI (Building). This appears to have expanded enormously during the years covered by the census, but this is partly due to the fact that Municipal and Divisional Council roads and waterworks, new railways, and irrigation construction were included for the first time in 1919-20. The sixth census shows the class as supporting nearly 32,000 people. In three of the Provinces there has been an increase in the number both of European and non-European persons engaged, though a more rapid increase in the latter; in the Cape Province the number of European employees shows a decrease between the second and fifth censuses, while the non-European element increased largely.

There are two industrial groups that support a larger population than the building trades: Class IV (Metalworking and Engineering) and Class V (Preparation of Food and Drink). Class IV employs a proportion of European labour considerably in excess of the average of industries, a proportion that has remained nearly stationary, at just under 50 per cent.; consequently, the number of European employees is much the largest of any of the groups. It is chiefly made up of the railway and mine workshops, independent engineering establishments being on a much smaller scale. The importance of the mines thus appears in another aspect, employing 14,956 persons in the workshops (1919-20), while the railways, which are not on a competitive basis, employed 15,772, leaving 7,214 in other establishments.

Class V is in quite a different position. It represents private enterprise exclusively, and is chiefly made up of small establishments. The proportion of Europeans has remained fairly steady at 22 per cent. to 24 per cent. It is an occupation that affords opportunity to the small independent producer, but not to a large number of European workmen. It maintained progress even in 1920-21 when most manufacturing industries, apart from the railways and mines, suffered from the depression.

In manufacturing industry generally, opportunity for the small producer is still good, although, as is to be expected, the size of factories tends to grow, and the position of the working proprietor to decline relatively to the whole. The fraction of all persons engaged in industry who are classed as working proprietors in the six censuses has been 3·42, 3·40, 3·33, 3·28, 3·16, and 3·10 per cent.

**3. Value of Product.**—The figures most commonly quoted as to value are those of gross product, which in the last census reached the imposing total of 98 millions sterling: this total, however, is entirely misleading, as it only reaches such a magnitude in consequence of duplication. For example, an ox-hide is tanned and then converted into a pair of boots; the value of the hide as well as of the tanning appears in the gross output of the tanneries, while the value of the hide and the tanning are repeated together with that of the subsequent manufacturing in the gross output of the boot and shoe industry. The figures of gross output should be ignored altogether for most purposes.

The "value added by process of manufacture" is the proper measure of the development of manufacturing. It is arrived at by deducting the cost of the raw materials from the selling value of the finished product as it leaves the factory. Even this, however, is not quite correct. One correction that should be made on it can be applied by means of data

supplied in the census, viz., cost of fuel, light, and power. This is just as much raw material as what is commonly included under the name, in fact it is partly the product of Class XIV (Heat, Light, and Power), and so occupies a place similar to that of leather, the product of tanneries, and the raw material of boot factories. The most important deductions other than these are insurance, depreciation, and taxes, about which no statistics are collected. As it is not possible to make these corrections it is hardly worth while to introduce that for fuel, light, and power (which amounts to about 7 per cent.), and the figures of "value added" may be used as a convenient measure, especially for comparison with other countries in which the same system is followed.

The utility of these figures is, however, badly impaired by the extraordinary price fluctuations that characterized the period dealt with; in ordinary times they would give a fairly true record of progress. In order to test their value we may conveniently take first the "value added" per head of the persons engaged in manufacturing and then compare the result with recorded figures for prices of manufactured products. It is not possible to get a price index that affords a perfectly satisfactory comparison with these figures, but probably that for wholesale prices of South African goods is the most nearly applicable. It is given in the third column below (the year 1910 being taken as 1000), and the value per head, reduced according to this index to what the goods would be worth at 1910 prices, is given in the fourth column.

**"VALUE ADDED" COMPARED WITH PRICES OF MANUFACTURED PRODUCTS, 1915-16 TO 1920-21.**

Year.	Value Added per Head of Employees (as Recorded).	Index Number: Wholesale Prices (S.A. Goods), 1910=1000.	Value Added per Head of Employees (at 1910 Prices).
	£		£
1915-16.....	179	1211	147
1916-17.....	173	1320	131
1917-18.....	192	1396	137
1918-19.....	209	1501	139
1919-20.....	223	1916	116
1920-21.....	224	1888	118

One conclusion is immediately apparent, viz., that the outrageous prices of 1920 were merchants' prices and were not fully shared by manufacturers.

It will be necessary to wait till less disturbed times to make sure whether the output per head has been kept up or not. There would, however, be nothing surprising if it turned out that the apparent falling-off in recent years was partly real, for a time when factories are abounding with prosperity is not a time when their efficiency is at its best.

4. **Salaries and Wages Compared with Value Added in Course of Manufacture.**—The distribution of the product between (i) salaries and wages and (ii) interests and profits can only be given imperfectly, because the net yield, as mentioned above, is imperfectly defined. Only after the "value added" had been corrected, not only for expenditure on fuel, light, and power, but for insurance, depreciation, and taxes as well as minor unenumerated items, would it be possible to arrive at the distribution into the shares of labour and capital correctly. The matter is so important, however, that it is worth while to discuss such imperfect indications as are obtainable. These are two: (i) the relation of wages to value added; (ii) the relation of the residue from wages to capital (which, however, is rendered additionally uncertain by the fact that only a part of capital is recorded).

The proportion found in manufacturing industry as a whole has been as follows:—

**PROPORTION OF SALARIES AND WAGES TO TOTAL VALUE ADDED BY PROCESS OF MANUFACTURE, 1915-16 TO 1920-21.**

Year.	Per Cent.	Year.	Per Cent.
1915-16.....	49·2	1918-19.....	48·5
1916-17.....	48·7	1919-20.....	49·0
1917-18.....	47·2	1920-21.....	54·3

The changes, though not large, are highly significant: when prices show an upward tendency, wages do not at once get raised in proportion, so that manufacturers pay out a smaller proportion of the value they receive in wages, and their profits are larger than usual. This was the condition from the first to the third year of census. Subsequently, the efforts of workpeople to secure their share of the output are likely to be more successful, and it appears from the figures that by the time the rise in prices reached its culmination (mid-1920) they had just about obtained a normal position or, at any rate, the position existing near the beginning of the war. When a fall in prices comes the situation is reversed; wages resist reduction for some time, the share going to salaries and wages is higher than usual, and industry is relatively unprofitable to the proprietors and shareholders. It should be added that while falling prices are, in this sense, favourable to workpeople, the increased real cost of labour reduces the demand for it, and unless readjustment is made, an increase in unemployment follows. A start has now been made in collecting statistics of employment, but it is not possible to give any quantitative information about the period covered by the censuses.

A high or low proportion of output paid in wages is a really high or low wage; but it is not identical with the purchasing-power of wages, because wages are laid out very largely on agricultural produce (food), which does not follow quite the same changes in price as the manufactures which the workpeople are engaged in making.

It is necessary to examine separate industries with regard to the proportion going in wages, to make sure that the effects observed are not due to changes in the relative importance of the different industries. The figures obtained (percentage of "value added" paid in wages and salaries) for the most important groups are:—

**PROPORTION OF SALARIES AND WAGES TO VALUE ADDED BY PROCESS OF MANUFACTURE IN CERTAIN GROUPS OF INDUSTRY, 1915-16 TO 1920-21.**

Year.	Groups.			
	V. (Food, Drink, etc.)	VI. (Clothing, etc.)	XIV. (Heat, Light, and Power.)	XVI. (Building.)
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
1915-16.....	29·6	59·3	21·6	72·4
1916-17.....	29·0	57·8	22·6	67·3
1917-18.....	28·2	53·7	27·4	67·2
1918-19.....	29·0	51·6	26·8	63·4
1919-20.....	24·8	49·2	34·5	68·7
1920-21.....	30·4	54·1	38·7	69·7

Class IV (Metals and Engineering) is omitted because the figures would be misleading. It is made up chiefly of mine and railway workshops, where the value of the goods produced is not estimated, as they are under the same management as the mines and railways; there is, therefore, no means of comparison between the labour cost and the profits made, the latter being absorbed in the profits of the whole enterprise.

It will be seen that in the two Groups V and XVI (which with Group IV are much the largest) the changes in the percentages are much the same as in industry as a whole; and this notwithstanding the fact that in Group V the fraction paid in wages is very small and in Group XVI unusually large. The precise date of the minimum varies, but the general course of the phenomenon is a fall when prices are first rising and a recovery towards the end of the period. Group XIV (consisting mainly of electric power stations) shows an anomaly, in that the proportion going in wages has risen steadily. It is low on account of the very large amount of fixed capital employed in this industry.

5. **Relation of Net Output to Capital.**—In the first census a record of the total capital employed in industry was attempted, but this was found to be inaccurate in many particulars and to give considerable trouble to those who had to supply the returns. It was then abandoned and the inquiry limited to two items of capital, (i) land and buildings, (ii) machinery, plant and tools, as the value of these could be assessed without much difficulty.

These two items (which may conveniently be summarized as fixed capital) show an increase during the six years of census, which is hardly even proportional to that of the personnel. The amount per head of persons employed in manufacture has been £272, £257, £261, £260, £239, £246 in the successive years. It can only be surmised that existing

capital equipment has not been written up in accordance with the rise in prices; though this explanation is incomplete, because a great deal of new buildings and machinery has been needed to provide the expansion which has gone on, and such new equipment must have been bought at the enhanced prices of the war. The total fixed capital (£44,000,000 in 1920-21) is therefore unexpectedly small.

It is very unfortunate that the estimate of the remaining (or fluid) capital has had to be given up; for it is obviously impossible to base any estimate of rate of profit on the fixed capital alone, and the ratio of fixed to fluid varies very much in different industries. Moreover, it is not even possible to assume that the ratio remains constant for any one industry, since, whatever may be the valuation of buildings and machinery in times of rising prices, it is certain that manufacturers cannot meet increased wages and increased prices of raw material without having more cash—mostly in the form of bank loans—available.

Nevertheless, the importance of the subject is so great that it is worth while to see what can be deduced from the imperfect figures supplied in the 1915-16 census. From the figures given in Table 7 of that report we find the amount of fluid capital in each class of industry; and as this money serves chiefly to pay wages and buy raw materials—two items whose relative importance varies largely in different cases—the amount may be expected to bear a closer relation to the gross output of goods than to either wages or materials separately. This comparison has been made, therefore, and is given in the table below, together with the fixed capital expressed as percentage of gross output.

**FLUID CAPITAL EMPLOYED IN CERTAIN GROUPS OF INDUSTRY, CENSUS OF 1915-16.**

Class.	Fluid Capital.	Proportion Per Cent. to Gross Output of		
		Land and Buildings.	Machinery, Plant, and Tools.	Fluid Capital.
		Per Cent.	Per Cent.	Per Cent.
	£1000.			
I.—Treatment of Raw Materials	135	21	12	37
II.—Stone, Clay, etc.....	554	73	75	67
III.—Wood.....	409	28	15	38
V.—Food, Drink, etc.....	9,897	24	22	63
VI.—Clothing, Textile Fabrics, etc.....	604	35	5	46
VII.—Books, Printing, etc.....	770	46	40	56
VIII.—Vehicles.....	515	45	15	67
X.—Furniture, etc.....	281	38	9	51
XI.—Chemicals, etc.....	3,148	29	38	73
XV.—Leather and Leatherware	570	21	83	46
TOTAL.....	17,208	29	25	62

The three very small Classes IX (Shipbuilding), XII (Surgical Instruments) and XIII (Jewellery), and the Miscellaneous Class XVII are omitted from the table, but included in the total. Three other classes are excluded for special reasons—Classes IV, XIV, and XVI.\* Class IV (Metals, Engineering, etc.) consists chiefly of mine and railway workshops, whose finance is not properly separated from the larger industries they serve; the production could not possibly have been carried on with the fluid capital stated, so these workshops clearly depend on the financial resources of the mines and the railway respectively. Class XIV (Heat, Light, and Power) is exceptional in the great amount of fixed capital employed: this apparently has the consequence of inducing the companies (whose credit is perhaps better than that of most industrial) to lay in an unusually large stock of fluid capital. Class XVI (Building) is mostly financed by short loans from banks against the building work as it progresses, and probably the capital so provided does not appear fully in the returns.

All the other industries show a noteworthy degree of uniformity; the fluid capital only varies between 37 per cent. and 73 per cent. of the output, or, on the average, about seven to eight months' output. The consistence of the figures suggests that they are more

\* The details for the excluded classes are:—

IV.....	1,523	....	23	....	20	....	20
XIV.....	8,022	....	61	....	252	....	106
XVI.....	242	....	14	....	9	....	12

accurate than the Census Department supposed and that it might be worth while to renew the inquiry.

The fixed capital in the form of land and buildings bears a moderately constant ratio to output—being low in the Food Preparation group, a good deal of that work being done in the country, in comparatively inexpensive buildings.

The land and buildings are mostly worth three to five months' output. On the other hand, the value of plant and machinery varies extremely, as is to be expected from the varying nature of industry: it is only 5 per cent. of the yearly output in the clothing trades, where much manual labour is involved, but 252 per cent. in power plants, where a few mechanics watch the almost automatic operation of vast masses of machinery.

The relation of values within the more homogeneous group obtained by omitting Classes IV, XIV, and XVI is shown in the following table:—

**RELATIONS BETWEEN FIXED CAPITAL, VALUE ADDED, AND WAGES AND SALARIES, 1915-16 TO 1920-21.**

Year.	Fixed Capital. A.	Value Added. B.	Wages and Salaries. C.	B—C.	Percentage (B—C) of A.
	£1000.	£1000.	£1000.	£1000.	Per Cent.
1915-16.....	14,910	10,568	4,375	6,193	41·5
1916-17.....	17,198	12,989	5,336	7,654	44·5
1917-18.....	19,057	15,786	6,041	9,745	51·1
1918-19.....	20,736	17,750	7,051	10,699	51·6
1919-20.....	23,085	23,569	8,093	14,576	63·1
1920-21.....	24,937	22,462	9,919	12,543	50·3

The figures in the last column are not, of course, rates of profit. They represent the proportion that the balance left after payment for material and wages bears to the amount of fixed capital. To get the rate of profit it would be necessary to make large deductions from the former quantity (for taxes, depreciation, etc.), and approximately to double the latter to allow for the fluid capital in use. But these figures may perhaps be taken to indicate the course of the changes in the rate of profits, showing that it rose abnormally high as the period of rising prices proceeded and culminated in 1919-20, and that though it fell sharply in the following year it may still be somewhat high. It would be very much more satisfactory if this information could be supplemented by an analysis of the dividends paid by manufacturing companies.

**6. Mechanical Power Used.**—In estimating the power used in industry, Class XIV (Heat, Light, and Power) must be omitted, as that consists in producing power for others to use. The leading points with regard to the other classes are brought together in the following table:—

**MECHANICAL POWER USED IN MANUFACTURING INDUSTRIES, 1915-16 TO 1920-21.**

Census.	Number of Establishments.	Number Using Power.	Number Using Steam.	Number Using Electricity.	Horse-power. Steam.	Horse-power. Electricity.
1915-16.....	3,869*	2,619	671	1,168	56,345	50,493
1916-17.....	5,159	2,970	742	1,414	65,899	58,291
1917-18.....	5,722	3,286	792	1,555	64,380	64,248
1918-19.....	5,781	3,343	805	1,632	65,710	68,295
1919-20.....	6,683	3,802	899	1,697	69,974	75,654
1920-21.....	6,773	3,935	883	1,919	64,938	78,650

\* Definition changed after the first census.

The more rapid growth of electric power is clear from the table; it has come to occupy a more important place than steam, and as the supply of electricity from central stations spreads over a wider area, the preponderance will no doubt increase. Indeed, in the latest year, steam plants show an actual decrease in number and power. The average steam using factory takes about 80 horse-power, the electric only about half as much. This illustrates the way in which the public supply of electric power assists small producers. As, moreover, steam plants of the order of 80 horse-power are very inefficient, a great national saving is possible by the substitution of electric power.

The course of progress is better illustrated by the Witwatersrand, where the supply of electric power has reached a comparatively advanced stage. There were 113 establishments



(fourth census) using steam to the extent of 7,165 horse-power (average 63 horse-power) and 516 establishments using electricity to the extent of 18,944 horse-power (average 37 horse-power). In Durban, despite the cheapness of electric power, its use is not so general.

**7. South African Raw Material.**—The raw material used is nearly equally divided between imported and locally produced. The total value increased two and a half fold between the first and sixth census, but, of course, this was mostly due to the rise in prices. There is no way of estimating the change in the total quantity; but prices of imported goods rose more than those of local products, the wholesale price index for July, 1921 (1910 taken as standard) being 230 per cent. for the former and 144 per cent. for the latter. In value South African materials increased from £10,000,000 to £26,500,000, imported from £12,250,000 to £31,500,000, South African being 45 per cent. of the total in both the first and last censuses. In view of the price changes, this means that a greater relative quantity of South African produce was employed.

This is to be expected, as the progress in manufacture consists mainly in working up local raw materials. If the list of industries (below p. 1026) which have made the most progress be examined, it will be seen that of these the bacon, boot, brick, butter, tanning, wool-washing, and cement industries use local material, and only boxmaking and saw-milling depend mostly on imported material. The progress of the former group will no doubt depend chiefly on the extent to which the supply of local raw material is expanded. The same is true with regard to the manufacture of bread, beer, jam, tobacco, and grain milling (p. 1027). It should be borne in mind, too, that coal, though not described by the census as a raw material, is so in fact, and is all of local production.

Of the individual groups, Class V (Food, Drink, etc.) is by far the most important in this respect, the raw material used being nearly half of that used in all manufactures. At the sixth census it consisted of £21,285,000 of local to £5,688,000 imported, the former value having grown threefold in five years, while the latter had not so much as doubled. These high figures are the result of increased prices, the real expansion of this class of industry being about 20 per cent. With the further fall in prices since 1920-21 the figure will probably be much reduced, but there is no reason why the preponderance of local raw material should not be maintained, and if agriculture progresses, the volume of the product will be steadily increased.

**8. Relation Between Raw Material and Manufactured.**—The census provides some information on a subject whose importance is great and world-wide, viz., the relative value attached to the production of raw materials and to the process of manufacture. It is well known that the war created a scarcity of raw materials, including food, wool and cotton, and metals. Their value rose even more rapidly than the wages and other expenses involved in manufacturing. But since 1920 there has been an extraordinary drop in the price of agricultural and mineral products, while cost of manufacturing has lagged behind in the fall. The former movement is indicated by the South African figures. The "value added" in all industries taken together, expressed as a percentage of the value of materials used, shows as follows in the six censuses: 81, 77, 76, 73, 73, 70 per cent. The last census refers to the year ended 30th June, 1921, so that, on the average, the date of the figures contained in it is the end of 1920. The great fall in raw material prices has happened since then, so that the reverse movement had not begun. The seventh census should give interesting information on the point.

As a change in the relation between value added and value of material might come about through the disproportionate growth of different industries or changes in the process of manufacture, it is well to check the result by examining particular classes. The figures for the most important classes are:—

**PROPORTION PER CENT. OF "VALUE ADDED" TO MATERIALS USED IN CERTAIN CLASSES OF INDUSTRY, 1915-16 TO 1920-21.**

Year.	Classes.		
	V. (Food, Drink, etc.)	VII. (Books, Printing, etc.)	XI. (Chemicals, etc.)
	Per Cent.	Per Cent.	Per Cent.
1915-16.....	42.5	214	64
1916-17.....	40.5	209	56
1917-18.....	38.5	189	57
1918-19.....	37	167	51.5
1919-20.....	40	167	49
1920-21.....	34	174	46

There are some slight irregularities, as is to be expected, but the figures in general confirm the conclusion stated. Class VII appears to give indications that the reverse movement had set in earlier than in other industries.

The establishment of a normal relation between raw material and manufacture is necessary to economic stability. The present disproportionately low value of raw materials makes farmers throughout the world unable to buy manufactured goods freely and is the main cause of unemployment in manufacturing countries.

The building industry (Class XVI), not being exposed to competition from abroad, shows local influences of an anomalous character. Even during the years when the price of raw materials was rising extraordinarily fast, the local cost of building rose faster; the ratio "value added" to materials from a little under 100 per cent. in the first census rose to a little over 100 per cent. in the sixth.

**9. Government Enterprise.**—The relation borne by Government and municipal to private enterprise is a matter of much interest, as to which the statistics afford some information, especially in the last three years of census. Fuller information, extending over a longer period, is given for the railway workshops—the most important manufacturing enterprise of the Government; but the returns have only in the last two years been extended to cover roadmaking and similar works of the municipal and other local governments. Hence, only the last two sets of figures are comparable. (The data are combined with those for mine workshops in Table 18, Report for 1920–21.)

It appears that the employees (European and non-European not distinguished) increased from 29,522 in 1919–20 to 33,144 in 1920–21. This is nearly the whole increase in employment in all manufactures in that year, so that private employment was practically stationary. In the latter year Government employees numbered 18·4 per cent. of the total. Wages and salaries in 1920–21 were £5,244,619, being 23·9 per cent. of all wages paid in industry; wages per head were £138 in 1919–20 and £158 in 1920–21, being a rise of 14½ per cent. In the same years wages in all industry (private and governmental) rose 12½ per cent. Materials used in Government industries formed 16·6 per cent. of the total in all industries. It is not possible to compare the "value added," as this is not correctly recorded for Government enterprises, where no independent valuation of the products is made.

**10. Geographical Districts.**—The returns are classified according to the four Provinces of the Union; but a more interesting classification gives the data for four leading industrial districts. These are (i) Cape Peninsula and the neighbouring magisterial districts of Paarl, Stellenbosch, and Malmesbury, (ii) Port Elizabeth (magisterial district), (iii) Durban (including district of Pinetown), (iv) Witwatersrand (six magisterial districts) with district of Pretoria and town of Vereeniging. The two former account for rather more than half the industrial activity of the Cape Province; Durban for more than half that of Natal; the Witwatersrand for three-quarters of that of the inland Provinces.

In the comparison that follows it should be remembered that the Witwatersrand is considerably the largest industrial district; Cape Peninsula and Durban not very unequal in importance; and Port Elizabeth much smaller.

*Cape Peninsula.*—Between the second and sixth censuses industry increased 25 per cent. as judged by the number of employees, or 75 per cent. judged by "value added" (the latter, of course, is exaggerated by the rise in prices). The increase is well distributed over different occupations, the relative increase being largest in Class XI (Chemicals), the increases in Classes XVI (Building) and V (Metals, Engineering, etc.) also being important. White employment has not been maintained; it fell steadily from 43 per cent. to 36 per cent. This does not appear to be sufficiently accounted for by the difference in the course of wages, since those of Europeans rose from an average of £143 to £242, or 60 per cent., and non-Europeans from £52 to £78, or 50 per cent. The European male adult population of the district is estimated to be increasing at the rate of about 2,000 per annum; but the absorption of Europeans in manufactures only averaged 230 per annum. The population is largely engaged in agriculture and in commerce.

*Port Elizabeth.*—The increase judged by employment was 47 per cent. and by "value added" no less than 110 per cent. This is the centre with the largest proportion of Europeans among those supported by industry; a considerable number of country folk of the poorer class have found employment there. Nevertheless, the proportion of Europeans has fallen off from 52 per cent. to 42 per cent. European wages are lower than in any other industrial centre; this is partly because the industries are such as involve a good deal of female labour (especially leather working). Nevertheless, in other cases where the proportion of females is normal, wages are lower than in Cape Town and much lower than in Durban and the Witwatersrand. European wages increased between the second and sixth censuses more rapidly than in the Cape Peninsula, but non-European wages by only 35 per cent. Non-European labour seems to be, now, cheaper than at the Cape. This conclusion, however, is uncertain, as the composition and quantity of the labour is somewhat different.

*Durban.*—The expansion in employment has been 64 per cent., i.e. even more rapid than in Port Elizabeth, and the most rapid of any centre; but judged by "value added" it is 85 per cent. or less than in Port Elizabeth. The proportion of European labour has throughout been lower than in the other centres; it diminished rapidly, falling from 34 per cent. to 27 per cent. between the second and fifth censuses, but recovered to 30 per cent. in the sixth. In Natal, as is well known, the mixed non-European race is little seen, but both natives and Indians are employed. Unfortunately, the later censuses do not give their numbers separately: in 1916-17 (in Durban) 37 per cent. of the factory workers were natives and 24 per cent. Indians. No doubt the proportion is much the same still. Wages of non-European labour were very low, but rose 50 per cent. between the second and sixth censuses, so that now they are not much lower than on the Witwatersrand. The quality is markedly different from that of Cape Province, so that it is not possible to offer an opinion as to the relative efficiency. European wages are intermediate between those in the Cape Province and the Witwatersrand and have increased normally with rise in prices.

*Witwatersrand.*—This is considerably the largest industrial area, and it is still expanding rapidly, the increase in employment being 60 per cent. and in "value added" 85 per cent. between the second and sixth censuses. The value is probably an under-estimate, as the output includes as its largest item that of mine and railway workshops, which is not estimated on a commercial basis. This is the only centre in which the proportion of European labour has been maintained; it fluctuated round 41 per cent. European wages are the highest in the Union, but they did not increase much during the period under review (25 per cent. between second and sixth censuses), so that there has been a levelling up in other districts, and wages in Durban have nearly overtaken those in the Witwatersrand. Native wages increased in about the same proportion as European.

By far the most important industry on the Witwatersrand is engineering, as to which the statistics are imperfect, for the reason mentioned above. The increase in both Europeans and natives employed between the second and sixth censuses was nearly 60 per cent. to 70 per cent.: wages only rose to a small extent (hardly as much as the cost of living). But the most remarkable situation was in Class XIV (Heat, Light, and Power). Figures for Witwatersrand not being available for the earlier censuses, those for the Transvaal are used (the difference is unimportant). These show (between the second and fifth censuses) an increase in the gross value of the output of 35 per cent. The quantity of output is not given, but the increase could not have been greater than 35 per cent., for the price of the product certainly did not fall in the interval. Workpeople did not secure an advance in wages. Native wages were a little higher, but the average wage of Europeans fell from £332 in 1916-17 to £285 in 1919-20 (presumably owing to the engagement of a less-skilled class of labour) and only rose to £346 in 1920-21. But the number of Europeans engaged in producing the slightly expanded output was more than two-and-a-half times as large. In consequence of this extraordinary drop in efficiency, the wages bill grew from 25 per cent. to 47 per cent. of the net output (the latter being calculated by including fuel as one of the raw materials of the industry).

**11. Progress of Particular Industries.** - In order to estimate the quantity of output, when one product is much the more important, the quantity of that one equivalent to the value of the whole product of the industry has been taken, e.g. in brick, tile, earthenware, and pottery works, £618,954 consists of building bricks, out of a total of £882,331. The former amount is the value of 212 million bricks, the latter would represent 302 million, and this figure has been taken as the output of the 7,626 persons engaged, or just under 40,000 per head.

The following have grown very rapidly, having more than doubled the number of their employees between the first and sixth censuses:—

*Bacon Factories.*—This industry employs South African raw material almost exclusively and adds about 30 per cent. to the value of the material. The weight of most of the products is given, and though the figures are not quite easy to interpret, the weight of output per person seems to have been maintained. The proportion of European workers to coloured has been approximately constant. (A small industry.)

*Boots and Shoes.*—Material mostly local; "value added," 50 per cent. The number of pairs was not given in first census; in subsequent years it has been 650, 630, 500, 600, 540 per head. The quality has probably improved. The employees have throughout been about half European and half non-European. During the depression at the end of the period considered some factories worked on part-time.

*Brick and Tiles.*—Material almost exclusively local; but the value of the product is almost all in the labour of manufacturing. Estimating the output as the equivalent in the leading product (bricks), the second, third, fourth, fifth, and sixth censuses give 41, 44, 43, 40, 40 thousands per head. The number of non-Europeans has rather more than doubled; the number of Europeans has rather less than doubled. The industry gives employment to only a few hundred Europeans.

*Butter and Cheese.*—Material almost exclusively local; manufacture adds 25 per cent. to the value. The proportion of European labour has fallen off somewhat. The output of butter and cheese per head has been 13,400 lb., 14,700 lb., 15,200 lb., 15,100 lb., 11,500 lb., 12,100 lb. (In 1919–20, employees increased though output decreased.)

*Boxmaking.*—Increase in personnel more than threefold. Material chiefly imported. Manufacturing adds about 50 per cent. to value of material. Proportion of European labour fluctuating. Output reduced to equivalent in chief product (packing cases), second to sixth censuses, 1,600, 2,700, 2,300, 1,700, 2,890 per head. The measure of output is unsatisfactory in this instance.

*Saw-milling.*—Increase nearly threefold. Material mostly imported. Manufacturing adds 50 per cent. to the value. Proportion of non-European labour increasing somewhat. No quantities of output available.

*Tanneries.*—Material mostly local; manufacturing adds 40 per cent. to the value. Non-European employment increasing relatively. Weight of leather per head in second to sixth censuses, 5,900 lb., 6,200 lb., 5,100 lb., 5,700 lb., 4,600 lb.

*Wool-washeries.*—Material local; treatment adds 5 per cent. to value. European employees doubled, non-European increased more than threefold. (A small industry.)

*Cement Factories.*—Material half local, half imported; value added, 200 per cent. European employment fairly maintained.

*Motor Repairing.*—Increase fourfold. Employment mainly European.

The following are the more important industries in which the rate of progress, as measured by the total employment offered, has been less than in the foregoing:—

*Bakeries.*—Mainly local material; value added, 30 per cent. European employment has fallen off in proportion to non-European. Weight of product (reduced to equivalent in bread), 56,000, 58,000, 58,000, 57,000, 58,000 lb. per head. Total expansion of industry about one-third.

*Breweries.*—Mainly local material; value added, 150 per cent. to 200 per cent. Non-European employment has increased, but European has fallen off. Total expansion about one-sixth.

*Grain Mills.*—Local material; value added, 15 per cent. European employment maintained; expansion about one-third. Grain handled, 132, 162, 158, 171, 153, 166 tons per head. Efficiency fluctuates according to the amount of grain available.

*Jam.*—Mainly local material; value added, 50 per cent. Expansion more than one-half. Non-European employment increasing relatively. Weight of output per head has fallen off noticeably, though from the variety of products it is not possible to give a quantitative statement.

*Soap and Candle.*—Mainly imported material; value added, 40 per cent. Total expansion small; non-European employment increasing relatively. Weight of output not increased despite increased staff.

*Tobacco.*—South African material rather more than half the total; value added, 100 per cent. Expansion about one-quarter, but almost entirely in non-European employment. Material used per head, 4,350 lb., 4,500 lb., 4,850 lb., 4,700 lb., 5,300 lb., 4,300 lb.

*Printing.*—A large industry, employment mainly European, and proportion maintained; expansion about one-third. Material practically all imported. Value added, 200 per cent.

*Tailoring.*—Employment mainly European, and well maintained; expansion more than one-half. Material imported; value added, 100 per cent. Estimated by the yards of cloth used, productivity has fallen and recovered. 340, 330, 310, 320, 360 yards per head in the second to sixth censuses.

*Furniture.*—Non-European labour increasing relatively; expansion about three-quarters. Material mainly imported; value added, 100 per cent.

*Coach and Wagon.*—Proportion of European and non-European labour constant; expansion, one-half. Material rather more than half imported; value added, 100 per cent. More than half the revenue of the industry comes from repair work. As far as can be judged from the number of new vehicles, the output per head has fallen off.

*Electric Power.*—Expansion, one-half; proportion of European labour constant. Material (coal) local; value added, 200 per cent. Output per head shows no definite variation.

The following industries have not expanded during the years of the census so far as can be judged by the number of persons engaged:—

*Explosive and Match Factories.*—Materials mainly imported; manufacture adds 75 per cent. to value. European and non-European employees both reduced about 10 per cent. between first and fifth censuses—recovery in sixth.

*Sugar Mills and Refineries.*—Material local; manufacturing adds 50 per cent. to value. Total employment has fluctuated without decided increase or decrease; proportion of Europeans has increased a little. The census report does not give quantity of output. From unofficial information it may be estimated that the output has increased more rapidly than the number of persons employed.

## II.—The Earliest Records of South Africa up to the First British Occupation, 1652 to 1795.\*

By C. GRAHAM BOTHA, Chief Archivist of the Union.

The early records of South Africa have passed through the same phases as those of most civilized countries. At one period or another their custody, care, and preservation have been neglected, with the result that they have suffered to some extent. In earlier times unrestrained access to them has meant that some have gone astray, and the indifference of official custodians has resulted in many being destroyed as worthless. But there is a brighter side to this picture—the period when the country realized the valuable heritage which it has in possessing these muniments of bygone days, although often this awakening has been unable to repair the loss which has been sustained. However, not quite half a century ago the earliest records of this country were rescued from further depreciation, which has meant that now South Africa is possessed of a collection of which most countries can be proud.

It may be remarked with all sincerity that "the care which a nation devotes to the preservation of the monuments of its past may serve as a true measure of the degree of civilization to which it has attained."

The earliest period of which the records of South Africa deal relates to the days of the Dutch East India Company, from 1652 to 1795. These records supply the basis for the history of the Company at the Cape, of the general administration of its own affairs as well as that of the Cape Colony, of the early development of the country, and of the social and economic condition of the people, as well as the foundation for all branches of South Africa's early history. Amongst the most important classes of archives is the one dealing with the administration of the Government. The administration was placed under a Governor and his "Raad van Politie" or Council of Policy. The latter, presided over by the Governor, had legislative, executive, and administrative powers. At one time it exercised judicial functions, but these were committed to the Court of Justice. The Council of Policy made laws for the internal administration of the Colony, levied taxes, appointed servants of the Company to civil situations, and granted lands in freehold and gave them out on lease. Copies of all its proceedings were sent to Holland and Batavia, and its actions were subject to the veto of the authorities there.

The resolutions of this Council form one of the most important classes of the Cape archives. While they contain matters relating to the Company's own affairs, there are debates and resolutions on subjects of the utmost importance relating to the colonists, the growth of the Colony and its general history, which are of permanent value.

The incoming and outgoing letters of the administration form another important class. They contain the interchange of correspondence with the Seventeen, or Directorate of the Dutch East India Company in Holland, the Governor-General and Council at Batavia, in whom was vested the supreme Government of the East Indies, the heads of the various stations and factories of the Company, the principal officers of the ships calling at the Cape, the local bodies and boards, the Company's officials and private individuals here. From time to time the Seventeen appointed commissioners to visit the Company's stations and to examine into its affairs.

These commissioners were instructed to adjust any abuses and report on their inspection. They were sometimes given extensive powers and authority, and could make such alterations as they deemed necessary for the welfare of the community and the interests of the Company. The reports of commissioners, which are still preserved in the archives, give much information on the social condition of the people, on the trade and finance of the Company, and on the political and local government of the Cape. As a rule, the commissioners handed to the head of the Government here written instructions for his observation, which related to the Government, its officials, and the colonists. These instructions are very valuable, as well as the instructions issued by the Seventeen and the Governor-General and Council at Batavia to the Cape. The instructions and commissions issued locally to various officials also form an important link with this series of records.

There is one series of papers of this period which gives minute details of events in the Colony. This is the *Dag Register* or Journal, which was kept by the Government as well as by the officials sent out into the interior whether on a trading expedition to the natives

\* For a detailed account of the records which exist, see "A Brief Guide to the Various Classes of Documents in the Cape Archives, 1652-1896," by C. Graham Botha. Some reference to the archives of the Union is contained in the introductory chapter (§ 2) of this *Year Book*.

or to inquire into any matter. It was kept in compliance with an order of the Seventeen issued to its various stations as far back as 1622. From this source we are able to ascertain particulars of passing events as from no other. Several of these Journals are wanting in the collection, but it is owing to the system of sending copies of documents to the authorities in Holland that verbatim copies have been made to supply what is missing.

The statute law of the Cape was (a) the local proclamations or "placaaten" passed by the Governor and Council and duly promulgated, and (b) the statutes of Batavia which were issued by the States-General, the Seventeen, and the Governor-General and Council of Batavia, and were applicable to the possessions of the Dutch East India Company. The first are in original, and the second are copies. They are to be found in the collection.

The further documents which fall under the class of the Council of Policy are those which were passed before the Secretary of that Council. Many of these are of a notarial nature, a number relate to the Company's affairs and to the burghers or citizens of the Colony. There is also a series of petitions or memorials to the Government from the Company's servants, private individuals, public offices, and papers relating to the Burgher Council (the municipality of the day), and the Company's servants, and copies of lists of the latter, as well as of burghers resident in the country.

The next class of records which deserves attention is those of the Court of Justice. The Dutch carried their laws and customs with them to their colonies and dependencies abroad. From 1652 to 1828 few changes were made in the general administration of justice at the Cape. The Court of Justice was the Superior Court of the Colony, and sat at Cape Town. It took cognizance of civil and criminal cases, and was an appeal court to the judgments of the inferior courts. The Court had jurisdiction in causes of possession, in matrimony, in actions brought by or against receivers of public revenue or public boards, in deciding questions of jurisdiction between the different districts of the Colony, in causes of prize or booty captured in war by vessels of the Dutch or sailing under commission of marque, and, finally, in actions between inhabitants of the Colony and masters of ships, seamen, and passengers belonging to any ships anchored in the Cape roadsteads or bays, without any exception whatever. Up to 1656, judicial matters were dealt with by the Council of Policy, but in this year it was decided that when it sat as a court of justice and military court it was to consist of the Commander of the Settlement, five members, and a secretary. Up to 1734 the Governor sat as president of this Court. In 1786 the Court was remodelled when the number of members was equalized by having six officials of the Company and six burgher councillors, under the presidency of a member of the Council of Policy. As early as 1657 the burgher community had representatives on the bench when any of their number was concerned. From the members of the Court commissioners were appointed. Before them all transfers of landed property and mortgage bonds were passed.\* In civil cases they took evidence, administered oaths, and made personal inspection of lands and buildings about which any action arose. They endeavoured as far as possible to bring the case to an amicable end if they saw that it could be done without going before the full Court. They also held inquests on the bodies of persons who had been murdered, died suddenly, and had committed suicide. The principal records of the Court of Justice during the period 1652-1795 which are preserved are those relating to civil and criminal cases. These consist of the Civil Rolls and all the annexures, and from them each case can be followed from its initiation to its finish. The petitions to the Court form a separate series, and referred to matters which required judicial sanction. The usual correspondence of the Court with the local Government and the various courts of law in the East Indies or Europe is also preserved. Notarial acts, such as agreements, contracts, wills, and obligations, which were passed before the secretary or registrar of the Court, are also filed. Up to 1792 the secretaries of the Court of Justice and the Council of Policy were permitted to pass such deeds, but in that year they were respectively appointed as notaries public. From the records of the Court of Justice we are able to learn the legal procedure at the Cape during the seventeenth and eighteenth centuries. They also unfold the administration of justice.

The control and administration of the property of persons who had died intestate and left heirs absent from the Colony or who were under age, devolved upon the Orphan Chamber. The records of this Government office are most valuable. Its principal functions were: (1) the administration of the estates of persons dying intestate in the Colony or on the voyage, and leaving absent or minor heirs, also the estates of those who had not especially excluded the Orphan Masters in their will or had specially appointed them even where their heirs were majors and resident here; (2) the registration of wills of deceased persons; (3) administration of minors' property; (4) receiving and paying to present and absent claimants the legacies or portions due to them; (5) keeping a death register or record of persons who died at the Cape; (6) recording the resolutions and transactions of the Board. It would appear that the Orphan Masters were given nearly the same portion of authority and jurisdiction in testamentary matters as was exercised in earlier periods by the spiritual courts in England. The annexures to the liquidation and distribution accounts of the

\* These records are under the custody of the Registrar of Deeds, Cape Town.

Orphan Chamber form one of the most important series of the collection, as they contain useful material of a social and economic nature. All the records of this Chamber are of great value, which cannot be over-estimated.

By an Ordinance passed in 1833 the Orphan Chamber was abolished and the duties transferred to a newly created officer, the Master of the Supreme Court. In the Cape archives are preserved the records of this institution from 1673 to 1833. They consist of wills, inventories, liquidation accounts and their annexures, death registers (beginning in 1758), letters received and dispatched, resolutions of the Board of Orphan Masters from 1757, and *kusting brieven* or mortgage bonds passed in favour of the Chamber on behalf of the heirs of a deceased person for the purchase price of the landed property sold in such estate (beginning in 1709). Then there are conditions of sale regarding the immovable property of a deceased person, put up by public auction after the sanction of the Court of Justice had been obtained. These commence in 1697. *Bewijzen*, another series of the Orphan Chamber records, commence in 1731. These were bonds which had to be entered into by a widow or widower who wished to remarry and by which the inheritance of the minors of the first marriage was secured.

The following list of publications relating to documents in the Cape archives may be found useful:—

D. MOODIE—

The Records of a Series of Official Papers relative to the Conditions and Treatment of the Natives of South Africa (published in 1838)  
Part I, 1649-1720.  
Part II, 1769-1795.

G. MCC. THRAL, LL.D., Litt.D.—

Abstract of Debates and Resolutions of the Council of Policy at the Cape, 1651-1687. (1881.)  
Belangrijke Historische Dokumenten, Vols. I, II, and III.  
Records of Cape Colony, 1793-1827 (in thirty-five volumes).

REV. H. C. V. LEIBBRANDT—

"Précis of the Archives" Series.  
The Defence of Willem Adriaan van der Stel. (1897.)  
Resolutien van den Commandeur en Raden van het Fort de Goede Hoop, 1652-1662. (1898.)

Journal, 1651-1662, three volumes. (1897.)

Journal, 1662-1670. (1901.)

Journal, 1671-1674 and 1676. (1902.)

Journal, 1699-1732. (1896.)

Letters Received, 1649-1662. (1898.)

Letters Received, 1649-1662. (1899.)

Letters Received, 1695-1708. (1896.)

Letters Despatched, 1652-1662, three volumes. (1900.)

Letters Despatched, 1695-1708. (1896.)

Requesten or Memorials, 1715-1806. Letters A—O. two volumes. (1905-06.)

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UNION OF SOUTH AFRICA.

STATISTICAL SUMMARY OF PROGRESS, 1891 TO 1921.

Heading.	1891.	1896.	1904.*	1906.	1911.	1918.	1921.
Population—European.....	620,619 <sup>2</sup>	811,459 <sup>2</sup>	1,116,806 <sup>2</sup>	1,161,359 <sup>2</sup>	1,276,242 <sup>2</sup>	1,421,781 <sup>2</sup>	1,519,488 <sup>2</sup>
Total.....	3,494,531 <sup>1</sup>	4,141,181 <sup>1</sup>	5,175,824 <sup>1</sup>	5,402,765 <sup>1</sup>	5,973,394 <sup>2</sup>	6,422,355 <sup>1</sup>	6,928,580 <sup>2</sup>
Education—Number of Schools (Government and Govern- ment Aided).....	2,083 <sup>2</sup>	3,381	3,976	4,824	6,275	7,724	7,875 <sup>2</sup>
Teachers.....	—	4,466	8,100	8,896	11,695	18,301	19,759 <sup>2</sup>
Scholars.....	122,524 <sup>2</sup>	146,523	230,253	256,453	324,772	503,253	541,392 <sup>2</sup>
Agricultural Production—							
Maize..... ton	—	—	452,967	—	863,252	1,264,009	1,334,724
Kafir corn..... "	—	—	136,793	—	154,773	180,142	155,405
Wheat..... "	—	—	70,865	—	181,032	304,486	228,401
Oats..... "	—	—	65,356	—	154,569	172,400	95,617
Barley..... "	—	—	24,258	—	30,573	49,286	28,535
Potatoes..... "	—	—	82,207	—	92,119	117,269	112,013
Tobacco..... "	—	—	6,040	—	7,481	7,466	8,310
Tea (green leaf)..... "	141	392	1,203	1,254	3,361	3,257	1,851
Wine..... 1,000 gall.	6,013	5,687	5,687	—	7,501	11,731	16,945
Sugar, consumption..... ton	13,037	6,329	21,709	46,927	82,000	104,921	143,680
Butter <sup>2</sup> ..... "	—	—	—	—	5,675	10,047	9,482
Cheese <sup>2</sup> ..... "	—	—	—	—	273	3,011	2,309
Bacon and ham <sup>2</sup> ..... "	—	—	—	—	—	3,543	3,900
Live Stock—							
Horses.....	—	—	419,539	—	719,414	781,022	920,468
Mules.....	—	—	134,734	—	93,931	84,559	116,789
Asses.....	—	—	141,960	—	336,710	554,316	722,238
Cattle.....	—	—	3,500,453	—	5,796,949	6,851,924	8,557,089
Sheep.....	—	—	16,322,503	—	30,656,659	37,786,828	31,729,512
Goats.....	—	—	9,770,545	—	11,762,979	10,379,376	7,836,696
Pigs.....	—	—	679,084	—	1,081,600	1,043,224	914,769
Ostriches.....	—	—	360,830	—	746,736	314,265	261,828
Mineral Production—							
Transvaal gold mines—							
Fine oz.....	688,439	2,025,510	3,770,963	5,792,823	8,249,461	8,418,292	8,128,681
Value £1,000	2,924	8,604	16,018	24,606	35,041	35,759	43,082 <sup>2</sup>
Diamonds..... Carats.....	2,880,308 <sup>2</sup>	3,212,392 <sup>2</sup>	3,683,157	4,136,236	4,891,999	2,537,360	806,643
Value £1,000	3,557 <sup>2</sup>	4,034 <sup>2</sup>	7,209	9,597	8,747	7,115	3,103
Coal..... 1,000 ton	126 <sup>2</sup>	1,785 <sup>2</sup>	3,673	4,802	7,595	9,877	11,397
Gross Factory output..... £1,000	—	—	19,530	—	17,249	60,123	98,308
Total imports <sup>10</sup> ..... £1,000	12,264	23,373	32,476	31,076	36,925	49,487	57,800
Total exports <sup>10</sup> ..... £1,000	12,300	18,130	29,744	41,706	57,024	70,633	74,354
Exports—							
Wool, expressed as greasy, ton	51,414 <sup>10</sup>	49,491	37,346	44,252	63,447	50,196	169,447
Mohair.....	5,240	5,258	7,374	7,863	10,333	9,823	8,564
Ostrich feathers..... 1,000 lb.	198	322	470	558	827	109	297
Skins..... 1,000	5,530	5,008	4,874	—	8,102	7,560	6,032
Hides..... 1,000	463	472	1,356	—	521	364	388
Maize..... ton	3,408	3,635	8,102	6,954	103,277	254,748	388,623
Coal, cargo.....	—	—	541,439	621,627	82,536	1,208,386	1,795,093
Coal, bunker..... "	—	—	—	—	1,426,586	1,276,333	1,636,445
Vessels entered—Number.....	860	1,297	—	1,395	1,805	1,036	1,217
Tonnage.....	1,194,565	2,375,532	—	4,823,844	5,417,444	2,989,440	4,198,683
Vessels cleared—Number.....	841	1,245	—	1,376	1,803	1,004	1,204
Tonnage.....	1,125,699	2,202,334	—	4,831,593	5,439,166	2,986,503	4,177,959
Open mileage of Government railways.....	2,318	3,325	4,942	6,056	7,548	9,514	9,559
Posts—							
Number of letters and post cards dealt with..... 1,000	—	42,411 <sup>11</sup>	111,298	104,181 <sup>11</sup>	143,025	—	161,977
Newspapers, samples, etc.....	—	—	28,406	33,661	68,881 <sup>11</sup>	—	77,956
Revenue..... £1,000	—	—	1,344	1,294	1,472 <sup>11</sup>	1,974	2,785
Expenditure..... £1,000	—	—	1,480	1,371	1,491 <sup>11</sup>	1,821	3,344
Finance—							
Total revenue, excluding railways <sup>12</sup> ..... £1,000	4,714	9,740	11,547	11,591	17,228	21,911	28,884
Total expenditure, excluding railways <sup>12</sup> ..... £1,000	5,753	10,677	13,799	14,047	16,547	21,322	30,091
Public debt..... £1,000	—	—	90,410	97,999	114,237	160,437	178,608
Post Office Savings Bank—							
Number of depositors.....	32,171	62,530	161,044	174,357	225,238	288,833	306,655
Total deposits..... £1,000	1,135	2,089	4,606	4,725	6,128	7,217	7,025
Cheque-paying Banks—							
Notes in circulation..... £1,000	939	2,047	2,128	2,075	2,379	6,451	9,183
Deposits..... £1,000	12,095	20,996	43,095	41,053	44,392	77,593	90,998
Advances..... £1,000	9,820	18,619	35,701	35,182	41,146	62,508	74,914
Coin & bullion reserves, £1,000	4,473	9,280	9,348	8,110	7,851	9,337	11,808

\* Owing to the Anglo-Boer war, the year 1901 has not been taken; 1904 may be considered the first normal year after that event.

<sup>1</sup> Census.

<sup>2</sup> Estimated.

<sup>3</sup> Year 1890 and excluding Orange Free State.

<sup>4</sup> Year 1920.

<sup>5</sup> Including factory production.

<sup>6</sup> Including premiums.

<sup>7</sup> Cape only.

<sup>8</sup> Cape and Natal only.

<sup>9</sup> Not including Orange Free State.

<sup>10</sup> Excluding specie.

<sup>11</sup> Excluding Orange River Colony post cards.

<sup>12</sup> Year 1912.

<sup>13</sup> For year ended 31st March of following year.







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