Background to the Transvaal Iron Age—new discoveries at Olifantspoort and Broederstroom

SYNOPSIS

The work being done on Iron Age sites in the Transvaal is described, with particular reference to the finds at Olifantspoort and Broederstroom. The material so far found provides evidence for the production of iron and copper, the farming of cattle and sheep, and the construction of large villages by people who were probably ancestral to the present Bantu population. The material dates from as early as A.D. 270, but clear indications occur from A.D. 460 onwards.

SAMEVATTING

Die werk wat op die terreine uit die Ystertydperk in die Transvaal gedoen word, word beskryf, met spesiale verwysing na die vondse by Olifantspoort en Broederstroom. Die materiaal wat tot dusver gevind is, dui op die produksie van ijse en kopper, beest- en skaapboerdery, en die bou van groot dorpe deur mense wat waarskynlik die voorvaders van die huidige Bantoebevolking was. Die materiaal gaan so ver terug as 270 n.C., maar daar is duidelike aanduidings vanaf 460 n.C. en later.

INTRODUCTION

The phrase ‘Iron Age’ in the South African context refers to a technology that led to the earliest major transformation of human society in South Africa. Iron Age technology was based on farming and metal production, which led to fundamental changes in the South African economy, South African politics, and South African social relationships. Before the Iron Age, everything was on a small scale in South Africa so far as human beings were concerned. After the Iron Age, the way was open for the emergence of our present large-scale South African society.

WHEN DID THE SOUTH AFRICAN IRON AGE BEGIN?

During the last few years, important discoveries of evidence for the earliest Iron Age penetration of South Africa have been made by Mr Menno Klapwijk in the Tzaneen area at the site ‘Silverleaves’, dated by Dr J. C. Vogel in Pretoria at A.D. 270; by Mr L. van Bezing at Sterkspruit outside Lydenburg, provisionally dated to A.D. 490 by Dr Vogel; by Dr A. van Genderen at Broederstroom 24/73 on the south bank of Hartbeespoort Dam, dated by Dr R. Protsch at A.D. 460. The carbon-14 dates allotted to various finds are listed in Table I.

In May 1973 we commenced the excavation of Dr van Genderen’s site 24/73 and here discovered the remains of the only relatively intact village dating to the Early Iron Age yet found south of the Sahara. We have to date exposed the well-preserved remains of twelve huts distributed over an area of approximately 5 acres, together with many thousands of potsherds, two large accumulations of iron slag and furnace debris (Plate 1), teeth of cattle and sheep, and, most important of all, a pot burial containing the mandible of a six to twelve year old child and the maxilla of a young adult, identified by Professor J. F. van Reenen, of the Witwatersrand University Dental School, as representing persons with teeth ‘considerably larger than the mean values for Bushmen and South African Bantu Negroids. They fall, however, within the range of measurements recorded for Bantu Negroids’.

The Broederstroom and other evidence means that we now have evidence for the production of iron and copper, the farming of cattle and sheep, and the construction of large villages by people who were most probably ancestral to the present Bantu-speaking population of South Africa, for at least as early as A.D. 270 but clearly indicated from A.D. 460 onwards. This would mean that the Iron Age of the Transvaal is partly contemporary with the later stages of the Roman Empire. An elderly person living at the Broederstroom Iron Age site could even have witnessed the sack of Imperial Rome by the Visigoth King Alaric the Bold in A.D. 410.

One of the Broederstroom iron slag floors, 24/73K, preserves a pile of yellowish iron ore approximately 50 kg in weight. The precise geological nature and source of the 24/73K iron ore have not yet been identified, but its fresh surfaces suggest that the 24/73K iron smelt-

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ers actually mined the ore, in contrast to mere surface collection of naturally weathered ore fragments. The 24/73K ore pile therefore represents the earliest mining of iron ore yet found in the Transvaal. Of course, Transvaal Middle Stone Age hunters had been using iron ores as a colouring material since at least 33 000 B.C. as I was able to demonstrate in my excavation of Olieboompoort Cave in the Western Transvaal in 1954.

Contacts between the A.D. 460 iron smelters of Broederstroom and Stone Age hunters are suggested by hundreds of Stone-Age-style grooved sandstone pieces on the Broederstroom floors, used for the making of Stone-Age-style shell heads. Dr A. van Genderen found at least one cowrie shell and one Conus hebraicus shell eroding from the Broederstroom soils, indicating contact with the East Coast.

SIGNIFICANCE OF THE SOUTH AFRICAN IRON AGE

In the South African context, the Iron Age prepared South African society for rapid adjustment and interlocking with complex Western technology, leading to the present explosively productive South African economy. South Africa today could not have been built without the foundation of human aptitudes for complex industrial labour created by the Iron Age.

ORIGIN OF THE SOUTH AFRICAN IRON AGE

Several years ago, Mr Bernard Fagg excavated an Iron Age smelting site at Taruga, near Nok on the edge of the central plateau system of Nigeria, dated 440 ± 140 B.C. Archaeologists generally accept the Nok sites as a whole as representing one of the centres of origin of the African Iron Age. The pottery from Nok represents a type of pottery very similar indeed to generalized South African Iron Age pottery. The most spectacular discoveries in the Nok area are the remains of beautifully sculpted clay heads, representing the earliest appearance of the great West African art style. In 1962, Mr L. van Bezing found the remains of a quantity of remarkable clay heads on the surface of a donga at Sterkspruit near Lydenburg described by him and Mr. B. Inskeep. A charcoal line in the donga gave a date of A.D. 490, which may relate to the heads. The heads are similar in style to Central and West African representations of the human face, and the ear on one of the heads carries broad line incision very similar to the broad line incision motifs on Early Iron Age pottery in South Africa in general, and Broederstroom in particular.

A large number of Iron Age sites
dating from early in the first millennium A.D. are now known north of the Transvaal. Mr Tom Huffman interprets the sites as due to the dispersal of Iron Age settlers from an East Congo centre. Certainly, the Sterkspruit clay heads and the general data from Broedersstroom suggest a derivation from Central and West Africa. The Broedersstroom pottery closely resembles pottery excavated by Mr K. Robinson at Nkopi in Malawi and the Broedersstroom pot burials are very similar to burial ritual recorded by Knut Odner at Usangi in the North Pare Mountains (north-eastern Tanzania), both in Iron Age sites and among the Pare people today. For the moment, we can associate the Early Iron Age penetration of the Transvaal with the ancestors of the present Bantu-speaking peoples of the Transvaal and elsewhere, who established themselves here in the Transvaal at the time of the Later Roman Empire as farmers, metal producers, and village builders.

The Nkopi dates for presumably ancestral South African Iron Age cultures of circa 440 B.C. show that pressures for population expansion several thousand miles north-west of the Transvaal were building up in the thousand years before the birth of Christ. We can speculate that the stimulus of adverse environmental controls such as drought may have forced Iron Age communities to move south through the more open territories east of the equatorial forest regions of Central Africa, and that, once they decided to move, they moved fast. We have well-recorded historical models for drawing analogies with prehistoric population movement in Africa. For example, when the explorer Stanley persuaded Emin Pasha to leave his home base near Lake Albert on the Uganda/Sudanese border, "On April 10, 1889, a crowd of over 1500 men, women, and children, with their household goods including bedsteads and grindstones, set out to walk the 1300 miles to the coast at Bagan-moyo. They reached there on December 4th". A rapid movement of this kind may have carried Iron Age people into the Transvaal as early as the first millenium B.C. The search for Iron Age sites in the Transvaal earlier than the Broedersstroom A.D. 460 site is now on.

The Guthrie-Greenberg linguistic history hypothesis explaining Bantu expansion in sub-Saharan Africa is outlined by Clark.

IRON AGE SETTLEMENT—WITWATERSRAND AND MAGALIESBERG VALLEY

The main focus of modern mining and metallurgy in Africa is in the southern Transvaal. Historians may wish to relate present-day and prehistoric mining developments in this region to one another.

Since 1971 we have discovered that the Magaliesberg Valley preserves one of the best records of Iron Age activity in Africa, dating from Early Iron Age times right up to the nineteenth century. The wide, gently sloping landscapes of the Magaliesberg Valley appear to have been ideal territories for Iron Age settlers, offering a wide range of environmental opportunities to these people, and offering the archaeologist good conditions for preservation by gentle deposition covering the settlements after their abandonment. The soils of the Magaliesberg Valley made very durable plasters on the walls or floors of Iron Age huts, as well as pottery. Indeed, we have probably learned more about Iron Age hut building from Early to Late Iron Age times in the Magaliesberg Valley than anywhere else in Africa. In schematic fashion we suggest that our local Witwatersrand-Magaliesberg Iron Age sequence can be presented in three stages: Early, Middle, and Late Iron Ages.

EARLY IRON AGE

The Early Iron Age of the southern and south-western Transvaal (circa A.D. 460) was recorded at Kruger Cave, Olifantsnek Dam, Rustenburg District, where I found two potsherds of Early Iron Age type in 1956, at Sandfontein near Thabazimbi (discovered with Professor Plewman, I. Watt, and W. D. Maxwell in December 1973), and at Broedersstroom, where we have recently excavated hut floors, slag floors, and furnace debris, fragmentary human burials, and large quantities of decorated pottery. Near the hut floors, we found teeth of sheep or goats and cattle, identified by Mr R. Welbourne as the earliest cattle south of the Zambezi. The huts were substantial pole-and-daga constructions, approximately 2 metres in diameter. There are remains of two slab-supported beds on a raised floor in one hut. The iron slag floors are larger than other slag accumulations excavated in the southern Transvaal, but in size resemble some of the Palabora slag lenses. The size of the Broedersstroom slag lenses suggests that the furnace operators were producing iron for trade with other communities whose remains may await discovery in or near the Magaliesberg Valley.

The pottery decoration suggests influences from, or associations with, first-millenium Iron Age communities in Malawi and Zambia, and with as yet undated communities on the Natal Coast as far south as Pondoland, where, in the 1930s, J. F. Schofield located pottery similar in some respects to the Broedersstroom pottery. The link between the Malawi and Natal Coastal Iron Age pottery was first observed by Mr K. Robinson, and I have pleasure in corroborating Mr Robinson’s observations. There is every prospect that the South African Iron Age was well-established from the Transvaal to the eastern Cape by early in the first millennium A.D., if not before the birth of Christ.

MIDDLE IRON AGE

In the last few years, we have excavated no fewer than four villages representing Middle Iron Age activity. The dating for the local Middle Iron age extends from Melville Koppejies Upper Furnace date of A.D. 1060 until approximately A.D. 1580-1610 ± 90, these being the two latest dates for Iron Age materials including the characteristic Middle Iron Age pottery at sites 27,71 and 64,71. The Middle Iron Age therefore presumably began some time around A.D. 1000 and lasted until approximately A.D. 1500-1600.

We have traces of Middle Iron Age activity at no fewer than three fully excavated Iron Age villages, two partially excavated Iron Age villages, and one unexcavated Iron
Age village. The villages are all located in the Olifantspoort area or farms adjacent to Olifantspoort. In addition to the Olifantspoort sites, we have four further sites where pottery similar to the Middle Iron Age pottery at Olifantspoort has been found. One of these is the well-known Melville Koppies Furnace, dated A.D. 1060, which produced pottery similar to the Olifantspoort Middle Iron Age pottery; the second is a stone-walled settlement on the lower slopes of the Melville Koppies, and the third and fourth are separate sites on the slopes of Platberg, near Klerksdorp. From these scattered finds, it is clear that the Middle Iron Age, so well represented at Olifantspoort, was widely distributed in the southern Transvaal.

Our three excavated Middle Iron Age villages on Olifantspoort Farm show that Middle Iron Age villages varied in size from 10 to 20 huts distributed in a roughly circular or elliptical pattern, with fairly even spacing between the separate huts, over an area of approximately 1 to 2 acres. The perimeter of this area was occupied by huts, and presumably the cattle, whose remains in the form of teeth have been found on the hut floors themselves, were kraaled at night in enclosures in the space enclosed by the perimeter of huts. There may well have been a zareba, or thornbush stockade, on a perimeter enclosing the huts themselves, so that, on approaching a Middle Iron Age village, the traveler would first observe a thornbush screen or stockade enclosing an area of about 2 acres, then would pass through an outer gateway to find himself confronted by a ring of well-built huts, with even spacing between the huts, and beyond the huts in the centre of the settlement would have been the cattle and goat or sheep enclosures, protected by the outer part of the settlement.

The hut floors themselves consist of well-preserved very hard plaster surfaces about 2 metres in diameter. Most hut floors of the Middle Iron Age have similar features: a raised platform on one side or on one segment of the roughly circular hut floor; a large dimple-shaped depression on the lower part of the floor adjacent to the raised platform, presumably as a fireplace; smaller dimpled depressions for holding pots; and a cylindrical depression, about 25 cm in depth and 10 cm in diameter, for securing a small wooden mortar. Traces of a small wooden mortar were found in at least one of these depressions. Scattered about on the floors themselves, we found the bowls and pots characteristic of Middle Iron Age pottery assemblages, together with teeth of cattle and sheep or goats, iron tools, and, at a number of sites, well-preserved carbonized seeds of millet. From these data we are able to say that the Middle Iron Age people in the Magaliesberg-Witwatersrand region were fully capable of building substantial huts, presumably of the cone-cylinder type of huts still constructed by Sotho-Tswana people today, although they had not yet apparently discovered, or were not yet using, stone as a building material. In the Magaliesberg-Witwatersrand region at Middle Iron Age sites, there is no trace of the stone walls so characteristic of the Later Iron Age, with the single exception of Melville Koppies. On the lower slopes of Melville Koppies, there is a rather curious stone-walled Iron Age settlement, about an acre in area, that may date to the Middle Iron Age.

LATE IRON AGE

The Late Iron Age in the Magaliesberg-Witwatersrand area is registered at literally thousands of stone-walled settlements in the region. The earliest dates that we have for these stone-walled settlements are mid-sixteenth century (approximately A.D. 1550), and at least one of the settlements (Site 20/71 at Olifantspoort) has very recent carbon dates for the later parts of the settlement, which enable us to guess that the building of stone-walled structures, or the occupation of stone-walled Iron Age structures, persisted into the nineteenth century. It is very clear that the Late Iron Age registers substantially larger human populations than at Middle Iron Age sites. This is a guess, but it is a guess based on the relative numbers of known Early, Middle, and Late Iron Age settlements in the Magaliesberg-Witwatersrand region. The large size of Late Iron Age settlements poses an awkward problem for the archaeologist. Some of the Late Iron Age settlements, such as Mogwil and Kaditshwene in the western Transvaal, cover as many as a thousand acres, and there are many hundreds that extend over an area of fifty or a hundred acres. We selected a rather small Late Iron Age settlement on the farm Olifantspoort (Site 20/71), which extends over an area of about 6 acres, this being the maximum area we could expose in six months of continuous work in 1971.

Within this area we exposed the remains of no fewer than 88 well-preserved huts out of a total of 125 huts whose debris we could observe projecting above the surface of the soil. The hut floors at this site proved to be more complex than those registered in the Early and Middle Iron Ages. The hut floors of the Late Iron Age very frequently included two separate compartments, and we were astonished to find remains of sliding doors at the doorways leading from the outer compartment to the inner compartment.

There is a very clear relationship between the settlement pattern and hut construction on at least one prehistoric site—the Late Iron Age site 32/71 at the summit of Platberg near Klerksdorp—and living Bantu-speaking peoples. We were very surprised to see that the site we had excavated on the summit of the Platberg in 1971 was virtually identical in its hut types and their spatial distribution to parts of Molepole in Botswana today, which we investigated during 1972 with the kind help of Professor D. Hammond-Tooke. The Ntloedihe division of Molepole has huts and a general layout that is a virtual duplicate of parts of the Platberg Iron Age settlements.

The huts at Site 20/71 Late Iron Age settlement at Olifantspoort carried traces of thatched roofs that had been destroyed by fire. We are reasonably certain that all the huts of site 20/71 must have been burnt at the same time, either by natural agency or in war. Since the latest radiocarbon date is approximately 1820 from the ash heaps at the site, we are able to guess that the destruction of this settlement probably took place during the
Lifaquane upheavals of the 1820s.

The 20/71 hut floors were littered with beautifully made pottery, a small number of iron tools, and two copper ornaments. We found millet seeds and a few teeth of cattle, sheep or goats, and wild animals on some of the hut floors, but the bulk of the data on the economic life of Site 20/71 people came from the enormous ash heaps that litter the internal part of the site. These ash heaps produced many thousands of bones and teeth of a wide variety of animals ranging from cattle, sheep, and goats to wild animals such as buffalo and jackals. These have been identified by Mr Robbie Welbourne of the Department of Archaeology. We discovered no fewer than five human burials at various sites within the perimeter of Site 20/71—all in ash heaps. The burials, identified by Professor H. de Villiers, all represent a racial type characteristic of Bantu-speaking peoples in the Transvaal today.

There is some evidence of iron working at Site 20/71. Enclosure 1 at the site preserved the remains of a furnace and the debris of metal production. Dr H. Friede examined the slag found in this enclosure, and considers that the enclosure represents iron forging rather than iron smelting, and the same explanation would apply to an interesting furnace found in the rear part of hut Aq, several hundred metres to the north-west of enclosure 1 on the opposite side of the village.

MINING AND METAL PRODUCTION IN THE LATE IRON AGE—MAGALIESBERG—WITWATERSRAND REGION

The exposure of Site 20/71 suggested very strongly that the stone-walled villages of the Late Iron Age were not metal-smelting centres, although some small-scale smelting was done in them. The bulk of metal smelting may have been carried out at localities outside the main stone-walled villages, but the only trace of such large-scale production yet discovered is Mr P. Venter's furnace site at Panorama, which we excavated in 1972. A mile or so north of 20/71 is a large copper-mining trench (47/75), discovered and excavated during 1973 by Mr Robbie Steel. There is no trace of actual copper smelting at any of the known sites in the Olifantspoort region, and it is evident that the copper miners who exposed the trench discovered by Mr Steel carried the ore away to sites elsewhere for smelting. In 1950-1952 I excavated a cave on Mr Jack Scott's farm 'Uitkomst' near Hekpoort, about 25 miles to the south-east of Mr Steel's copper mine, and there discovered a beautifully preserved smelting furnace dated to mid-seventeenth century (approximately A.D. 1640), together with quantities of both hematite and copper ore. Dr R. Robinson of the National Institute for Metalurgy has kindly analysed the ore for us and has demonstrated that the Uitkomst ore excavated in 1950 has properties very similar indeed to the copper ore mined at Mr Robbie Steel's mine discovered in 1973. There is every prospect, then, that, for a few years, the Olifantspoort copper mine was the centre of copper mining, which was dispersed over a wide area to sites as far as 25 miles distant from the mine, such as Uitkomst Cave.

EARLY EUROPEAN EXPLORERS AND IRON AGE PEOPLE IN THE TRANSVAAL

The earliest European explorers of the Transvaal left behind a wealth of data on Iron Age peoples. I have time to refer only to John Campbell2, that remarkable Scottish missionary who visited Kaditshwene, near Zeerust, in 1820 and recorded a great deal of the living Iron Age pattern to such perfection that we are able to use Campbell's account to help explain things such as tribal identifications of some of the last Iron Age peoples in the southern Transvaal. Thus, we know that the Olifantspoort village (20/71), dated A.D. 1550 to A.D. 1820, was probably a Kwenan settlement, while Kaditshwene, a Hurutses settlement, probably represents one of the tribal origins of the technology represented at places like the Klipspruit settlements we excavated on Mr J. Meyer's farm, near Alberton, dating from A.D. 1640 onwards.

ACKNOWLEDGEMENTS

My special thanks are due to the Human Sciences Research Council (which has subvented most of our work), the African Studies Programme, and the University Senate Research Council (which has made major financial contributions). Mr Les Wells of J.C.I. and his excellent colleagues of Spectral Africa (who provided beautiful aerial photographs of our sites), Dr J. Vogel of the C.S.I.R. Radio-carbon Laboratory (who did some of the dating), and Dr R. Protsch (who dated Broederstroom). Above all, I am indebted to Mr Robbie Steel, whose tireless work has enabled us to expose all the sites excavated between 1971 and 1973.

We are only at the beginning of our investigations of the Iron Age in the Transvaal. Space has not permitted me to refer to Iron Age studies by other workers in this province. Mr T. M. Evers is at work in the eastern Transvaal, Professor H. Elloff and Mr A. Meyer at Mapungubwe, Mr E. Hanisch at Messina, and Mr M. Klapwijk at Tzaneen. Mr R. Welbourne is completing research on Iron Age meat-eating practices, and Dr H. Friede is at work on metal-smelting techniques. Mr U. Küsel is recording ethnographic data, especially on metal production, and Mr J. Stanko and Mr M. Dingle are experimenting with methods of metal production.

We wish to thank the many students and members of the public who have assisted us in our investigations, and whose interest and hospitality have proved essential for the development of our investigations of the Transvaal Iron Age: particularly the late Mr and Mrs A. Retief, Mr and Mrs Pierre Retief of Olifantspoort, Mr J. Meyer of 'Liefde & Vrede', Dr and Mrs A. van Gendere of Broederstroom, Mr Wessels Joost of Klerksdorp, and the Department of National Education (which authorized our investigation at Broederstroom).

Mr P. Wallace, Technician in the Department of Archaeology, has made an immense contribution to our work. Mrs J. Kohary, Mr J. Swan, Mrs E. Kuhner, and Miss K. Fredman have helped with re-
cording and fieldwork, and Professors H. de Villiers and F. van Reenen are in charge of the human bones from our Transvaal sites. The work was supervised by the African Studies Programme Iron Age Committee of the University of the Witwatersrand.

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