Ann. Natal Mus. Vol. 24(1) Pages 111–145 Pietermaritzburg November, 1980

Msuluzi Confluence: a seventh century Early Iron Age site on the Tugela River

by

Tim Maggs

(Natal Museum, Pietermaritzburg, South Africa)

SYNOPSIS

Msuluzi Confluence is one of several sites excavated as part of a project on the Early Iron Age in Natal. In size and environmental setting it is typical of inland sites of this period, and it has provided economic information, including the earliest on domestic stock in Natal. It is the first excavated and dated assemblage belonging to Schofield's class NC 3. The early date and Early Iron Age affinities of the pottery, however, make Schofield's term obsolete.

INTRODUCTION

Since 1977 several sites, including Msuluzi Confluence, have been excavated in a project aimed at understanding Early Iron Age settlement and exploitation patterns, as well as providing a chronological and typological framework for the period AD 300–1000 in Natal. Results have shown that settlements are restricted to a narrow range of locations which can be correlated with particular conditions of vegetation, soil and topography. The implications of this pattern for our understanding of the Early Iron Age have been discussed elsewhere (Maggs, 1980*a*).

Msuluzi Confluence is also of significance because it is the first excavated and dated assemblage representative of the Natal Coast 3 (NC 3) classification proposed by Schofield in 1935. Work at another Tugela Basin site, Ntshekane (Maggs & Michael, 1976), has shown that Schofield was incorrect in placing his NC 3 late in the sequence for it is now recognised as Early Iron Age (EIA). However, most of the Ntshekane assemblage, including the dated material, is from a late expression of the EIA, unlike that from most Natal sites, including Msuluzi Confluence and virtually all the other sites shown on Fig. 1, which correspond closely with Schofield's definition of his NC 3. The present report describes an assemblage of this material in detail, illustrates and dates it for the first time.

THE SITE

Msuluzi Confluence is just west of the junction of the Tugela and Msuluzi (Bloukrans) rivers and is cut by the road from Weenen to Tugela Estates (S 28°45′20″: E 30°08′45″). Its location typifies that of EIA sites in the Tugela Basin and other major Natal river valleys. It is relatively dry, with a mean annual rainfall around 700 mm, and the primary vegetation is a mixed bushveld, more specifically the Semi-deciduous Bush (*Acacia, Boscia, Olea, Schotia* Scrub) of Edwards (1967). All known EIA sites in the Tugela Basin occur in this vegetation

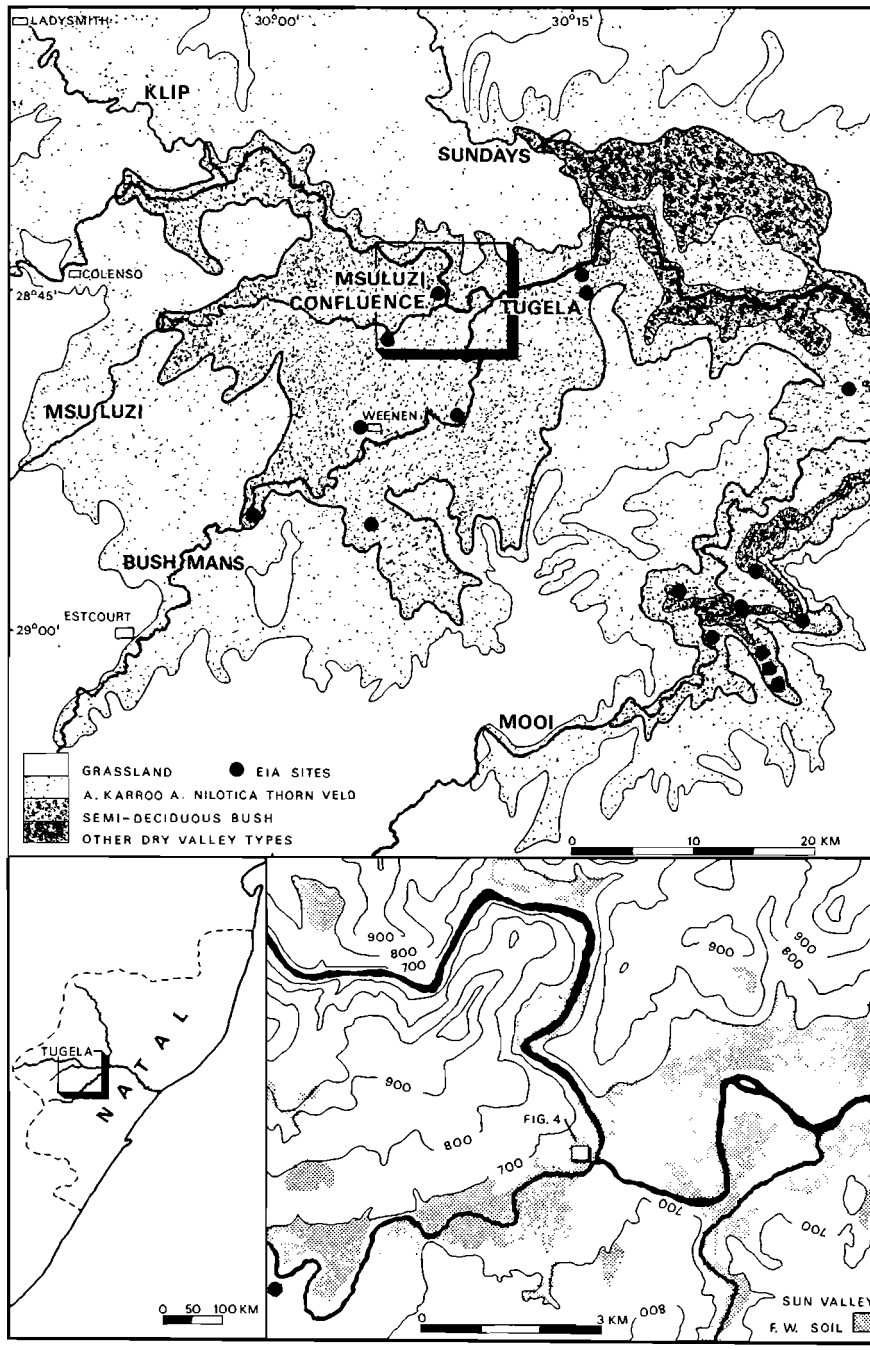

Fig. 1. Site location in relation to vegetation, topography and soil.

type or other related dry valley types, including *Spirostachys* Valley Woodland, *Euphorbia tirucalli* Succulent Scrub and *Combretum apiculatum* Tree veld (Fig. 1). With increasing altitude these dry valley types, with their sweet grass understory, give way first to the interior *Acacia karroo A. nilotica* thorn veld and then in turn to a variety of grassland types, with mixed to sour grazing. None of these has yet produced any sign of EIA settlement.

The EIA preference for river- or stream-side settlement locations is reflected, as is the preference for deep soils. The relatively steep topography of the main valleys means that much of the landscape is rocky or has only very shallow soils. In the flatter parts of the valley bottoms patches of colluvial soil have accumulated (Fig. 1), these being reddish, clayey and loamy calcareous soils of Sunvalley–Ferry–Weenen type (Van der Eyk *et al.* 1969). It is on these deep, alkaline soils that Early Iron Age settlement took place.

The local geology consists of the Middle Ecca beds which locally provide relatively small but rich lenses of iron ore, usually in the form of siderite ($FeCO_3$). Local informants knew of an outcrop a short distance up the Tugela valley, but this was not visited.

The neighbourhood environment therefore provides a blend of sweet, year-round nutritious grazing, fertile, though relatively dry, alkaline soils suitable for the more drought-resistant African cultigens, wood for fuel and building, iron ore as well as rivers for water and fishing. The site location is well placed to take advantage of this blend. The Tugela valley from here down, and the Msuluzi further upstream, would have provided other suitable locations for EIA settlement, such as the Sunvalley Estates site (Fig. 1, lower left corner of third map). By contrast, the Tugela upstream of the site runs in a steep valley with few suitable soil patches. Several of these were searched without result and therefore Msuluzi Confluence may be the furthest inland EIA site on the Tugela.

The topography of the confluence would suggest that it was also of importance as a route between the lower parts of the Tugela Basin, ultimately the coast, and the upper parts, including the grasslands. Movement inland would have been easier up the broader and more gentle Msuluzi valley than the steep Tugela gorge.

The site itself is defined by a rich scatter of material extending from the foot of a low ridge down a gentle slope to within 200 metres of the actual confluence (Fig. 2). The slope consists of a colluvial deposit of Sunvalley–Ferry–Weenen soil which typically contains Middle Stone Age artefacts towards its base. Modern gully erosion has removed much soil from the northern part of the site (Fig. 3, left foreground & Fig. 4), making its full extent here uncertain. Just south of the gully system a belt of sheet erosion running roughly east–west across the site has exposed numerous concentrations of material with the minimum amount of lateral transport. In the photograph (Fig. 3) the sheet erosion is marked by dark colouring in the centre foreground and middleground; the colour being derived from a small shrub, *Blepharis natalensis*, characteristic of overgrazing and sheet erosion on this soil type. South of the sheet erosion, in turn, is a formerly cultivated area, overgrown with grass and *Acacia* scrub, which forms the pale area in the right foreground of Fig. 3. In this area the contours show a relatively even,

Fig. 2. View of the site looking west across the Tugela. Site extends from just beyond the sloping spur, to the road in the left middleground.

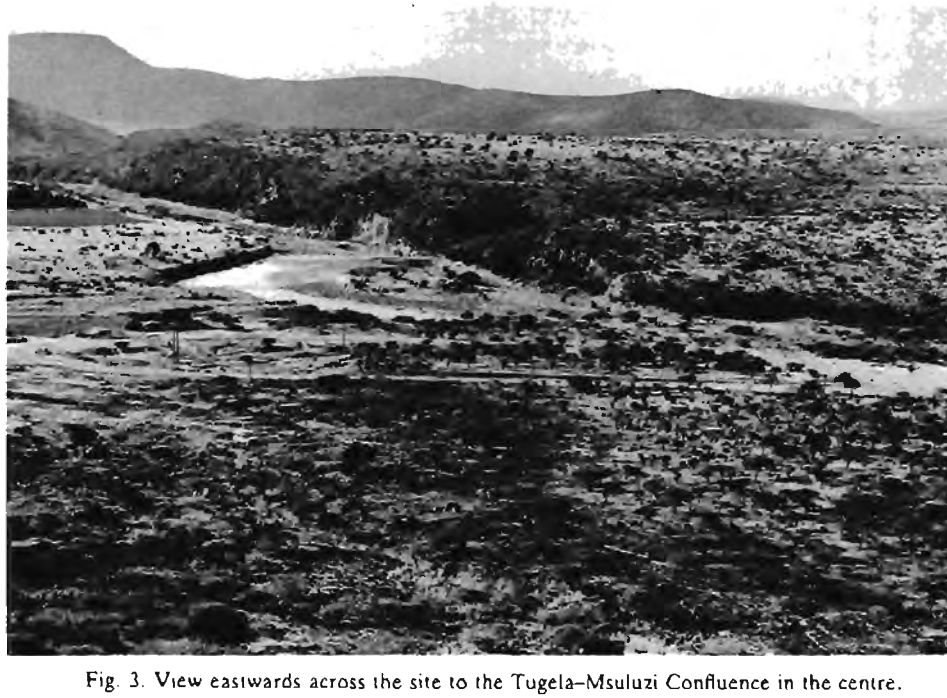

Fig. 3. View eastwards across the site to the Tugela–Msuluzi Confluence in the centre.

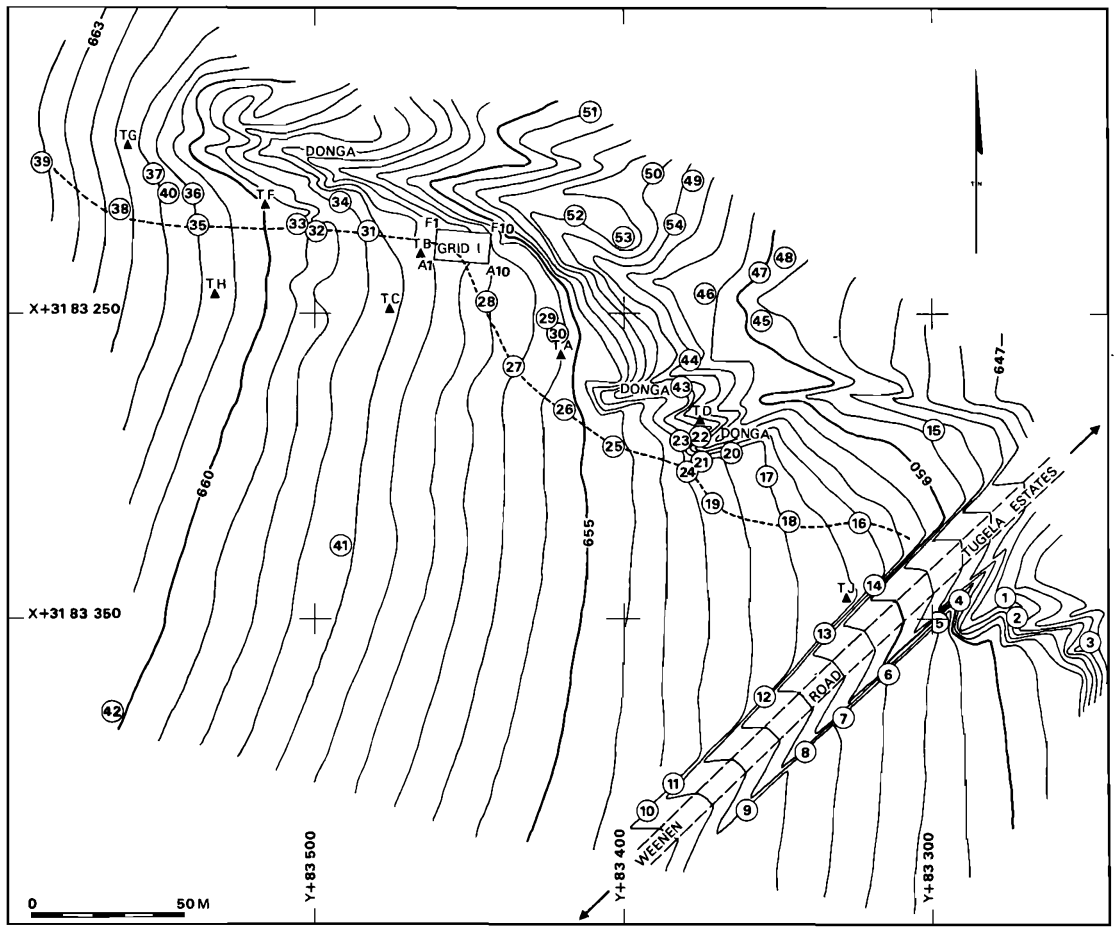

Fig. 4.
Site plan. Contour intervals 0,5 m above sea level. Numbers in circles show concentrations of Early Iron Age material. Triangles show fixed survey points. Marginal numbers and crosses show the national grid. Surveyed by the Department of Land Surveying, University of Natal, Durban.

sloping surface (Fig. 4) which has changed little since the occupation. A considerable part of it is thought to have been included in the settlement; however, cultural remains are visible in only a few places, for example where it has been cut by the road and one or two paths.

Since both southern and northern limits are not clear, the extent of the settlement cannot be established precisely. However, the proven extent covers a total of about 8 hectares. This represents quite a substantial village size, although it is comparable with several other EIA sites in the Tugela Basin and beyond.

FIELDWORK

We chose the site for excavation because of its rich surface scatter; more particularly, several of the concentrations in the sheet-eroded area resembled the eroded tops of pits at the Ntshekane EIA site (Maggs & Michael, 1976). The often ashy filling of such pits provides good conditions for the survival of food waste and cultural material in a particularly good context for dating.

The main concentrations were numbered and the richest scatter was laid out in 2 m squares as Grid 1, where most subsequent work took place.

Grid 1

Apart from the concentration of pottery, slag, iron ore, stone implements and a little bone, Grid 1 was placed to examine whether the occurrence was a single, more-or-less continuous, compact horizon or a number of discrete features such as pits. Being on the edge of the gully system in the sheet-eroded area it had the advantage of a ready-made profile through the deposits.

Excavation yielded the following stratigraphy:

1. Upper soil—red-brown hard loam with many roots but very little archaeological material. It was up to 20 cm thick but the sheet erosion had removed much or all of it in places.
2. Main Horizon (MH)—soil matrix visually indistinguishable from the upper soil, the layer being defined by its content of EIA material and charcoal flecks. It was usually about 10 cm thick but up to 20 cm in places. Its lower limit was difficult to define because isolated finds occurred a few centimetres deeper, perhaps because of biotic activity during wet periods.
3. Underlying soil—again visually indistinguishable but essentially void of archaeological material except for a few small pieces in the upper 10 cm or so.

The hardness of the soil reduced the rate of excavation and largely prevented the use of trowels. In anticipation we developed a small hand pick made from a length of car leaf spring, sharpened at both ends and welded to a 35 cm handle. These 'Armstrong picks' proved successful and easily controllable but, because each find had to be chopped out of its hard soil matrix, the volume of the excavation was limited.

To investigate a rich surface concentration in the western part of the grid, excavation started in squares B2, C1, C2 and D1. The Main Horizon (MH) had

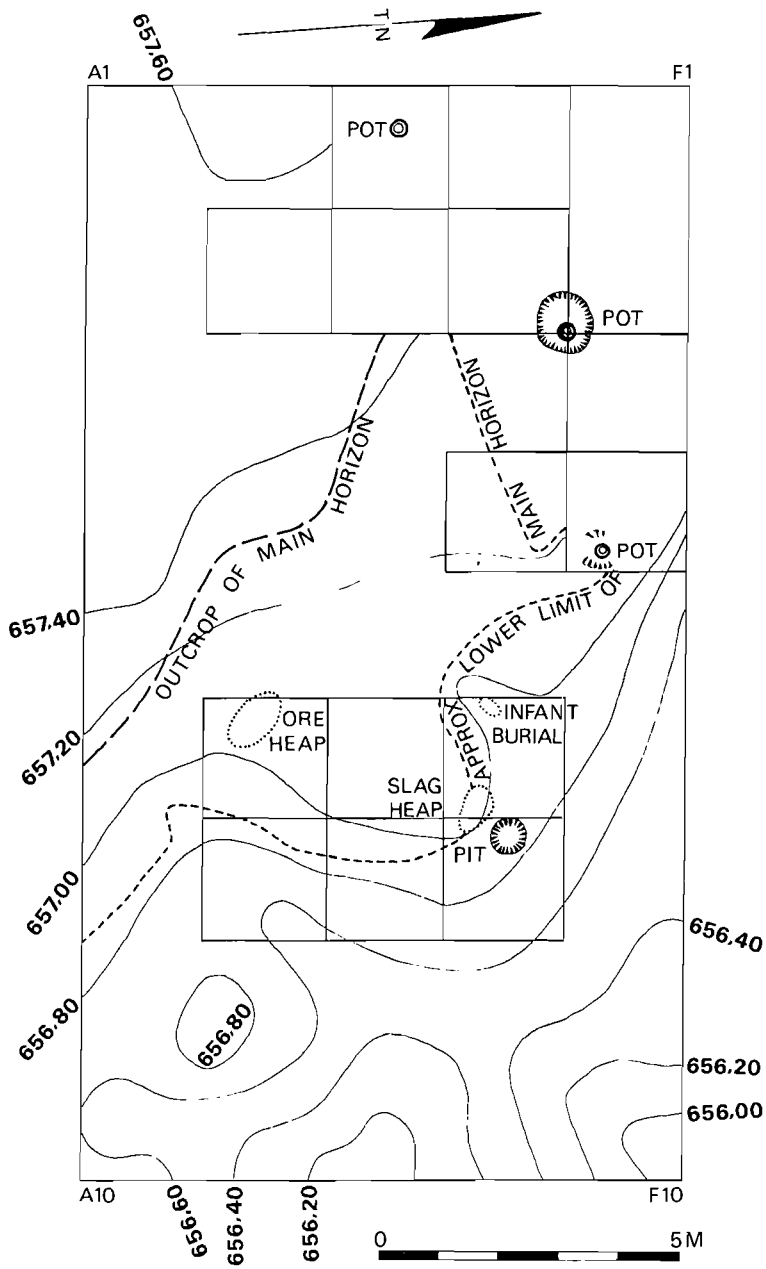

Fig. 5. Plan of Grid 1 showing pits, buried pots and other main features. Surveyed by the Department of Land Surveying, University of Natal, Durban.

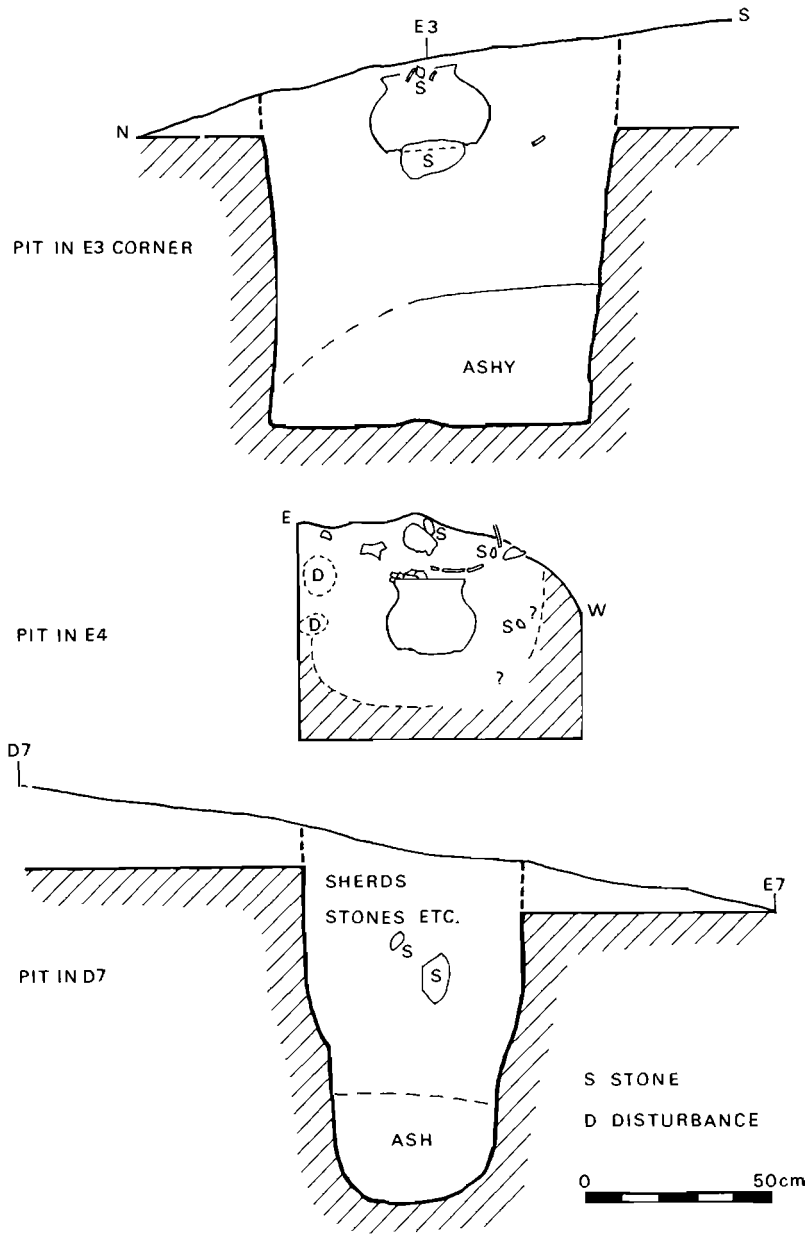

Fig. 6. Sections through pits.

been removed by erosion from about row D northwards, but it was quite rich in squares C1 and C2, becoming much poorer towards the east and south. Near the centre of C1 was an almost complete but badly cracked pot, its base some 25 cm deeper than the MH, showing that it must have been deliberately buried. However, if the MH represents the occupation layer, as is probable, the rim of the pot would have protruded above ground level. This seems to be confirmed by the fact that the rim was not only heavily abraided while the pot was complete, but also that the rim and neck sherds had broken off and fallen inside the pot to near its bottom. This must have taken place during, or very soon after the occupation. Careful examination of the soil below the pot failed to reveal any sign of a pit continuing deeper.

Just south of the E3 peg part of a pot with an unusual, spiral decoration (Fig. 9, 4) occurred just below the erosion surface. Just below it and right at the E3 peg an almost complete pot had been buried beside a rock (Figs 6 & 7). It had been

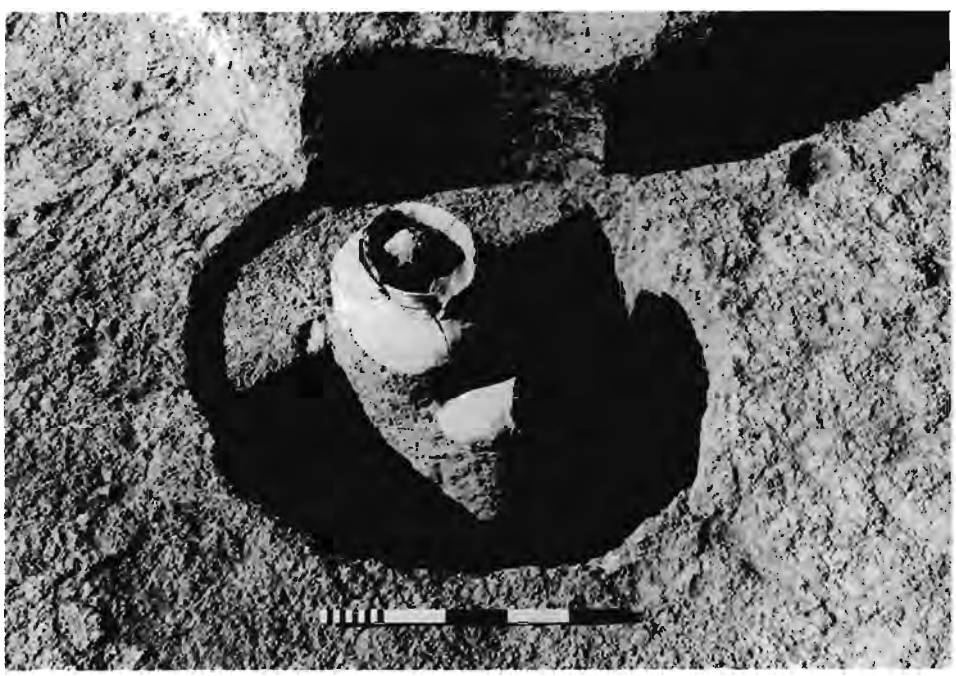

Fig. 7. The pit at E3 partly excavated.

placed in an upright position after its base had been neatly broken off. The excavated surface level with the base of this pot was swept clean and the faint outline of a pit became visible, distinguished only by flecks of charcoal in the soil. This proved to be a flat-bottomed, circular pit one metre deep and 90 cm in diameter with a distinctly ashy deposit towards the bottom on the south side (Fig. 6). It contained very little other material—a few bones, including some of fish, some stones and small sherds. Fine sieving and sorting failed to reveal any identifiable plant remains.

A charcoal sample collected from 34 to 42 cm below surface in the pit gave the following result: Pta-2195 1310±40 (640 ad). The large size and undisturbed context of this sample from beneath the buried pot give it a high degree of reliability.

A rich concentration, including pottery, stone implements and fragments of an animal figurine (Fig. 14.1 & 2), occurred in D4, stretching into the south-east corner of E4, the remainder of this square being down the erosion scarp. The corner contained sherds of a badly broken upper vessel, its base almost 20 cm below the MH, with an almost complete pot beneath and a little to the north (Fig. 11.2). The rim of the latter was about 10 cm below the MH and its base—again broken off—was 30 cm down. Among the upper sherds, and perhaps contained by it, were a *Metachatina* shell and four disc beads. Otherwise there was very little material below the MH except for some sherds and two river pebbles. This material, together with charcoal flecks, showed that there had been a small circular pit, apparently with rounded bottom, reaching down to about 15 cm below the base of the pot, the total depth being about 55 cm. As with the previous pit, the lower pot was protected by being buried well below the MH, while the upper vessel, if indeed it was complete at the time, must have been partly exposed or only just buried.

Six squares further east (B6 & 7, C6 & 7, D6 & 7) were excavated to examine another rich scatter which included a small heap of slag and another of ore fragments. Erosion had removed part of the MH, but 10 cm or more was present in B6 and C6 (Fig. 5). Sherds and other material *in situ* in the MH here as elsewhere tended to be lying flat, suggesting they were discarded on a surface and then became covered with soil. Sherds were seldom more than 7 cm long, larger ones usually having been cracked into several smaller ones still lying adjacent to one another. This indicates that trampling and partial burial of the material probably took place during the occupation. Since such broken sherds occurred at different depths within the MH, this layer seems to have accumulated during, and perhaps immediately after, the occupation.

The heap of small pieces of iron ore in B6 was mixed with a mass of small sherds, suggesting that it may have been inside a vessel. The ore consists of ferruginised sandstone apparently with a relatively low iron content when compared with the local siderite which often occurs in association with sandstone beds. The pieces may therefore have been broken off and discarded from larger pieces of ore after they had been brought to the site.

In D6 an infant burial had been partly exposed by erosion. It was buried on its left side in a flexed position facing approximately north-east. There were a few sherds around it, but it had not been placed within a pot. It was a shallow grave no more than 20 cm deeper than the MH. This suggests that it was interred at a later stage of the EIA occupation or perhaps even subsequently. Several milk teeth show that the infant was at least six months old.

In D7 several large sherds, upright in the soil at a level well below the MH, drew our attention to another pit. It proved to be narrow and about one metre deep below the erosion surface, with a rounded bottom (Fig. 6). The upper part contained much cultural material, including pottery, stones, slag, tuyère frag-

ments and a lump of heavily oxidised iron, in a filling of hard soil with charcoal flecks. Below this was an almost pure ash layer with charcoal but little else. A charcoal sample collected from 45 cm down to the bottom of the pit gave the following date: Pta-2197 1370±30 (580 ad), the result being in close agreement with the previous sample.

Sherds in the pit came from several vessels, two of which could be reconstructed almost completely (Fig. 10.2–5). The larger is of particular interest for, though its sherds were scattered in the pit, they have been reassembled to make the whole pot but for its base which had been broken off before the remainder was smashed and dumped in the pit. None of its basal sherds had been placed in the pit. This is the neatest example of the practice of removing bases before burying pots, for the break had been trimmed, by the removal of a series of small flakes, to an almost horizontal plane corresponding with the equator of the pot (Fig. 10.2).

The slag and ore heaps, as well as the tuyère and slag in the pit, show that iron smelting took place in this part of the settlement, but no trace of a furnace was found.

Beyond Grid 1 several of the numbered features were tested; numbers 18, 23, 30, and 41. The outcrop of the MH could be traced both eastwards and westwards near the upper limit of the sheet erosion, as is indicated by the broken line on Fig. 4. Two features in this area, 18 and 23, with rich concentrations of material, were sampled to test if they were pits. Despite the quantity of pottery and an ashy lens 0,5 m wide and 12 cm deep in 18, both features proved to be no more than concentrations within the MH, each about 2 m in extent.

Just down the eroded slope from 30 a patch of cultural material and bone to a depth of 1,20 m below the MH also suggested the presence of a pit. Excavation revealed an adult burial badly damaged by erosion and biotic activity. The cranium, one arm and most of the vertebrae were missing and the remaining bone was fragile and penetrated by rootlets. The burial was loosely flexed in a fairly upright position, with the upper torso well above the legs. Shoulders and knees were towards the east. The position was not very neat, due apparently to rather casual positioning of the body as well as subsequent disturbance.

A large sherd from a typical decorated pot near the lowest part of the legs (Fig. 11.1), as well as other sherds of typical pots and bowls among the lower bones, strongly suggests that the burial relates to the EIA occupation and that it was placed in a pit at the same time as, or very soon after, a quantity of cultural material had been dumped.

The only other feature of special interest was 41 where several furnace fragments protruded above ground level. Excavation in a 2 m square revealed a mass of furnace fragments, broken tuyères, slag and some pottery, to a depth of 15 cm; an occurrence evidently equivalent to the MH. However, no *in situ* furnace remains were encountered here or elsewhere on the site, nor are they known from any other EIA site in Natal, which suggests that furnaces were extensively dismantled after firing.

Finally a surface collection was made of rim and decorated sherds, stone artefacts and bone from the numbered features.

THE FINDS

Pottery

The Msuluzi Confluence assemblage is of particular interest since it is the first in Natal to be dated within the period AD 400–800. Moreover, it is the first excavated site that corresponds with Schofield's ceramic class Natal Coast 3 (NC 3), a classification which, however, is now obsolete since this pottery clearly belongs within the EIA (Maggs, 1980*a*).

Although some of the vessels included in this description are from the surface features, there is a high degree of internal typological consistency. Moreover, the nature of the site, as already described, is indicative of a single Iron Age occupation.

The method followed here is essentially similar to that used for other EIA sites of the present project (Maggs & Michael, 1976; Maggs, 1980*b*) in order to facilitate comparisons. In the list of ceramic characteristics the numbers used in the Mzonjani report (Maggs, 1980*b*) have been retained where they are present. New characteristics, not found at Mzonjani, have been given new numbers.

Only 45 pots are sufficiently complete for inclusion, and even among these some do not preserve the whole of their body motifs (eg. Fig. 8.6). The sample is therefore relatively small and probably does not cover the full range of attribute combinations. However, it is adequate to describe the main characteristics of shape and decoration.

Characteristics of the pots

Shape

2. Pot with curved, everted neck.
3. Lip profile rounded.
4. Lip profile flattened.
5. Lip profile tapered.
7. Groove on lip.
31. Notches on lip (Fig. 8.3).

Position of decoration

8. Whole of neck (Fig. 9.1).
9. Upper neck (Fig. 10.2).
32. Lower neck (Fig. 8.4).
33. Plain band between decorated bands on neck. Sometimes this is divided by a horizontal groove (Fig. 8.6).
10. Body/neck junction.
11. Just below (attached to) body/neck junction.
12. On body (not attached to body/neck junction).

Decoration motifs—continuous

14. Band of several horizontal grooves (Fig. 8.5).
15. Band of oblique hatching (Fig. 12.1).

16. Two or more bands of oblique hatching (Fig. 9.3).
34. Band or bands of even cross-hatching (Fig. 9.1).
35. Band or bands of uneven cross-hatching, where the one series of lines is more than twice the distance apart than the other (Fig. 8.5).
17. Band of horizontal and oblique or vertical cross-hatching (Fig. 11.3; Fig. 11.2).
23. Band of interlocking parallelograms, hatched (Fig. 11.2).
36. Band of interlocking parallelograms alternately hatched (Fig. 10.1).
21. Band of interlocking rectangles, hatched.
19. Band of interlocking triangles, hatched (Fig. 8.3).
20. Band of alternate (pendant) triangles, hatched (Fig. 8.6).
37. Bands of opposed hatching without intervening groove. Two or more horizontal bands of oblique hatching where the direction of the hatching alternates from band to band. Two such bands form a herringbone pattern (Fig. 10.5).
38. Bands of opposed hatching with intervening groove (Fig. 11.4).
39. Cord effect, where a band is thickened to stand out in relief (Fig. 9.2).

Decorative motifs—discontinuous

25. Horizontal quadrilaterals, hatched (Fig. 8.1).
26. Oblique quadrilaterals, hatched.
40. Vertical quadrilaterals (ladder) hatched or cross-hatched (Fig. 8.2).
27. Short horizontal row or rows of impressions (Fig. 9.4).
29. Curvilinear motifs (Fig. 9.4).
41. Applied decoration, bosses or strips (Fig. 8.6).
30. Misc. decoration. Other rare motifs or sherds too small to demonstrate the whole of a motif.

There is little variation in pot shapes (Table 1), all falling within the category of curved, everted necks, where the point of inflection between neck and body is not defined by a significant change in angle but very often coincides with the bottom of the banded neck decoration. Bodies are spherical to subspherical in shape. Rare examples have somewhat more upright necks (Fig. 11.4) but not sufficiently so as to warrant another category.

Lip profiles are not very distinctive, rounded ones being more common than flattened, and there are no multiple bevels. Rare examples have a groove or row of notches on the lip.

Virtually all pots are decorated, only 2 of the 45 being plain. Decoration consists of one or more horizontal bands usually occupying the whole of the neck, and sometimes there are additional motifs on the body. Occasionally there is a plain band below, between or above the decorated neck bands (Fig. 11.3 & 4), the latter heralding the positioning that had become dominant by the ninth century (Maggs & Michael, 1976).

Decoration is by relatively bold U- or V-shaped grooving in the form of parallel horizontal lines, oblique hatching and cross-hatching. The most common band motifs are even and uneven cross-hatching (motif numbers 34 & 35), interlocking parallelograms hatched or cross-hatched (23 & 36) and opposed hatching with or

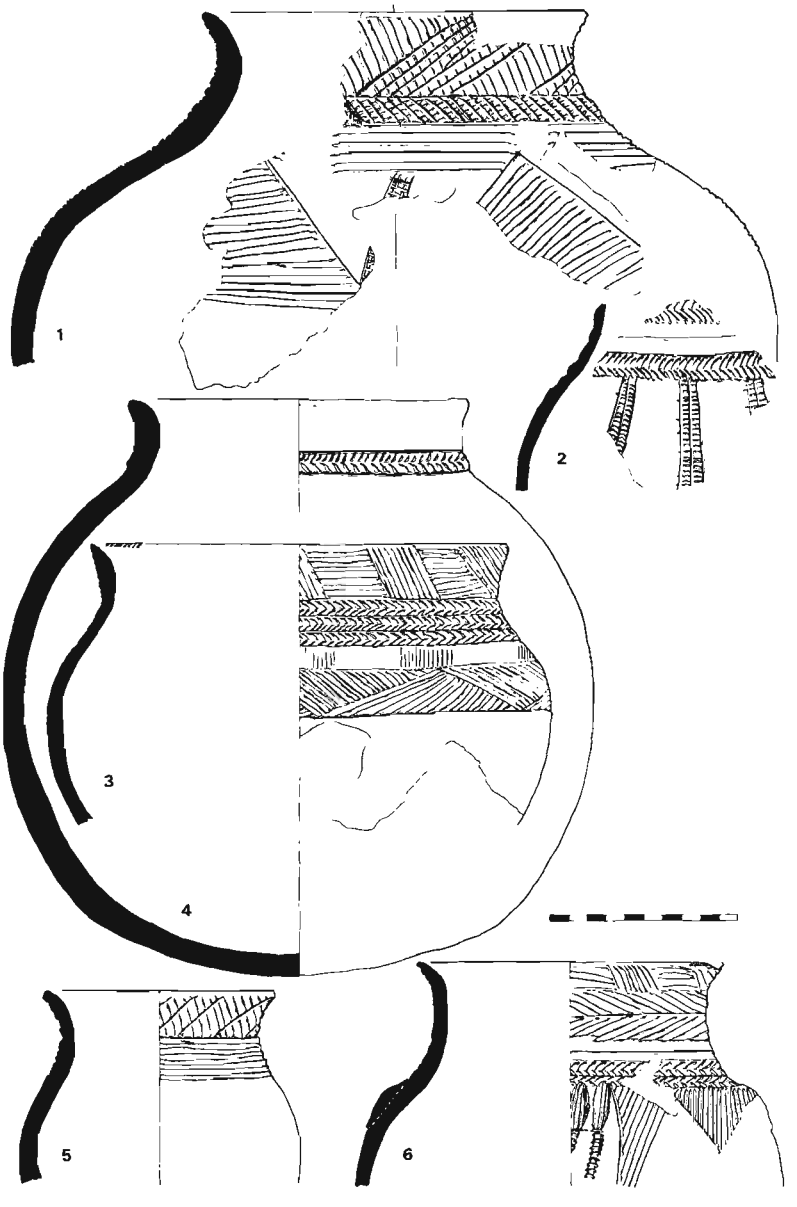

Fig. 8. Pots from Grid 1. 1 from B6, 2 from Feature 32, 3 from C4, D4 and E4, 4 & 6 from C1, 5 from C6.

TABLE 1

Matrix of pot characteristics

The column and row numbers refer to the list of characteristics.
The numbers at the end of each row is the total for each characteristic.

	2	3	4	5	7	31	8	9	32	33	10	11	12	14	15	16	34	35	17	23	36	21	19	20	37	38	39	25	26	40	27	29	Totals
2																																	45
3	24																																24
4	16																																15
5	1																																1
7	1	1																															1
31	1	1																															1
8	36	20	12	1	1																												36
9	1	1				1																											1
32	3	1	2																														3
33	3	1	1		1		1																										3
10	2	2				1		1																									2
11	8	3	4		1		5		1	4																							8
12	2	1	1				2					1																					2
14	2	2					2																										2
15	6	1	2				3		1																								4
16	2	2					2																										2
34	10	5	5				10					3	2		1																		10
35	17	10	4	1		1	16	1			1	1		2		1	1																17
17	2	1	1				1				1																						2
23	9	5	3		1		8			2		3					1	2	1														9
36	5	2	2				5					1	1		1		2																5
21	1	1					1										1																1
19	4	4			1		4			1		3					1			2													4
20	3		3				1		1	1		3					1	1		1													3
37	11	5	5			1	7	1	1	3	1	5			2		3	1		3	1		3	1									11
38	7	4	3		1		4		2	2		3			1	1		1		2			1	2	1								7
39	1	1					1					1					1						1		1								1
25	2	1	1				2					2					1			1			1		1								2
26	1		1				1					1					1											1					1
40	4		3				1			2		5					1			1				1	3	1		1	1				4
27	1	1					1						1				1																1
29	1	1					1						1				1														1		1
41	2	1	1				1			1		1	1				1			1				1	1	1				1	1	1	2
30	3	2	1			1	1	1	1			1						2		1				1	1					1			3

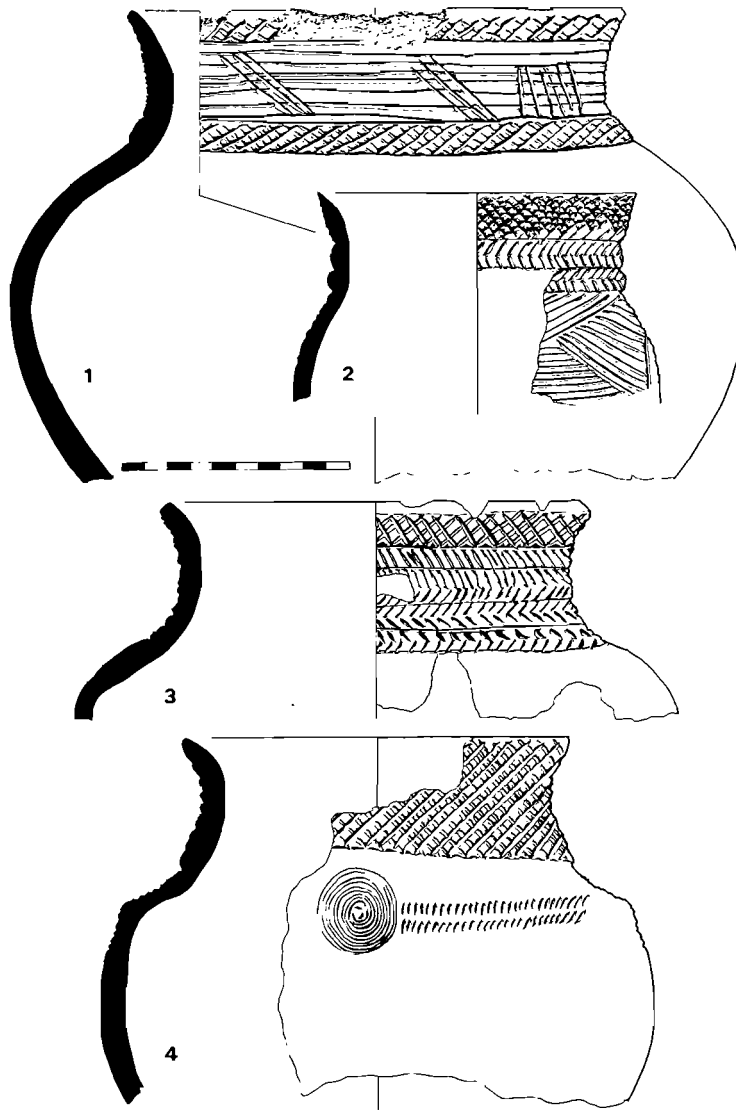

Fig. 9. Pots from Grid 1. 1 from pit at E3, 2 from C7, 3 from D4, 4 from D2.

without intervening grooves (37 & 38). Most vessels have two or more bands, some as many as five (Fig. 9.3). Particular band motifs may have preferred positions on the neck, for example the interlocking parallelograms are usually at the top whereas the opposed hatching is usually lower down (Fig. 8.3). The sample is too small to give a clear indication of preferred combinations of motifs.

Body decoration usually takes the form of triangles or rectangles pendant from the body/neck junction. Occasionally it occurs lower down on the body (Fig. 8.1)

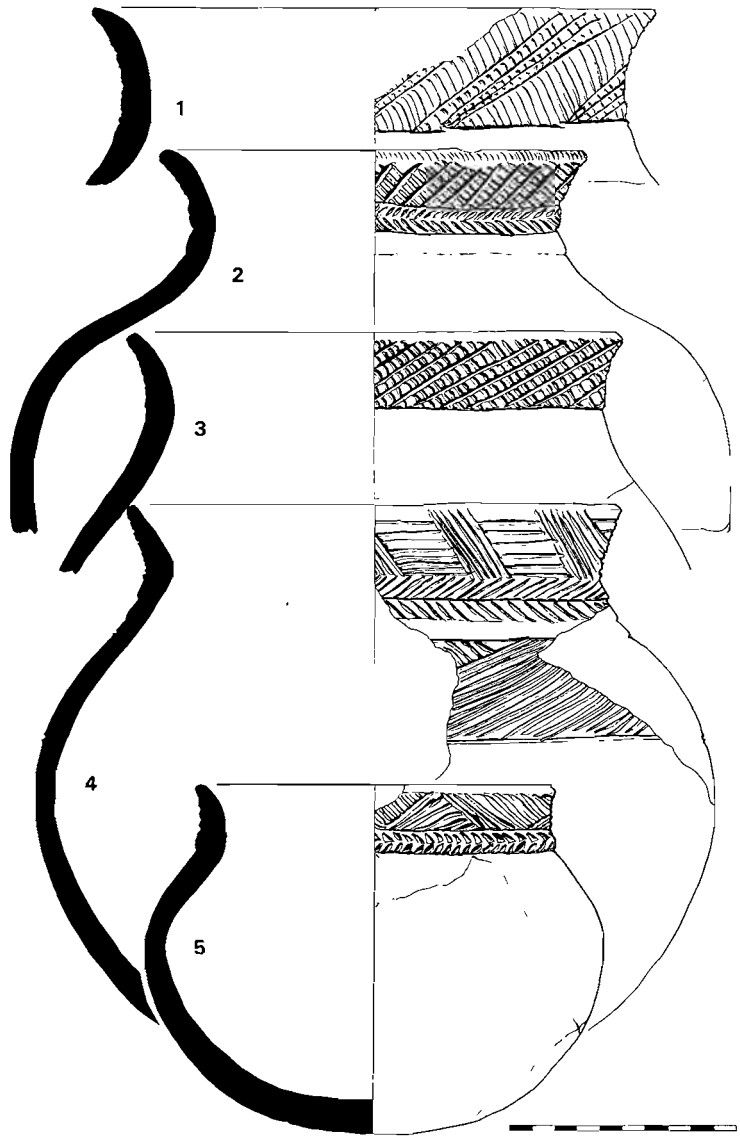

Fig. 10. Pots from Grid 1. 1 from D5, 2–5 from D7 pit.

and it may take the form of a continuous horizontal band (Fig. 10.4). It is less common than neck decoration and more variable. Rare examples include applied strips with grooving (Fig. 8.6) and a pushed out boss with spiral motif (Fig. 9.4)

Bowls are described separately from the pots as the two types of vessel have few attributes in common. A total of 45 are included, however, this does not reflect the actual proportions of the two types. Pots seem to be appreciably more common but, because of their relative complexity, a larger portion of these

vessels need to be preserved in order to be included in the analysis. Most bowls are undecorated and, though the shapes are usually rather simple, there is more variety than among the pots.

Characteristics of the bowls

Shape

1. Subcarinated, thickened. The outer wall of the bowl curves sharply inwards a little distance below the lip. Since the inner wall curves more gradually, the wall at the 'carination' is thicker (Fig. 13.3).
11. Subcarinated just below lip, the angle of the 'carination' being 12 mm or less below the lip (Fig. 12.5).
12. Msuluzi Bowl. This has a very distinctive shape including a deep carination and a constriction towards the base (Fig. 12.6 & 7).
3. Hemispherical, widemouthed (Fig. 13.1, 4 & 5).
5. Lip profile rounded.
6. Lip profile flattened.
7. Lip profile tapered.

Decoration

13. Row of impressions on lip (Fig. 13.6).
10. Row or rows of individual impressions (Fig. 12.2).
14. Band of grooves, hatching or cross-hatching.
15. Two or more bands of grooves, hatching or cross-hatching (Fig. 12.6 & 7).
16. Panels infilled with hatching, cross-hatching or other grooved motif (Fig. 12.3 & 6).
17. Burnish including red or black.

The group is dominated by hemispherical, widemouthed bowls which, however, are not very distinctive and are seldom decorated (Table 2) (Fig. 13.1, 4 & 5). More distinctive are the two subcarinated categories. The single thickened

TABLE 2

Matrix of bowl characteristics

The column and row numbers refer to the list of characteristics.
The numbers at the end of each row is the total for each characteristic.

	1	11	12	3	5	6	7	13	10	14	15	16	17	Totals
1														1
11														6
12														2
3														36
5		2		18										20
6	1	3	2	14										20
7				3										3
13				2	2									2
10		1		2	2			1						3
14				1	1									2
15			2			2								1
16			1			2					1			2
17		1	2		1	2					2	1		3

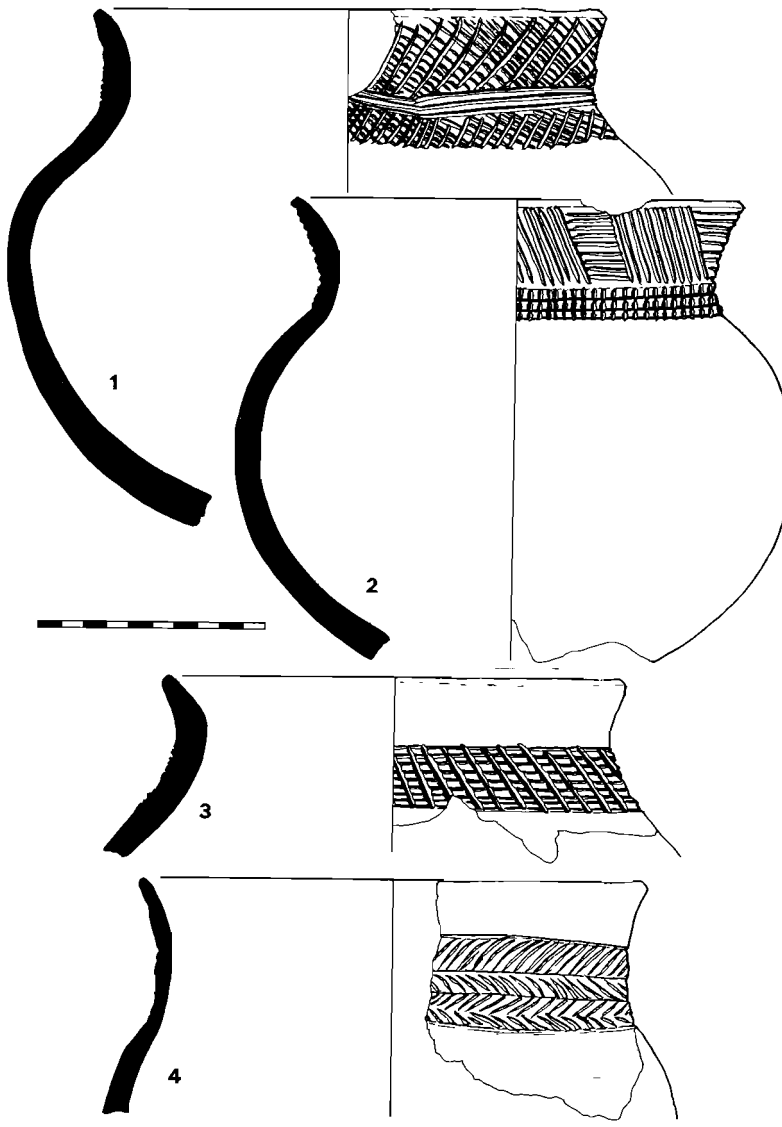

Fig. 11. Pots. 1 from Feature 30, 2 from Grid 1 E4 pit, 3 & 4 from Feature 23.

example is essentially the same as third/fourth-century bowls from Mzonjani (Maggs, 1980*b*), while those subcarinated just below the lip are still reminiscent of this type but show a change towards less emphasis on the carination, which has become little more than a kink at the rim (Fig. 12.5). It is only this kink that separates the group from the hemispherical category.

Of most interest are the two 'Msuluzi Bowls' (Fig. 12.6 & 7), a name we feel justified in giving because of the very distinctive combination of shape, decoration and burnish. They have a constricted and decorated band near their bases as well

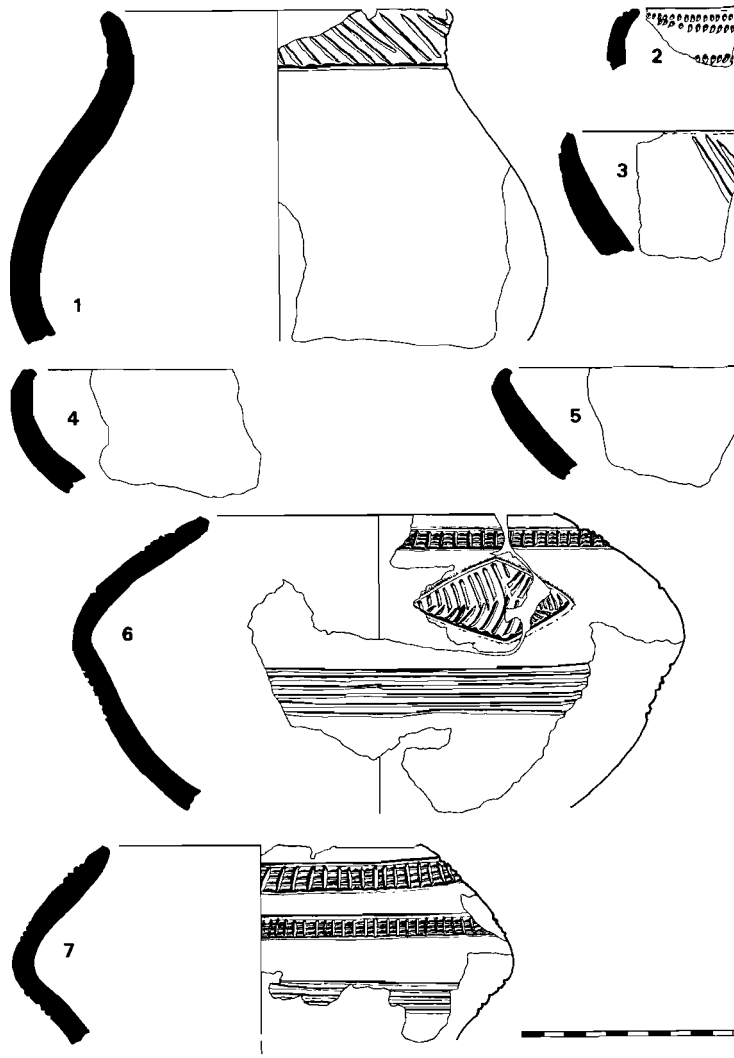

Fig. 12. Bowls and one pot. 1 from Feature 23, 2 from Grid 1 B7, 3 from C1, 4 from C6, 5 & 7 from D4, 6 from C4 and D4. 6 and 7 are Msuluzi Bowls.

as one or two decorated bands plus panels or 'medallions' above the subcarination. They are the only coloured and burnished vessels in the assemblage, with the exception of one other bowl. Only one other example, described by Schofield (1948: 152) as an inverted gourd-shape, has been published previously. Their distinctiveness and relative rarity suggests that they served a special purpose.

The few other decorated bowls have relatively simple motifs, usually one or more rows of impressions on or below the lip (Fig. 12.2), while one has a panel of oblique grooves (Fig. 12.3).

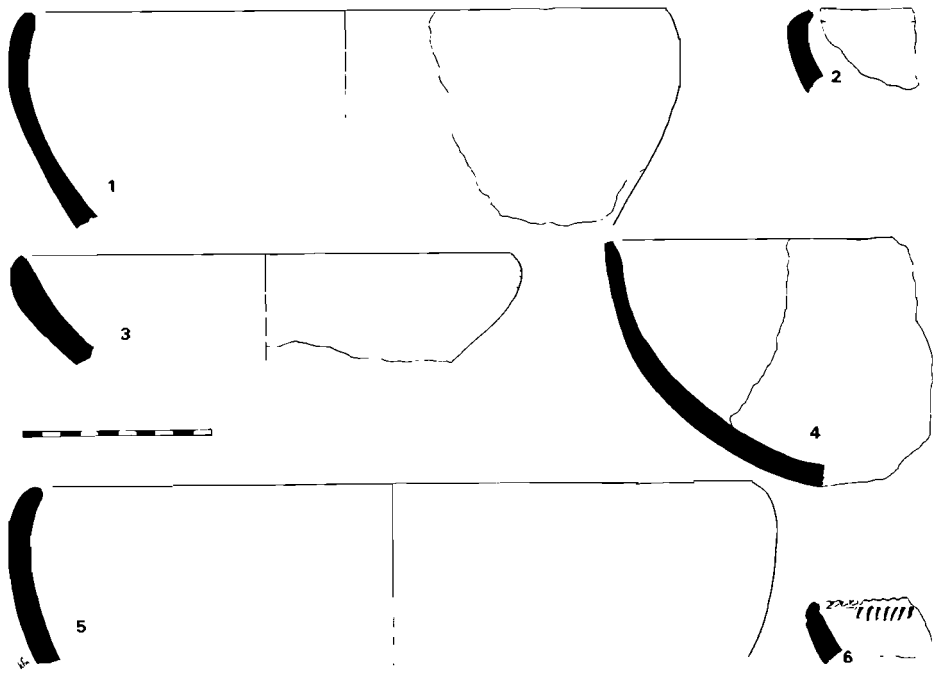

Fig. 13. Bowls. 1 from D7 pit, 2–5 from E4, 6 from Feature 17.

Rim diameters of both pots and bowls were measured in centimetres as follows.

	Smallest	Mean	Largest	Standard Deviation	N
Pots	12	20,5	36	4,6	35
Bowls	15	24	38	6,6	35

Pots are appreciably smaller, and both types of vessel show a smaller size range than the Mzonjani assemblage (Maggs, 1980*b*).

Characteristics of surface finish, fabric and firing relate to the assemblage as a whole. The virtual absence of burnishing, except on the Msuluzi Bowls, has already been mentioned. Most other vessels have a well-smoothed, even, but matt outer surface. The inner surface is often noticeably rougher as if the pots had often been scoured during use.

Firing was generally in a sufficiently oxidising atmosphere and of sufficient temperature and duration to burn out all visible carbon, leaving the ware a buff to orange colour throughout. A few vessels, however, do have grey surface patches or a grey, unoxidised core. The fabric is a rather dense clay matrix with a large addition of filler—mainly angular quartz grains of various sizes. The result is a relatively hard ware.

Other ceramic items

Several pieces of a fairly large animal figurine came from the MH in square D4. It is too fragmentary for reconstruction or secure identification, but if indeed it

was intended to represent a particular type of animal, cattle would be the most probable identity since the head was elongated laterally and a horn-shaped piece was recovered (Fig. 14.1 & 2). The eyes are indicated by holes made by a grass stalk or similar object being pushed far into the clay before firing. Two similar holes appear below the eyes, in the broken section, perhaps to indicate nostrils. Although relatively crude, it does indicate the presence of ceramic sculpture. Two other items may also be from ceramic sculpture for they resemble the applied bands on the heads from the nearly contemporary Lydenburg site in the eastern Transvaal (Inskeep & Maggs, 1976). They are strips of clay, triangular in section

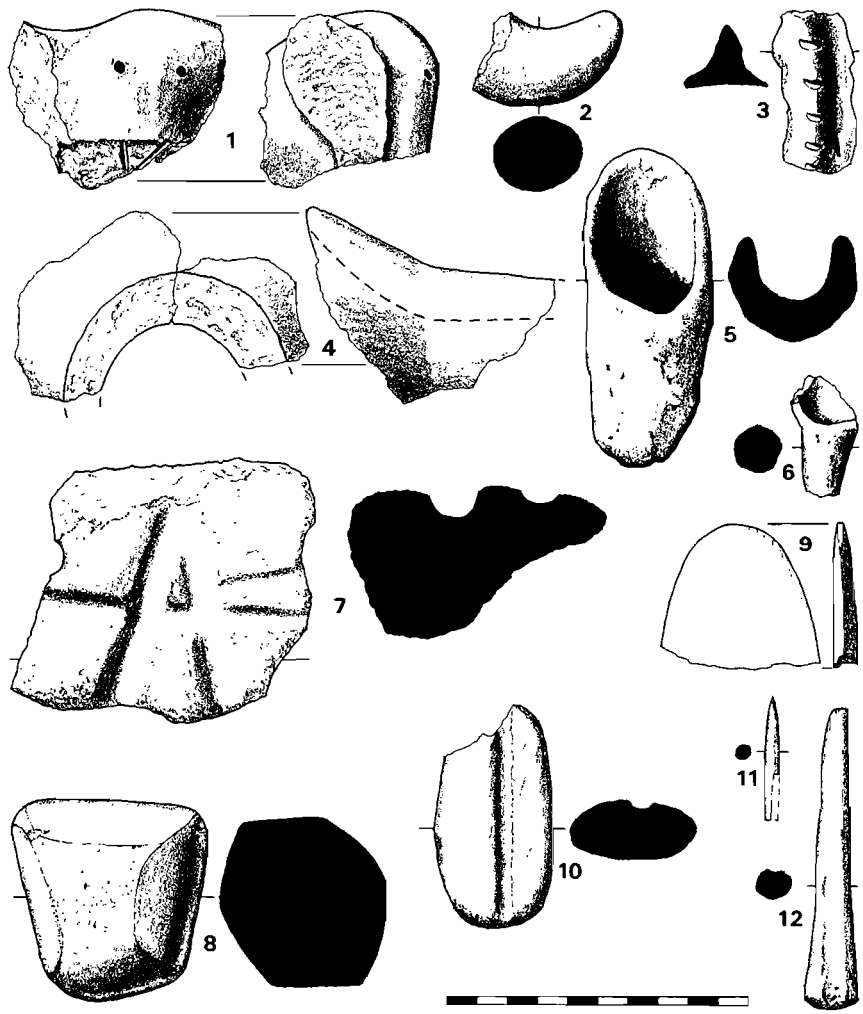

Fig. 14. Small finds. 1 & 2 animal figurine with possible 'horn', probably cattle, 3 applied ceramic band with notches, broken off after firing, 4 distal end of tuyère, 5 & 6 ceramic spoon-like objects, 7 grooved sandstone probably for grinding shell disc beads, 8 dolerite upper grindstone, 9 spatulate object in shale, broken, 10 grooved piece of talc schist, perhaps an arrow straightener, 11 bone point, 12 bone 'peg'.

and deeply notched, which had been applied to a sherd but broken off after firing (Fig. 14.3).

Three spoon-like objects, only one being complete, are of unknown function (Fig. 14.5 & 6).

A number of tuyère fragments were recovered, especially from feature 41. The longest was 23 cm but would originally have been considerably longer as neither end is complete. Another fragment shows the funnel-shaped end nearest the bellows (Fig. 14.4). They differ from local Late Iron Age tuyères in having larger internal diameters and thinner walls.

Twenty-three fragments were large enough to measure and these gave the following figures in centimetres:

	Smallest	Mean	Largest	Standard Deviation
Internal diameter	2,6	4,7	6,0	0,9
Thickness	0,9	1,4	1,9	0,3

Both dimensions show a marked pattern with relatively little variability; a pattern which we believe to be characteristic of this period in Natal.

Pieces of burnt earth (daga) with impressions of thatch and sometimes sticks or reeds are typical of local EIA sites although not very common on this site. Mud plaster was clearly applied, to a thickness of around 5 cm, to a structure of organic materials; the only indication of above-ground construction that has survived.

Ground stone

Both upper and lower grindstones from this site are characteristic of the local EIA in general. Lower stones have apparently been deliberately broken but are sufficient to show the well-worn elliptical hollows some 20 cm long, 5 cm wide and up to 1,5 cm deep. Upper stones are fairly small and, if well used, have an approximately cuboidal shape with curved facets (Fig. 14.8).

Two pieces of coarse-grained sandstone have a number of U-shaped grooves (Fig. 14.7). With diameters of 1 cm or a little more, these grooves could have been used for making the shell disc beads, or alternatively for shaping bone or iron points.

A broken spatulate object made of a fairly soft sedimentary rock (Fig. 14.9) resembles a complete example from a Stone Age context at Driel Shelter (Maggs & Ward, 1980) further up the Tugela.

Two shaped pieces of talc schist consist of a fragment from the rim of a bowl-like vessel and a grooved stone (Fig. 14.10) apparently of Late Stone Age pattern. The nearest source of talc schist is about 60 km further down the Tugela valley.

Flaked stone

A small assemblage of flaked stone implements of Late Stone Age typology was recovered, mainly from Grid 1 and other concentrations of EIA material in the

sheet-eroded area. They consist of the following types:

Small convex scrapers	19
Large circular scrapers	2
Spokeshaves (=notched scrapers or adzes)	2
Outils écaille	2
Misc. retouched pieces	6
Various cores and flakes	

They were made of hornfels (lydianite) and are in relatively fresh condition. Their occurrence, which suggests contemporaneity with the EIA occupation, is discussed below.

Shell and bone items

Shell disc beads occur here in numbers as is the case with contemporary sites. A total of 52 were recovered, 49 of *Metachatina kraussi* and three of ostrich egg. We were able to identify the two materials relatively easily under a dissecting microscope. *Metachatina* has a strongly laminated section and a fibrous, ripply surface texture, except on the outer surface which has a knobbly, 'woven' appearance. By contrast ostrich egg is relatively homogeneous, poorly laminated and with an almost crystalline structure.

A group of beads from feature 23 were apparently from the same string. Two of them were recovered still attached to one another, showing that they had been strung in a straight row, not in a more complex pattern.

A cowrie shell from the MH is the only indication of trading networks stretching as far as the coast.

The two bone implements both came from the E3 pit and therefore have a secure EIA association. One is a small point 4 cm long, cut off squarely at the other end (Fig. 14.11). Similar points resembling Late Stone Age arrowpoints have been found on several local EIA sites. The other is a peg-like implement probably made from a cannon bone (Fig. 14.12).

DISCUSSION

Msuluzi Confluence is in most respects a typical settlement of its period in Natal. Within its eight or more hectares several hundred people might have lived. The density of material in the sheet eroded area (Fig. 4) is presumably representative of the site as a whole. It indicates a fairly dense pattern of settlement—with each concentration perhaps representing a dwelling—as well as a relatively prolonged occupation.

Subsistence for a settlement of this nature would clearly have involved food production on a considerable scale, supplemented by hunting and no doubt food collection. The small faunal sample identified by E. A. Voigt and described in Appendix 1 shows that both cattle and caprines (sheep/goat) were present. Caprines dominate the assemblage and the evidence suggests that they were sheep rather than goats, although this cannot be firmly established. The majority of the eight individuals were juvenile at the time of death, suggesting that the aim of herd management was prime meat production rather than increase in stock

numbers. Some hunting was carried out, as is shown by the impala remains, as well as fishing.

Direct evidence of cultivation is lacking but the presence of typical EIA grindstones, the site location on good arable land and the size and duration of settlement all imply agriculture.

The pottery assemblage resembles both Schofield's NC 3 class and numerous recently recorded sites. Although Msuluzi Confluence is the only one yet described in detail and dated, it is already clear from the 145 recorded sites that assemblages with similar pottery form the most common expression of the EIA in Natal. Our increasing knowledge of the sequence shows that diachronic typological change was relatively rapid, at least during the period AD 600–850. It is therefore probable that sites of this common expression all date to the period about AD 450–700. In view of this rapid change it is essential that we should understand local sequences before attempting to interpret inter-regional typological similarities in terms of diffusion and population movements.

Although the evidence is still at an early stage we do have two fair-sized assemblages to compare with Msuluzi Confluence; Mzonjani of the third century (Maggs, 1980*b*) and Ntshekane of the ninth century (Maggs & Michael, 1976), each of which represents different typological expressions. The largest remaining gap in the sequence falls during the fifth and sixth centuries which means that we cannot yet trace developments between Mzonjani and Msuluzi Confluence. However, from a comparison between the two sites two main points emerge which are relevant to typological change during this period.

At first glance the two matrices show very considerable differences. The shape of virtually all pots and many bowls is different, single bands dominated the decoration at Mzonjani and the two main motifs here (Numbers 13 & 15) are rare or absent from Msuluzi Confluence. On the other hand many characteristics which define the latter assemblage are present at the earlier site, even if in very small numbers. These include pot characteristics 2, 14, 16, 17, 19, 21, 23, 24 and 25 which cover shape and most of the more common decorative motifs, the only important exceptions being the cross-hatched (34 & 35) and opposed hatched bands (37 & 38). Among bowls both subcarinated and hemispherical are present in both assemblages although Msuluzi bowls represent a new element.

Depending on which of these two aspects one wishes to lay most stress, there are two opposed viewpoints:

(1) that Msuluzi Confluence and similar sites represent a new introduction of ceramic style, or
(2) that they developed from the third-century expression represented by Mzonjani.

This question is discussed below.

For the period AD 600–800 a more detailed picture is emerging of an evolving typology with changes in vessel shapes, decoration and surface finish. The culmination of this process can be seen in the typical Ntshekane material and an intermediate stage in the as yet unpublished site of Ndondondwana of the eighth century.

The pits containing buried pots are further confirmation of the southern distribution of this practice that is so widely known further north. The ash at the bottom of the two larger pits suggests that they were used as tips from domestic hearths. The pots, usually with their bases broken off, and buried near the tops of the pits, do not appear to have served any utilitarian purpose but are more likely to have had a symbolic significance the precise nature of which we are unaware. Likewise the presence of ceramic sculpture, here and at an increasing number of recently investigated EIA sites, would also suggest a widespread system of symbols or beliefs. In both these respects the EIA differs from the Late Iron Age, at least in South Africa, which would seem to imply a significant difference in religious systems between the two major divisions of the Iron Age.

The presence of Late Stone Age implements apparently in association with the EIA material, both in the MH and in the surface concentrations, calls for further comment. The nature of the deposits prevented confirmation of the association from stratigraphic evidence alone. We therefore tested the association by comparing the lateral distribution of flaked hornfels with that of EIA pottery and with iron ore plus slag. This was done by weighing the three different materials from each of the squares in Grid 1, and comparing each of the three pairs of weights on scatter diagrams. From these it is evident that slag and ore was essentially restricted to a few squares, presumably by reflecting the very localised nature of the smelting process, and therefore their distribution showed little correlation to that of either pottery or hornfels (Fig. 15, A & B). However, the diagram for pottery and hornfels shows a clear, though weak, linear trend (Fig. 15, C). This was tested statistically and produced a correlation coefficient $r = 0{,}5$ which indicates a definite linear correlation. While this evidence should not be regarded as absolute proof of association, the probability is very high that both the EIA material and the LSA implements resulted from the same occupation.

This raises the question of what sort of interaction might have taken place between EIA and LSA peoples and their economies. A number of items other than the flaked stone also imply some sort of interaction—the bone 'arrowheads' of this and other sites, the grooved stone (Fig. 14.10) that may have been for straightening arrow shafts, and even the practice of making shell disc beads. Some or all of these items could have been incorporated into EIA technology elsewhere in time and space. On the other hand, San hunter–gatherers survived in neighbouring parts of the Tugela Basin into the later nineteenth century and therefore some interaction must have taken place between them and the Iron Age villagers. By historical analogy one could suggest some form of client relationship, with the San acting as hunters or herders for the villagers, in exchange for food and other items. However, material traces of such clientship have seldom if ever been found on Late Iron Age sites, even those in areas where clientship was known historically. The EIA evidence, therefore, might indicate a closer pattern of interaction than that known from terminal Iron Age and historical times.

The flaked stone assemblage, while consisting of typical LSA implements, shows a bias towards small scrapers and away from spokeshaves, when compared with local LSA assemblages (eg. Cable *et al.* 1980; Maggs & Ward, 1980). These scrapers are regarded as skin-dressing equipment essentially and hence as reflect-

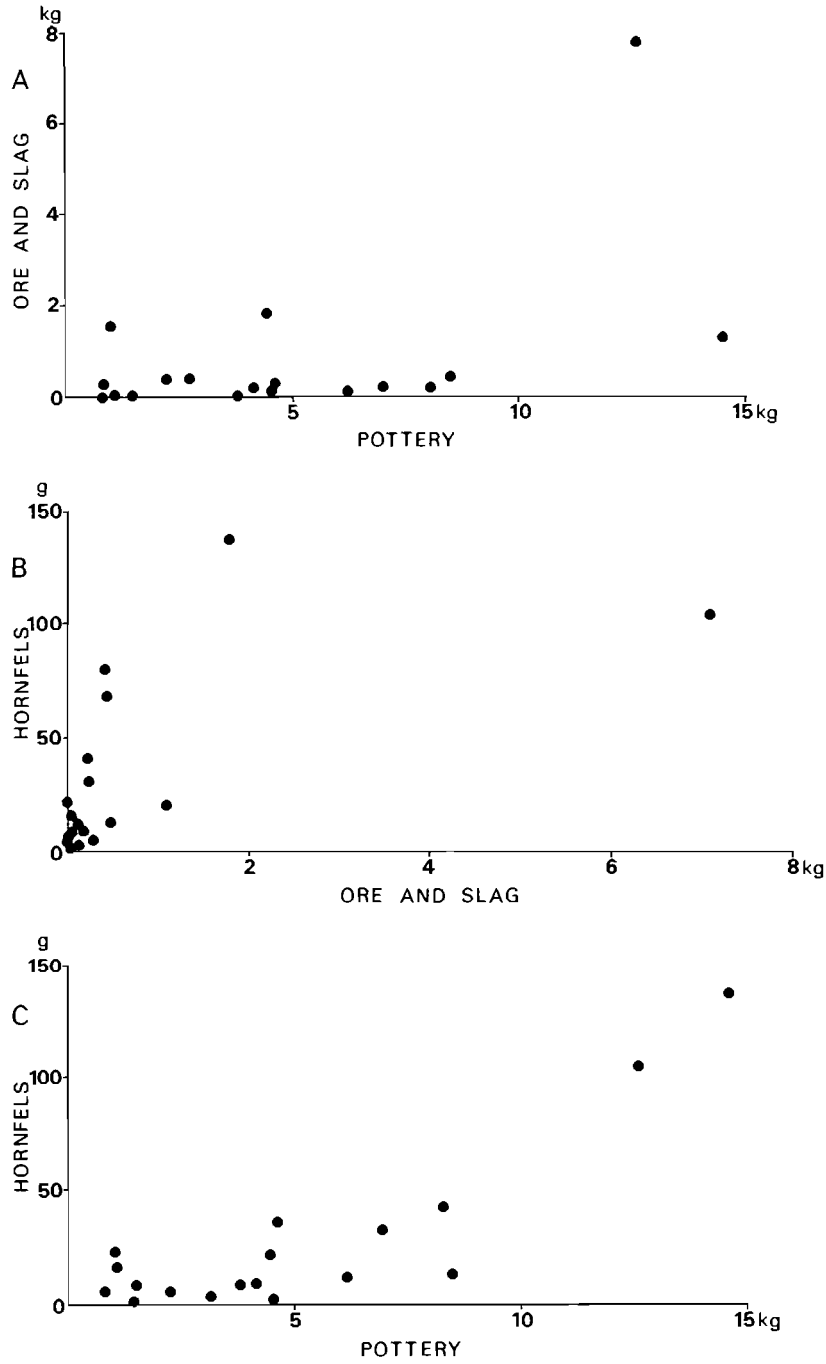

Fig. 15. Scatter diagrams to compare the weights of flaked hornfels, pottery and ore plus slag from the squares of Grid 1.

ing the hunting aspect of the LSA economy, as would the bone points and grooved stone. The rarity of spokeshaves, by contrast, might indicate that these essentially wood-working tools had been replaced by iron implements. The LSA element of the occupation was therefore related essentially to hunting, although we are unable to say whether individual bearers of an LSA way of life were actually present on site or whether a blend of EIA and LSA technology had taken place.

Iron smelting took place on a considerable scale at Msuluzi Confluence as evidenced by the quantity of smelting at Feature 41 and indications of this activity on at least 20% of the other numbered features. Other EIA sites in the Tugela Basin invariably show some evidence of smelting but none has produced anything like this quantity, which suggests that the Msuluzi production was in excess of local demand, for purposes of exchange. Since neighbouring villages apparently supplied their own needs, any excess production was probably intended for non-smelting communities such as the hunter–gatherers of the grasslands to the north and west.

Another item of exchange between the two types of community may have been ostrich eggs, either in the form of whole eggs or as disc beads. The presence of both ostrich egg and *Metachatina* beads raises an interesting point about the ecology of these two species. Although definitive work on their distributions is lacking, they clearly present a contrast. Ostrich habitat varies from lightly wooded savanna to open grassland and semi-desert (Clancey, 1964). Although their former occurrence in the Tugela Basin is not proven, they would probably have been restricted to the open grasslands and thornveld fringe above about 1 200 metres. *Metachatina* on the other hand is restricted to forest and fairly thick bush; it is active only in damp weather and is quickly killed by direct sunshine. It is recorded from the coast up to an altitude of about 1 300 m locally in the Tugela Basin (Van Bruggen, 1969). It would therefore have been locally available to the villagers whereas ostrich eggs would probably have had to be brought from some distance further inland.

The ecological differences are reflected in bead assemblages for at Msuluzi Confluence there are only 3 of ostrich egg to 49 of *Metachatina* whereas at Driel Shelter (Maggs & Ward, 1980), some 90 km further up the Tugela in open grassland, there is only 1 snail shell bead to 22 of ostrich egg, suggesting that ostriches were present in the environs. The proportions of the two materials therefore seem to be useful indications of environments in the neighbourhood of archaeological sites.

CONCLUSION

Pottery similar to this assemblage has long been known under Schofield's term NC 3, a term which is no longer valid. It is now dated to the middle of the first millennium AD and known to be widespread in the coastal and inland valley areas of Natal. On previously available information, connections have been drawn between this ceramic expression and some sites in the eastern Transvaal (Inskeep & Maggs, 1976; Evers, 1977). Huffman (1978) has extended this with his proposal that there is a close resemblance to Bambata pottery from Zimbabwe.

The new evidence from Msuluzi Confluence and Mzonjani, however, shows that many characteristics of the seventh-century pottery from Natal were already present by the third century. Local evolution therefore seems a more economical hypothesis to explain the Msuluzi Confluence ceramic expression than diffusion from Zimbabwe, although confirmation would require a better knowledge of the fifth and sixth centuries.

Evidence from mid first millennium sites in Natal as well as those further north show that a network of contacts already existed between EIA villages. The ceramic similarities at this period could therefore be regarded as relatively parallel developments influenced by this kind of casual contact rather than actual population movements or unidirectional diffusion.

Interaction and exchange took place not only with other Iron Age villages but also with hunter–gatherer communities who possessed a quite distinct culture and economy. Being near the inland limits of EIA settlement Msuluzi Confluence would have been well placed to take part in such interaction. The evidence suggests that one aspect of the relationship involved hunting and the processing of the resulting produce using Late Stone Age technology. Another aspect appears to have been trade in such items as ostrich eggshell beads and iron implements.

By AD 600 if not earlier the lower-lying areas of the Tugela Basin, below an altitude of about 1 000 m, were dotted with EIA settlements. These were quite large villages, separated from one another by several kilometres and situated on the best arable land. Cattle and sheep were present but probably not goats. Further work on this period and particularly its economy is in progress.

ACKNOWLEDGEMENTS

Thanks are due to the following for help on site and in the preparation of this report: G. Armstrong, S. Davison-Hirschmann, J. Guy, M. Hall, J. Morrison, J. Wright, students from the University of Natal, and in particular K. Mack, S. Pruett, V. Ward and J Wildman who also worked on sorting, analysis and illustration of the pottery. I am also grateful to J. C. Vogel for the radiocarbon dates, E. A. Voigt for the faunal analysis, H. van Gysen for the site survey, H. Laatz, F. Mulder, D. Rottcher and P. Uys for permission to camp and excavate, and the Department of Anthropology, University of Natal for the loan of tents.

This research was funded by the Human Sciences Research Council; the conclusions, however, are entirely those of the author.

REFERENCES

CABLE, J. H. C., SCOTT, K. & CARTER, P. L. 1980. Excavations at Good Hope Shelter, Underberg District, Natal. *Ann. Natal Mus.* **24** (1): 1–34.

CLANCY, P. A. 1964. *The birds of Natal and Zululand.* Edinburgh: Oliver & Boyd.

EDWARDS, D. 1967. *A plant ecological survey of the Tugela Basin.* Pietermaritzburg: Natal Town and Regional Planning Commission.

EVERS, T. M. 1977. Recent progress in the studies of the Early Iron Age in the Eastern Transvaal, South Africa. *S. Afr. J. Sci.* **73**: 78–81.

HUFFMAN, T. N. 1978. The origins of Leopard's Kopje: an 11th century Difaquane. *Arnoldia.* **8** (23): 1–23.

INSKEEP, R. R. & MAGGS, T. M. O'C. 1976. Unique art objects in the Iron Age of the Transvaal, South Africa. *S. Afr. archaeol. Bull.* **30**: 114–138.
MAGGS, T. 1980*a*. The Iron Age sequence south of the Vaal and Pongola rivers: some historical implications. *J. Afr. Hist.* in press.
MAGGS, T. 1980*b*. Mzonjani and the beginning of the Iron Age in Natal. *Ann. Natal Mus.* **24** (1): 71–96.
MAGGS, T. M. O'C. & MICHAEL, M. A. 1976. Ntshekane: an Early Iron Age site in the Tugela Basin, Natal. *Ann. Natal Mus.* **22** (3): 705–40.
MAGGS, T. & WARD, V. 1980. Rescue at a Late Stone Age site on the Tugela River. *Ann. Natal Mus.* **24** (1): 35–70.
SCHOFIELD, J. F. 1935. Natal coastal pottery from the Durban district. Part 1. *S. Afr. J. Sci.* **32**: 508–527.
VAN BRUGGEN, A. C. 1969. Studies on the land molluscs of Zululand. *Zoologische Verhandelingen.* 103
VAN DER EYK, J. J., MACVICAR, C. N. & DE VILLIERS, J. M. 1969. *Soils of the Tugela Basin.* Pietermaritzburg: Natal Town and Regional Planning Commission.

Date received: 17 March 1980

APPENDIX

THE FAUNAL SAMPLE FROM MSULUZI CONFLUENCE

by

Elizabeth Anne Voigt

(Department of Archaeozoology, Transvaal Museum, Pretoria)

Introduction

During the past few years there has been a steady increase in the amount of information relating to the Iron Age which is being retrieved by archaeological means. Intensive excavation programmes are producing a wealth of cultural information; however, it is only a very few sites that have so far yielded good faunal samples. Extensive faunal samples are now available from a number of sites in the Limpopo Valley of the northern Transvaal; these date from 800 to 1300 AD. The analyses of the northern Transvaal material is nearing completion (Voigt, in press) and has yielded information on the activities and diet of a group of communities closely related in time, space and cultural affinities.

The Department of Archaeozoology is currently interested in gleaning faunal information on Iron Age sites pre-dating 1000 AD. Such samples are available outside the Republic of South Africa, but are at present relatively rare within the Republic. Problems of preservation mitigate against the retrieval of faunal material on early sites; thus any sample from a dated context becomes a valuable source of information.

The faunal sample from Msuluzi Confluence was submitted to this Department for analysis by the excavator, Dr T. M. O'C. Maggs of the Natal Museum. The matrix of the site is extremely hard, and weathering had reduced most of the bone to splinters and dust. Nevertheless a small sample of 138 identifiable bones was retrieved and forms the basis for the present report.

Method of analysis

The Msuluzi Confluence sample was analysed according to methods developed at the Transvaal Museum. These involve the identification of all material as

accurately as possible and the calculation of the minimum number of individuals represented in the collection on the basis of cranial and post-cranial remains.

Bovid post-cranial remains were identified in terms of the bovid size classes suggested by Brain (1974).

The results of the analysis are presented in Appendix Tables 1 and 2, in which the material is listed according to its archaeological provenance. The total sample was then utilised to draw up Appendix Table 3, in which the minimum number of individuals of each species is given without regard to archaeological context, but taking into consideration that a single animal might be represented in more than one square. The grouping of the squares and features as a single sample is justified by the fact that the cultural deposit is extremely shallow and that teeth which could have come from the same individual occurred in different squares (eg. *Bos taurus* teeth in Feature 33 and the Main Horizon in B2 possibly belonging together, *Ovis/Capra* teeth in D4 and C1 (Main Horizon) etc.).

Species composition of the sample

The sample was unusual in that it yielded a proportionately high minimum number of individuals, ie. 21. This count is based very largely on teeth; their presence in the sample is probably largely due to the durable nature of the enamel.

Just over half of the individuals are bovids; within this group, all except two are domesticated species. The exceptions are an impala and a small bovid which might have been one of the duikers.

The high proportion of domesticated bovids is interesting, particularly as five of the ten specimens were young individuals (ie. younger than 10 months) who would not yet have been able to breed. Two of the c.f. *Ovis aries* specimens are extremely young. Of the remaining five specimens, two others are only likely to have calved or dropped lambs once before being slaughtered. So high a slaughtering rate among young animals would severely limit the growth of flocks and herds and is not easy to explain. The sample is too small to be able to make wider-based interpretations, but three possibilities arise. These are that either the finds of young animal bones associated with concentrations of pottery represent specific sacrifices requiring young animals; or that the people utilised fatalities resulting from losses among the young of their flocks due to inclement climatic conditions; or that the people at this site had access to young animals belonging to another group and utilised these in preference to their own stock. None of these explanations is really satisfactory, largely because the sample is so small. Nevertheless the high proportion of young animals is an interesting problem.

With regard to the identity of the domesticated species, there is no doubt about the presence of *Bos taurus*. However, the distinction between *Ovis* and *Capra* on the basis of teeth is at present virtually impossible due to lack of adequate comparative material. The identifications of c.f. *Ovis aries* are based on two features of the deciduous and erupting teeth, ie. $dp\overline{4}$ tends to have less angular lobes in *Ovis* than in *Capra* (a subjective judgement!) and $M\overline{1}$ has a very strongly developed goatfold on the anterior lobe of *Ovis* but not on *Capra*. $M\overline{2}$ has a strong goatfold in both genera, but the teeth involved here are definitely $M\overline{1}$.

APPENDIX TABLE 1

Msuluzi Confluence: faunal sample on basis of stratigraphy

SURFACE:		
C2	Bov. I	Right ulna shaft.
C4	Bov. II	Right astragalus; weathered.
C7	Bov. II	Right Incisor, 12 or 13, with heavy wear, 11 fragments of enamel.
D4	Bov. II	Left distal tibia.
MAIN HORIZON		
B2	*Bos taurus*	Left $M\underline{3}$ with light wear 24–30 months old.
B6	Bov. II (Juvenile)	Articulating right proximal ulna and radius. Olecranum unfused.
C1	*Ovis/Capra*	Right $P\underline{3}$ with medium wear, right $M\underline{1}$–$M\underline{3}$ in maxilla. Aged 30–60 months. 2 enamel fragments.
C2	c.f. *Ovis aries*	Right mandible with $dp\bar{2}$–$dp\bar{4}$, $M\bar{1}$, $M\bar{2}$ erupting. Aged 3–10 months.
	Bov. II	Fragment of right $M\underline{2}$, complete right tibia shaft. Tibia is burnt, epiphyses are chewed off.
	Cypraea sp.	Half a shell with the dorsal surface sawn off and smoothed.
C6	*Bos taurus*	First phalanx and complete terminal phalanx.
	Ovis/Capra	Portion of left $M\underline{2}$ or $M\underline{3}$ with medium wear. Aged 30–60 months.
	Aepyceros melampus	Left $M\bar{1}$ with medium wear.
	Achatina sp.	Fragment of body.
C7	*Ovis/Capra*	Left $M\underline{1}$ and $M\underline{3}$ with heavy wear (older than 60 months) and left $M\underline{3}$ in wear (16–30 months); right $M\underline{1}$ with medium wear. (16–30 months).
D1	Bov. II	Fragment of skull.
D4	Bov. II	Left astragalus and right radial carpal.
	Lagomorph	Almost complete metapodial.
D4, 'main horizon adj.'	*Ovis/Capra*	Left $P\underline{4}$ aged 30–60 months.
	Bov. II	Left and right first phalanges from same animal.
	Waste bone	1 Vertebral fragment and one bone flake. Extensive chopping damage on bone flake.
BELOW MAIN HORIZON		
C1	c.f. *Ovis aries*	Left mandible with $dp\bar{2}$–$dp\bar{4}$, isolated $M\bar{1}$. Aged at less than 3 months.
NEAR E3 PEG		
D2	Bov. II	Right portion of foramen magnum.
40 cm BELOW E3 PEG		
D2	Frog	Portion of pelvis.
	c.f. *Synodontis* sp	2 Vertebrae and 3 bone fragments of relatively small fish.
	Waste bone	1 Bone flake.
PIT SURFACE, BASE OF POT		
D3	*Papio ursinus*	Left $M\bar{1}$, heavy wear.
PIT, PEDESTAL BELOW BASE OF POT		
D2	Bov. II	Fragment of unerupted tooth.
	Murid sized rodent.	Left and right mandible.
	Frog	3 bones and a vertebra.
	c.f. *Synodontis* sp.	1 Vertebra and two bones of small individual.
30 cm		
E4	Bov. I	Right distal humerus.
SE HUMP		
E4	*Ovis/Capra*	Left $M\bar{1}$, medium to light wear. Age 10–16 months, left dp4 with medium wear (age 10–16 months). Not same animal as *Ovis aries* specimen from C2 (Main Horizon).
	Bov. II	Right ulnar carpal and right intermediate carpal; may be same animal as D4/Main Horizon.

APPENDIX TABLE 2

Msuluzi Confluence: Features. Species present.

Feature 18: Surface to 10 cm.	Bov. III	Central column of lower molar and two other tooth fragments.
Feature 23: S.W. corner, surface:	*Ovis/Capra*	Newly erupted right RM1, very light wear. 3–10 months old.
	waste bone	1 burnt bone flake.
N.E. corner, 0–15 cm:	*Ovis/Capra*	Posterior lobe of newly erupted right $M\bar{1}$ with very light wear. May be *Ovis aries*. 3–10 months old.
	Bov. II	Left $P\bar{4}$ with crown broken away.
	Large freshwater bivalve	Fragment of valve.
Neck, 0–15 cm:	cf. *Ovis aries*	Left $dp\bar{4}$, newly erupted with very light wear. Unerupted left $M\bar{1}$, left deciduous incisor and coracoid of left mandible. Probably a single individual, less than 3 months old.
Below 15 cm:	Bov. II	3 Skull fragments, burnt anterior articulation of an atlas vertebra and a left calcaneum with an unfused corpus calcanei. All from a juvenile individual.
	Bov. I	Right tibia shaft.
Feature 28: 15–25 cm:	*Ovis/Capra*	Left dp3 with medium wear. 3–10 months old.
	Bov. II	Shaft and proximal end of left radius of juvenile animal.
	Bov. I	Shaft of left radius.
'3 m N–E of 30', burial pit.	Bov. I	Metacarpal shaft, gnawed by small rodents.
Feature 33, surface.	*Bos taurus*	Right M1 with medium wear, fragment of a lower molar. 24–30 months old.
	Bov. II	Fragment of glenoid. Burnt and weathered.
	Waste bone	11 miscellaneous skeletal parts and bone flakes, all burnt.
Feature 35:	Bov. III	Central column of lower $M\bar{2}$, probably from *Bos taurus*; fragment of skull.
10 m E of Grid 1.	*Bos taurus*	Right M1 & M2 with light wear. From same animal, aged 15–18 months.
Surface collection, March 1979	Bov. III	Lumbar vertebra with multiple cut marks.
	Tortoise	6 Fragments of carapace.

Thus on available evidence there is the likelihood that four of the specimens belonged to *Ovis aries*; the other four Caprini could have belonged to either *Ovis* or *Capra*. It seems likely that, with our present state of knowledge, the two genera can only be satisfactorily differentiated on the basis of horn cores.

The rodent and frog may be fortuitous occurrences in the sample. It is, however, likely that the hare, tortoise, fish and shellfish represent snaring, fishing and collecting activities. The presence of the baboon tooth is not easily explained, although isolated examples are known from other Iron Age sites, eg. Mapungubwe and Schroda. The cowrie specimen is much like those encountered at Mapungubwe, and represents trade contacts with the coast.

The taphonomy of the site

All the bone retrieved probably represented food debris of the settlement. Burning was very rare in the sample (16 specimens), and rodent gnawing occurred in only one specimen. Butchering damage was surprisingly rare, as chop marks occurred on only two specimens. Many specimens were extensively cracked and

APPENDIX TABLE 3

Msuluzi Confluence. Total bone sample. Species present: M.Ind.

ORDER PRIMATES Family Cercopithecidae *Papio ursinus*	1	Left M1.
ORDER ARTIODACTYLA Family Bovidae *Bos taurus*	2 (both sub-adult)	Right M1 & M2 (15–18 months); left M3, and right M1 (24–30 months); first and terminal phalange.
c.f. *Ovis aries*	4	Left dp2–M1, M1 unerupted; left dp4, unerupted left M1. Both less than 3 months old. Right dp2–M1, M2 erupting, newly erupted right M1 (3–10 months).
Ovis/Capra	4 (1 juvenile, 1 sub-adult, 1 old)	Left M1 with medium to light wear (10–16 months); right M1 & M3 (16–30 months), right P3, M1–M3 and left P4, M1 and M3 (all 30–60 months); left M1 and M3 with very heavy wear (more than 60 months).
Aepyceros melampus	1	Left M1.
Bov. I	1	Right distal humerus, right ulna, left radius and right tibia.
ORDER LAGOMORPHA Lagomorph	1	Metapodial.
ORDER RODENTIA Murid-sized rodent	1	Left and right mandible.
ORDER CHELONIA Tortoise	1	6 Fragments of carapace.
ORDER ANURA Indeterminate frog	1	Portion of pelvis, vertebra and three bones.
CLASS PISCES *Synodontis* type	1 (small)	3 Vertebrae and 5 bones.
CLASS PELECYPODA Family Unionidae Large freshwater bivalve	1	Fragment of valve.
CLASS GASTROPODA Family Cypraeadae *Cypraea* sp. Family Achatinidae *Achatina* sp.	1	Half a shell. Fragment of body. Fragment of body.

weathered and most were broken into small pieces; in view of the nature of the deposit this was not surprising.

When examining the horizontal distribution of finds there is no major difference between the features and the main excavation. Bovids are the most common species in both cases; the excavation yielded a wider range of species because it covered a wider area.

Conclusions

The Msuluzi faunal sample is small but nevertheless provides some insight into the activities and diet of the people inhabiting the site. The smaller species present suggest snaring (hare), fishing and gathering, while the two wild bovids indicate some hunting. The fish and freshwater mussel would probably have come from the Tugela River, which flows very close to the site. The search for impala would have taken the hunters into acacia savannah or open woodlands; suitable environments are found close to the site.

The sample is dominated by domesticated bovids; these animals provided the main source of food to the inhabitants and probably occupied more of their time than did hunting or snaring. Caprines appear to have been more numerous than cattle; sheep have been tentatively identified in the sample. The presence of a high proportion of very young animals in the sample of domesticates is unusual. The dominance of domesticates agrees well with the results obtained by Klein with the Ntshekane fauna (Maggs & Michael, 1976: 731); Klein was also able to identify the presence of sheep on the basis of a horn core. However in this ninth-century sample the majority of the caprines were mature enough to breed (16 out of 19). This is in sharp contrast to the results from Msuluzi and cannot be easily explained. We now have two contrasting pictures of stock utilisation; it is hoped that further samples from sites which fall within this time span will provide us with adequate information to describe the pattern of animal husbandry and the species of caprines present in Natal during the Early Iron Age.

Acknowledgements

I am most grateful to Dr Maggs for the opportunity to analyse the fauna from the site. My thanks also go to Miss A. Brown for her assistance with cataloguing, and to Mrs E. du Plooy for her typing of the paper.

References

BRAIN, C. K. 1974. Some suggested procedures in the analysis of bone accumulations from southern African Quaternary sites. *Ann. Tvl. Mus.* **29**: 1–8.

MAGGS, T. M. O'C. & MICHAEL, M. A. 1976. Ntshekane: an Early Iron Age site in the Tugela Basin, Natal. *Ann. Natal Mus.* **22** (3): 705–740.

VOIGT, E. A. In press. Reconstructing Iron Age economies of the Northern Transvaal: a preliminary report.