

THE TYPE R SETTLEMENTS IN THE CONTEXT OF
THE LATER PREHISTORY AND EARLY HISTORY OF
THE RIET RIVER VALLEY

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"Nothing even partially definite will be known until a more systematic survey is undertaken and single kraal and grave sites worked to the utmost. And here, and in this area particularly, is a field pregnant with potentialities. It is rich beyond the dreams of even an archaeologist, and it is virgin."

C. van Riet Lowe (1931) on the
Settlements & Graves of the Riet River Valley

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SECTION 1.INTRODUCTION AND PROLEGOMENON

"What's past is prologue"

William Shakespeare.

A series of stone walled settlements occurs along sections of the Riet River in the Northern Cape and Orange Free State. These settlements consist of groups of circular low stone-built enclosures of different sizes, usually a large more or less centrally placed enclosure partly surrounded by smaller enclosures. The settlements occur spaced along the banks of the Riet River at varying intervals either in isolation or in groups of two or more. The stone walling is very rough and the walls, today, seldom attain a height of more than about a metre. It is this series of stone walled settlements that is the subject of this study. Before setting out the objectives of the study, however, it is first necessary to place the settlements in some sort of context by examining earlier archaeological references to the occurrence and then trying to define the direction the study should take in terms of what is either known or unknown about the settlements.

EARLIER REFERENCES.

The first comment on the settlements was made by J.P. Johnson in 1910. In his book "Geological and Archaeological Notes on Orangia", Johnson describes some "modern" rock engravings near Koffiefontein and says that they are "... the work of Kafirs ..." and as a footnote adds, "There are a number of their characteristic circular walls of uncemented stones at Koffyfontein, of which the modern local Kafirs know nothing" (Johnson 1910 : 77). Johnson does not mention the settlements in the main body of his text and so does not elaborate on his reasons for calling them "characteristic" or for attributing them to some Bantu-speaking Negro peoples, in spite of the modern locals knowing nothing about them. There is no way of knowing how extensively or intensively

Johnson conducted his enquiries about the settlements among the local people but it is perhaps of some interest that at the turn of the century there was apparently no local tradition concerning the settlements.

The next information on the settlements is to be found in Goodwin and Van Riet Lowe's "Stone Age Cultures of South Africa" (1929). There is no verbal reference to the settlements but on the map Plate XXXVII Van Riet Lowe plots the positions of some seven "Circular Stone Kraal and Hut Foundations". Direct reference to these kraals only comes two years later, in 1931, in Van Riet Lowe's paper on "Early Graves in the Riet River Valley".

In looking for the cultural associations of the burials which he describes in the paper, Van Riet Lowe says, "A helpful clue exists, I believe, in the occurrence throughout the area under review (i.e. the Riet River Valley) of numerous remains of large and small dry-stone wall enclosures in circles that vary from about five to one hundred yards in diameter" (Van Riet Lowe 1931). He then refers to a sketch of one of the Afvallingskop settlements (the first actual illustration of one of the Riet settlements - see Plate 1 for an aerial photograph of the settlement) and goes on to describe it as follows: "The walls, built of loose, undressed mountain stones similar to those selected for the graves, have been almost entirely broken down, but, where they are intact, average about eighteen inches in thickness and appear nowhere to be more than four feet in height. The construction is perhaps best described as rough rubble, dry-stone walling, entirely haphazard. It has not yet been possible to associate these kraals with any human type. Local tradition does not reach them and in a way, therefore, they are "prehistoric". My own impression is that they are comparatively recent and although they frequently overlap stone age sites, we find nothing except occasional potsherds that appear to be post-Smithfield, that provides a clue to their cultural horizon. The fact that these kraals and graves occur on Smithfield sites really proves nothing. No graves have yet been found in or in the immediate vicinity of the kraals. They are invariably some little distance away and occasionally quite isolated. My own opinion, entirely tentative of course, is that it is extremely probable that the skeletal material ...belongs to the race of

men that built these kraals and that the sites of the graves are the cemeteries established by the builders, probably of Hottentot origin" (Van Riet Lowe 1931 : 434).

Like Johnson before him, Van Riet Lowe refers to the lack of local tradition concerning the settlements but instead of referring them to Bantu-speaking Negroes, suggests that they may be of Hottentot (Khoikhoi) origin. Van Riet Lowe seems to have had a good knowledge of the distribution of these settlements for in his 1931 paper he refers back to his contribution of 1929 and this, as already mentioned, records the sites of seven of these settlements. In his 1931 paper he refers, in addition to Afvallingskop, to settlements on the farm Middelfontein just outside of Koffiefontein; the latter may well be the settlements seen by Johnson. Van Riet Lowe's opinion that the settlements were occupied by Khoikhoi seems to have been based on a process of eliminating other possibilities. The settlements themselves produced potsherds which he called "post-Smithfield" while one of the burials which he described produced a copper bracelet and, in his opinion, "... definitely placed the owner out of the Stone Age ..." (1931 : 433). In addition, Van Riet Lowe believed that "... Smithfield man in this area is not known to have buried his dead with ceremony ..." and the skeletal material recovered "... was definitely not of "Bush" type" (1931 : 432). The assumption of an association between the burials and the settlements, as Van Riet Lowe made, and the fact that the settlements produced "post-Smithfield pottery", would have eliminated the possibility of the settlements being built by either "Smithfield man", "Bushmen" or Stone Age man. (Naturally all these assumptions could seriously be questioned today but our purpose here is not to assess the methods used to arrive at conclusions, but rather the conclusions themselves in discussing what was known about the settlements at that time). These possibilities taken in conjunction with the lack of local tradition concerning the settlements (thereby making them "prehistoric", says Van Riet Lowe) would have left "Hottentots" as the only likely candidates as they would not have been much in evidence at Koffiefontein at that time. Van Riet Lowe's conclusion that the builders were Khoikhoi seems therefore to have been based more on ideas as to who could not have built them rather than any concrete knowledge as to the builders themselves based upon an assessment of the sites.

However, the 1931 paper taken in conjunction with the 1929 map represents the first discussion on the nature and distribution of the settlements.

Many of the later references to the sites resulted largely from references to Van Riet Lowe's paper and also the fact that the Middelfontein settlements were close to Koffiefontein, while the Afvallingskop settlement was adjacent to the kopje well known for its engravings (Burkitt 1928).

Wilman in 1933 in her book on "Rock-Engravings of Griqualand West and Bechuanaland, South Africa" makes the next comment on the settlements. In a discussion on "Bushman relics" Wilman associates the settlements referred to by Van Riet Lowe with various "hut-rings" which are "more or less circular or oval clearings with stones piled up all around ..." (1933 : 26). The writer has visited several of these hut-rings and they are not to be regarded as comparable with the Riet stone circles; rather than being formally built stone walls, these hut-rings seem to represent artificially cleared areas where, in order to gain some smooth ground, the rocks strewn over the area (particularly on kopjes) have systematically been dumped away around the periphery of the area being cleared. This artificial clearing of an area gives the impression of a stone circle in that the inside is relatively clear of the rocks which have been piled around the edges. In these "hut circles" the object seems to have been to clear an area rather than to build a wall. All the hut-rings referred to by Wilman (1933) and those at Halfway House Kopje (Clark 1959) are not to be regarded as being associated with the Riet settlements or with any other type of formal "stone-wall building".

Apart from including the Riet settlements with her hut-rings, Wilman does make an interesting comment on these "... grouped remains of similar rings ..." (i.e. hut-rings). By way of a footnote she says "According to local tradition they were formerly occupied by Bushmen, who, however, were driven out by some dread epidemic. Later on the Korana took possession of the kraals" (1933 : 26). Unfortunately the source of this local tradition is not recorded but it is rather surprising not only in its claims but also following so closely on Van Riet Lowe (1931) who found

no local traditions concerning the settlements. However, because oral tradition is somewhat unreliable in certain circumstances and much depends on the methods of the collector and the existence of corroboratory evidence, Wilman's claims on the origins of the stone circles must be regarded with some reservation.

One of the earlier attempts at some sort of synthesis of general knowledge on "stone ruins" was undertaken by Laidler in 1936. Under a general section on the analysis of architectural types in his paper (Laidler 1936) he refers briefly to the Riet sites. One of his stone ruin types consists of "Two circular walls, the inner forming a kraal with huts between the inner and outer walls. Huts probably of thatched-roof type in stone-walled enclosure (sites : Riet River, Aasvogelkop, Johannesburg)" (Laidler 1936 : 37). This classification is probably based upon Van Riet Lowe's (1931) description of the Afvallingskop settlement. The Johannesburg sites are likely to be related to some of those recorded on aerial photographs by Mason (1968); if this is the case, then the relationship suggested by Laidler between these sites and the Riet sites is not valid because Riet sites are unknown in the Transvaal as we shall see later. Laidler therefore made no real contribution to the understanding of the Riet settlements.

Schofield, in his major discussion of pottery types published in 1948 - "Primitive Pottery" - is the next person to refer to the Riet settlements. Schofield's concern was, naturally enough, with the pottery of the settlements rather than with the settlements themselves but in his section on "Ancient Pottery of the Transvaal and the Orange Free State" he remarks that "At Koffiefontein, about 56 miles (90 klm) south east of Kimberley, there are rough stone structures from which a crude, but much decorated pottery has been obtained. The prevalent type seems to have been a globular pot in a buff or greyish clay and almost covered with comb marks made when the surface was in a semi-fluid condition. Some of the sherds are covered with closely-set finger-nail impressions, and others are related to pieces from Maokagane" (1948 : 147). Perhaps the most remarkable point here is the reference to "much decorated pottery". This contrasts with Van Riet Lowe's remark that on these sites, "we find nothing

except occasional potsherd that appear to be post-Smithfield," (1931 : 434). Fortunately Schofield not only illustrates some of the sherds to which he refers but also lists the institutions at which the material is housed. In Fig 6:6 he illustrates one of the Koffiefontein potsherds. This piece is in the McGregor Museum, Kimberley, today, so the writer was able to examine it in detail. This is the only piece from Koffiefontein illustrated by Schofield and also the only decorated sherd from that area in the Museum collection (other material has been acquired more recently but this would, of course, not have been referred to by Schofield). The sherd is, as Schofield describes, a rim fragment of a large globular pot, of coarse black ware and with comb stamped decoration. The writer would, however, regard this sherd as being more akin to the type of pottery apparently produced by the "Later Stone Age" peoples and described by Sampson (1967b); similar "Later Stone Age" sherds have been found at Oudefontein (Maggs 1971) and at Khartoum (present research), both farms on the Riet River. The Iron Age potsherds from Maokagane (Mahakane) illustrated by Schofield (Plate 4) are also housed in the McGregor Museum and examination of these specimens confirms the impression that the Koffiefontein specimen dates to the "Later Stone Age". The Mahakane material is much more finely made and lacks the grass temper noted in the Koffiefontein specimen; certainly there are no grounds for regarding some direct connection between Koffiefontein and Mahakane on the basis of the sherds described by Schofield and preserved at the McGregor Museum. It would seem that Schofield was mistaken in regarding this decorated pottery as typical of, or indeed, as directly associated with the Koffiefontein settlements. This contention is contrary to Van Riet Lowe's experience and also that of Maggs (1971) and the present writer where most of the pottery recovered was plain, undecorated and coarsely made. In view of these facts it must be concluded that Schofield did not make any significant contribution to elucidating the problem of the Riet settlements.

A second work referring to the Riet settlements was also published in 1948. This was "The Artist of the Rocks" by Walter Battiss. The author's main interest is, of course, the rock engravings in the Riet area but while discussing the

engravings at Afvallingskop, he does make the following comment: "Below the sites on the Riet River are numerous circular stone kraals where we must presume the engravers slept for protection. The Koranas and last Bushmen, who were friendly in this part of the south western Free State, lived in these kraals, and Koranas are known to have built new kraals. Two old men told Mr. William Fowler that the original kraals were built by "the Old People" - information that hardly clarifies the position. At the Harts River sites near Schweizer Reneke in the south western Transvaal there are many similar habitations, some circular, some rectangular, and possessing one or two prominent monoliths at entrances" (Battiss 1948 : 28).

The Transvaal sites are, like those recorded by Laidler, most likely to be related to sites discovered by Mason (1968) and in no way connected with the Riet settlements.

Battiss also suggests that the settlements were built by Bushmen (San) and Koranas - initially presumably by the former as the "engravers" are supposed to have slept in them for protection. This point of view may, however, have been influenced by Wilman's (1933) remarks, for Battiss does say later on that information from some old men "hardly clarified the position" with regard to the builders.

The next serious attempt at explaining the occurrence of the Riet settlements was made by James Walton in his book "The African Village" (1956). He classifies the Riet settlements as a subgroup of "earliest open settlements of the Sotho-Tswana". His groups are as follows: (Walton 1956 : 37)

Group A: Stone kraals with corbelled stone beehive huts.

Group B: Stone walled kraals with huts of wattle and daub.

B1: Scalloped stone kraals enclosing circular stone cattle kraals and hut foundations of large pole and daga huts.

B2: Linked stone kraals of irregular shape with small paved floors for beehive huts of wattle and thatch.

B3: Linked stone kraals of the Lydenburg district.

B4: Free circular kraals of the Riet River area.

Group C: Kraals of timber with huts of mud or wattle and daub, of the rondavel type.

Here Walton clearly ties the Riet sites in with other Iron Age stone ruins in the northern Orange Free State and the Transvaal and regards the whole as being of Sotho-Tswana origin. However, in his detailed discussion on the various groups he is not quite so specific. Under the heading "Stone Kraals" he says: "Other records of isolated early Sotho-Tswana settlements have been made from places as far afield as Koffiefontein which do not fall into the groups already established but which are of undoubted Sotho-Tswana origin. The Koffiefontein sites have been described by Van Riet Lowe who excavated a number of graves in the vicinity which he considered to be associated with the kraals. A typical kraal consists of an outer circular wall, a hundred yards in diameter, with a large central stone walled cattle kraal. The intervening space was occupied by smaller stone cattle kraals and presumably the huts although no details of these are available. Only ostrich eggshell beads and a copper bracelet were recovered and in the absence of detailed excavation Van Riet Lowe tentatively ascribed these settlements to a Hottentot origin. Most probably they were the product of a mixed Bantu-Hottentot people such as the Gyzikoa, found by Wikar in the Orange Valley" (1956 : 51).

Walton describes the Gyzikoa as follows: "... Wikar in 1775 commenced to live among the Gyzikoa near the Aughrabies Falls. These people were so named because they originated from two kraals, or races; the Nama and the Tlapin, who highly prized the Nama women's offspring. From the Bantu kraal glass beads resembling copper beads were obtained a certain black ore which they used to dye their hair. Graves from this area have yielded fragments of hair coated with fat mixed with powdered black haematite, copper coloured glass beads and copper beads" (1956 : 31). Reference to Engelbrecht (1935) confirms this information (indeed, it was probably the source of it) and adds the following: "For the Twinfolk ... it would appear that their ancestors had fled towards the Orange River owing to internal war; here they met the Hottentots and commenced marrying their women. This event could not have taken place very long ago

because, as Wikar tells us, the old people were all still able to talk their own Bantu idiom" (1935 : 222).

By suggesting the Gyzikoa as the builders of the Riet settlements Walton added a new dimension to thinking about the Riet sites over and above the San, Khoikhoi and Korana that had until then been suggested. His ideas seem to have been based upon the association suggested by Van Riet Lowe (1931) between the settlements and the burials, one of which yielded the copper bangle, and the skeletal material which was described by Wells and Gear (1931) as being of "mixed Bantu-Bush" and "predominantly Bantu origin". This situation is broadly comparable with the Gyzikoa who were apparently mixed Negro and Khoikhoi and possessed of copper objects. However, this coincidence seems to be as far as the evidence goes for Walton does not attempt to account for the large gap (of over 500 km) between the Riet area and the Aughrabies Falls, nor does he describe comparable stone-built settlements in that area. In view of the fact that he does not describe ruins from the Aughrabies Falls area the implication would seem to be that there are none; the writer is not aware of any in that, or the intervening area.

It is not entirely clear why Walton classified these "Gyzikoa settlements" as being of Sotho-Tswana origin unless he regarded them as been closely related. If this is the case then he does not explain the relationship which would presumably have existed between Sotho-Tswana peoples of the Orange Free State and Transvaal and a case of cultural mixing derived from the west. Walton's idea must therefore be regarded as interesting but somewhat ambiguous.

Up to this point all references were to Riet settlements occurring around Koffiefontein. Only Van Riet Lowe had made any contribution on the wider distribution of these sites; this was way back in 1929 and only covered the Orange Free State section of the Riet from the Cape - Orange Free State boundary to a few km east of Koffiefontein.

In 1964 however, Mrs. M.E. du Toit (1964) drew attention to stone walled settlements occurring in the Cape section of the Riet River. Du Toit did not suggest any connection between these settlements and those occurring in the Orange Free State; indeed,

she makes no reference at all to the latter. There was therefore at that time no suggestion that all the Riet sites were interrelated and the occurrences seem, implicitly at least, to have been regarded as separate phenomena.

Du Toit located her sites of the farms Driekopseiland (near Plooyburg and famous for its rock engravings) and Dekrans (west of Ritchie). At Driekopseiland a line of hills lies some 3 km south of the engraving site in the bed of the Riet River. Working on the assumption that the engravers would have sought shelter in these hills, Du Toit explored the area at the base of the hills. Here she found "... an extensive stone kraal village among dense thorn in the most sheltered central kloof ...". Her description of the "village" is as follows: "The village consists of stone circles, about thirty in number, some of which are so small that they could have been covered with thatch to serve as dwellings; others so large as to serve possibly for kraals if stacked with thornbushes. The stone circles are well preserved, but give the impression of considerable age. Each circle consists of a low, unevenly stacked stone wall, of Ventersdorp diabase, the same rock which occurs at the engraving site To the back of the village, right up at the top of the kloof, an intriguing wall has been stacked across the outlet of the kloof, so as to form a natural arena or field, with the soil evenly washed by rains up against the wall, or otherwise artificially filled up ..." (1964 : 361-2).

The Dekrans site is less well preserved: "At the top of a series of kranes ... I found this less well-preserved stonekraal village. The village is situated in a sheltered spot, to the back of the kranes, and stones are littered over a fairly large area, with only an occasional well-preserved circle of stacked stone. It resembles that of Driekopseiland, which lies about 20 miles further down river At these sites no potsherds or engravings have been found so far ..." (1964 : 362).

Du Toit does suggest a similarity between her sites and that at Muirton - "Recent excavations of a similar stone-walled site near Barkly West ... show that some, at least, of the stone walled settlements in the Northern Cape have an Iron Age date" (1964 : 362). The Muirton site is as yet unpublished and so it is not possible

to comment here on its attribution by Du Toit to the Iron Age, but so far as its "similarity" to the Driekopseiland and Dekrans sites is concerned it can be stated that a different settlement layout occurs at Muirton (Maggs 1971; Sampson, pers. comm.) and that there is on present evidence unlikely to be a direct relationship between the two areas.

The publication of Du Toit's sites seems initially to have invited discussion on their possible association with the Driekopseiland engravings rather than with the other stone settlements found in the Orange Free State. Fock, for example, on two occasions attributed these ruins to the Springbok Korana under Jan Bloem (Fock 1969 a; 1969 b). His reasons for doing this lie in the fact that at the McGregor Museum, Kimberley, there is a copy made by George Stow of some of the engravings at Driekopseiland which Stow says "occur near Bloem's homestead". This is rather a tenuous association in itself but as Maggs (1971) points out, Bloem's peoples were notorious cattle thieves and moved from place to place so frequently that they are hardly likely to have built such large stone structures. Perhaps the most obvious evidence against Fock's claim is the absence of these structures in the other areas settled by the Korana, most of which are well defined by Stow himself (Stow 1905). It is unlikely that the Springbok Korana would have built such settlements at Driekopseiland and nowhere else.

From these early references it can be seen that until well into the 1960's very little was known about the settlements occurring along the Riet River. The only attempt at a serious study of the distribution and relationship of these settlements was undertaken by Van Riet Lowe in 1931, but even this work was in the nature of a preliminary study and seems never to have been taken any further. This state of affairs seems to be a reflection of the approach to archaeology in South Africa that prevailed in the early days: Iron Age remains or stone ruins were until recently not regarded as "archaeology" but rather as "ethnology" (Inskeep 1971). This idea is even implied in Van Riet Lowe's (1931) remarks on the settlements where he says: "Local tradition does not reach them and in a way, therefore, they too are "prehistoric". However, once the existence of these settlements

had become recorded in the literature they came to be mentioned by later workers writing on the area, but these references amount to little more than a rephrasing of Van Riet Lowe's descriptions and a few original speculations on who the builders might have been, the latter usually being so designed as to fit into the general synthesis of the area being attempted. The only original discovery seems to have been made by Du Toit at Driekopseiland and Dekrans, but she did not suggest any relationship with the Orange Free State settlements.

The situation has, however, changed radically since 1966. In that year Mr. T.M. O'C. Maggs embarked upon a study of the Iron Age of the Orange Free State (Maggs 1967). The first stage of his project was the examination of aerial photographs covering the Orange Free State. Stone settlements usually show up clearly on aerial photographs and it is therefore possible not only to locate sites but also to define the precise distribution of these sites. Maggs has been able to isolate several different settlement types based on variations in ground plan. One of the types isolated by Maggs has been called "Type R" and this type embraces all the settlements occurring along the Riet River both in the Cape and in the Orange Free State described by the various authors quoted above. Maggs defines his Type R as follows: "This consists of a particularly large primary enclosure with a number of smaller primaries scattered around it. Some of these may be linked by secondary walling. There may also be a partial enclosing wall on the outside, but this does not seem to have been completed ... Type R sites usually seem to consist of a single unit. Type R has only been identified for certain on the banks of the Riet River ..." The Type R settlements are separated from Maggs' other settlement types by a large geographical area and appear to be unrelated to any of these types on the basis of physical proximity; there are also differences in ground plan between the Type R sites and other types. (A map showing the distribution of the various settlements is given in Section 4.) Maggs, in 1967, was therefore the first to recognise the settlements occurring along the Riet River as a distinct type ("Type R") confined to a specific geographical area; he was also the first to attempt a formal classification of the layout of these settlements.

In 1971 Maggs (1971) carried his work on the Type R settlements a stage further when he published a list of sites located as well as a general discussion of the settlement pattern based upon the excavation of one of the sites. It is not proposed to discuss Maggs' conclusions in full here as these will be considered in the light of further research carried out in this project, but a few points made by Maggs can assist in giving direction to the line of research to be followed here. Maggs concluded that the Type R settlements represent a local development along the Riet River, with no known source of origin outside the area. The people seem to have lived by pastoralism aided by hunting and gathering among other as yet unidentified economic activities. The identity of the peoples themselves is somewhat problematical, but on the basis of historical references made by Burchell (1822) and Campbell (1822) Maggs has suggested that the settlements might have been occupied by a group of "Bushmen" (San) who had turned to pastoralism in the Riet area. He has also accepted Van Riet Lowe's (1931) suggestion that there is an association between the settlements and the graves found in the area. Grave goods associated with the burials as well as evidence found in the excavations carried out and on the sites visited suggest that these peoples were in trading contact with Tswana-Sotho peoples in the north.

Having reviewed the earlier literature on the Type R settlements it now remains to outline the objectives of this project, bearing in mind the known and unknown about the settlements.

OBJECTIVES OF THE STUDY.

In a recent paper Struever (1971) made some very pertinent observations on what archaeologists are and should be doing. In his paper on "Comments on Archaeological Data Requirements and Research Strategy" he makes the following comment: "It can be expected, given a systemic view of culture, that an extinct subsistence-settlement system will reveal a "structure of material culture" that can be described within various analytical frames, eg., the site, the region, etc Assuming that the physical environment is structured and that culture as an adaptive system articulates with it, then the subsistence economy and the closely linked settlement pattern should reflect this environment."

If as a systemic theorist the archaeologist's "... aim is to describe prehistoric lifeways, his frame of reference must be regional and not the boundaries of a single site" (Struever 1971 : 11).

Struever says that: "For the systemic theorist, culture is made up of parts, structurally different from each other, but articulated within the total system. More broadly, culture and its environments represent a number of articulated systems in which change occurs through a series of minor, linked variations in one or more of these systems. A major objective of archaeology is to understand the linkages between parts in both the cultural and environmental systems as reflected in the archaeological data ... Contemporaneous cultural variation between regions in prehistory, therefore, might be expected to reflect differing adaptive requirements of specific environments; accordingly, varying ecological potentialities are linked to different exploitative economies, and the latter to differing integrative requirements, and therefore to different forms of social structure" (Struever 1971 : 10).

These remarks can be said to some extent to be the guidelines of this study. The main purpose of this study is to examine the structure of Type R settlements on two main levels: First as a pattern existing in a geographical region, the definition of that region and the patterning of settlements within it. The second level is the study of one of the individual settlements. The individual settlements are, in effect, the building blocks or single components of the larger settlement pattern; they represent a "pattern within a pattern". The study, therefore, essentially looks for human behaviour patterns at different levels within a region against the background of any environmental factors which may have influenced or determined those patterns and examines the extent to which those patterns are, as a result, reflections of that environment.

The aim of the project is to gain some insight into how man behaved in a limited area, and in a given set of circumstances, as some small contribution to the whole problem of the study of man and his behaviour patterns in the past.

SECTION 2.THE EVIDENCE FOR TYPE R SETTLEMENT.

"The labour of an age in piled stones .."

John Milton.

INTRODUCTION.

The earlier discoveries of Type R settlements were made more or less by accident while the investigators concerned were exploring various sections of the Riet River on foot. Since 1964, however, more and more use has been made of aerial photography in the location of archaeological sites (eg. Mason 1965; Maggs 1967). This type of survey is most effective in the location of sites which consist of prominent stone structures, and has consequently been confined almost exclusively to Iron Age studies in South Africa. Among the sites most amenable to this form of discovery are the settlements along the Riet River, and, as we have already seen, it was upon the basis of aerial photographs that Maggs (1971) defined the "Type R" settlements and their distribution.

There is, however, a great difference between locating "objects" or "sites" on aerial photographs and defining those "objects" in meaningful terms; the problem is not unlike attempting to describe and conceptualize an assemblage of stone artefacts. Clearly it is as important to develop a "terminology" for "objects" on aerial photographs as it is for any other groups of archaeological entities. Mason and Maggs have been the two main users of aerial photographs in South Africa and consequently they have been the only two who have attempted to devise a terminology for objects found on the photographs (Mason 1968; Maggs 1967). There is perhaps an indication of the complexity of the problem in the fact that the approaches adopted by Mason and Maggs are completely different and that the schemes devised by each are not directly comparable and so it is not easy to combine their results to produce an overall picture. Their definitions are so different that there is not even general agreement on the number of "sites" located (Inskeep 1971 : 272).

In a study such as this one on "settlements" along the Riet River, it is clearly important to know what a "settlement" is and what relationship it may bear to the "objects" or "sites" located on aerial photographs and, furthermore, what relationship it may bear to reality. An important part of this study has therefore been the development of a model or series of definitions which could be used to describe a group of settlements such as those occurring along the Riet River. We have already pointed out the problems encountered in trying to reconcile the methods used by Mason and Maggs and in view of these, the system developed here must obviously be potentially applicable to all "settlements" and this proviso has thus been a primary consideration in its development.

DEFINITION OF TERMS.

The terms which have been devised to describe "settlements" are meant to form a hierarchy of abstractions along the lines proposed by the Burg Wartenstein Symposium (Bishop and Clark 1967) although each term is not necessarily an exact equivalent of any particular term within that hierarchy.

The terms are as follows:

STRUCTURE. Any clearly visible artificial arrangement of stones.

These Structures or "arrangements of stones" can be divided into 3 subgroups:

- a) Walls (or walling): Stones packed in a line so as to produce a straight or curved wall of any length. Primary walling is continuous walling which can join up with itself to form a primary enclosure or simply an enclosure; it is usually circular or oval in ground plan. Secondary walling is walling which abutts onto one or more primary walls - i.e. it is usually built after the primary wall. Secondary walling may have been constructed in such a way as to create a second enclosure "attached" to the primary enclosure in which case the enclosure so formed is called a secondary enclosure. In view of the fact that a secondary wall need not necessarily be contemporary with the primary wall which it abutts or joins, it is regarded as a separate Structure.

- b) Cairn: A pile of stones such as that forming a cairn on a grave may also be regarded as a Structure; in the case of a grave cairn, the entire grave, contents as well as cairn, is always regarded as a single Structure as it is likely to represent a single "building" operation.
- c) Paving: Flat stones so laid as to form a pavement or floor.

SETTLEMENT UNIT. A Settlement Unit is any group of Structures which occur in close association in a recurring pattern, thereby forming a unit which may be regarded as having some socio-economic significance.

SETTLEMENT LOCALE. This is the area in which groups of Settlement Units occurring within $\frac{1}{2}$ km of each other are situated or where single Settlement Units are situated in isolation more than $\frac{1}{2}$ km from their nearest neighbours. This term is to describe any "clustering" or "grouping" of Settlement Units around one small area within the general distribution area; it refers essentially to the "location" rather than the "grouping" of the Settlement Units.

SETTLEMENT AREA. This is the total distribution of the Settlement Locales or the limits of the area likely to have been exploited by the inhabitants of all the Settlement Units; it may be geographically separate from other Settlement Areas or it may overlap them either in whole or in part.

SETTLEMENT PATTERN. This is the way of life represented by the archaeological remains on all levels of abstraction: Structures, Settlement Units, Settlement Locales and Settlement Area.

APPLICATION OF THE DEFINITIONS TO THE RIET RIVER CONTEXT.

Having defined the various levels of abstraction suggested for the analysis of settlements, it is now necessary to apply them to the Settlements occurring along the Riet River.

As we have already seen, Maggs (1967) has labelled the Riet Settlements "Type R" and this term has been retained here; thus when any of the definitions are used the label "Type R" can be added either explicitly or implicitly. The Settlement Pattern which we will be examining along the Riet River is the Type R Settlement Pattern.

Of the 5 terms proposed for the description of settlements, the applications of all but one are clear and need no further elaboration. The term which requires further definition in the Type R context is Settlement Unit; it is clearly necessary to define the "recurring pattern" which by its existence allows the grouping of Structures into a Settlement Unit.

Maggs (1967) described the Type R "recurring pattern" as follows: "... a particularly large primary enclosure with a number of smaller primaries scattered around it." As we shall see below, observations by the writer have confirmed this description, but it is possibly necessary to add the following to the definition: "... and any other Structures that may occur in close proximity." The latter is necessary to accommodate any other Structures such as isolated walling and cairns which may occur with the enclosures. We may therefore define the "recurring pattern" on Type R Settlement Units as follows: "A particularly large primary enclosure with a number of smaller primary enclosures scattered around it and any other Structures that may occur in close proximity."

Let us now examine the settlements along the Riet River in terms of this hierarchy of definitions.

LOCATION OF SETTLEMENT UNITS.

Maggs (1971) defined the Type R Settlement Area as being that area within about 3 km of that section of the Riet River flowing between Kalkfontein Dam in the east and Plooyburg in the west, and he listed some 84 Settlement Units. By means of the study of aerial photographs the present writer was able to confirm Maggs' observations on the distribution (the "Type R Settlement Area" in the present terminology) of the Type R Settlement Units. In view of the fact that Maggs (1967) covered the entire Orange Free State in his study of aerial photographs, no attempt was made to check on the occurrence of Settlement Units further east than the Kalkfontein Dam (the most easterly limit defined by Maggs). Many more aerial photographs were, however, studied in order to determine whether or not the western limits of the Type R Settlement Area had been correctly defined. Aerial photographs covering the course of the Vaal River from its confluence with the Riet south to the confluence with the Orange and north as far as Windsorton (including the most southerly stretch of the Harts

River) were examined in an effort to locate further Settlement Units. The Orange River was also examined between Hopetown and Prieska. Various possible "structures" were noted on the aerial photographs but none was recognisable as part of a Type R Settlement Unit; several of these "structures" were examined in the field and they turned out, for the most part, to be new or disused stone cattle kraals. It is, of course, possible that further Settlement Units do exist in the areas studied but that they are not visible on the aerial photographs (the stone circles at Muirton cannot, for example, be detected on aerial photographs with any clarity). In spite of this possibility it does seem clear that nowhere in the area studied do Settlement Units occur in the same concentrations as they do along the Riet River.

As a result of these observations on aerial photographs the Type R Settlement Area may be defined as that section of the Riet River occurring between the Kalkfontein Dam in the east ($29^{\circ} 30' S 25^{\circ} 13' E$) and the confluence of the Riet and Vaal Rivers in the west ($29^{\circ} 00' S 23^{\circ} 53' E$). From here on whenever the term "Riet River" is used in this thesis it must be taken to mean only that section of the river occurring between the Kalkfontein Dam and the Confluence (Fig. 2:1).

In his paper Maggs (1971) listed some 84 Settlement Units. As a result of the present study some 95 Settlement Units can now be recognised - a total of 11 more than those recorded by Maggs. This increase in number results partly from the addition of further Settlement Units and partly from variations in the actual counting of Settlement Units between Maggs and the writer. The latter differences arise in the case of complex Settlement Locales where it is difficult to determine where one Settlement Unit ends and another begins. (An example of one such complex Settlement Locale is Wintershoek 2-10 - see enlarged aerial photograph - Plate 2).

Below is a list of Settlement Units located in the Type R Settlement Area but first a few words of explanation are necessary. The Settlement Units have all been defined on the basis of traces visible on aerial photographs (exceptions are some Settlement Units known to exist but which are invisible on aerial photographs or others that were known to have existed, but which

PROJECT AREA

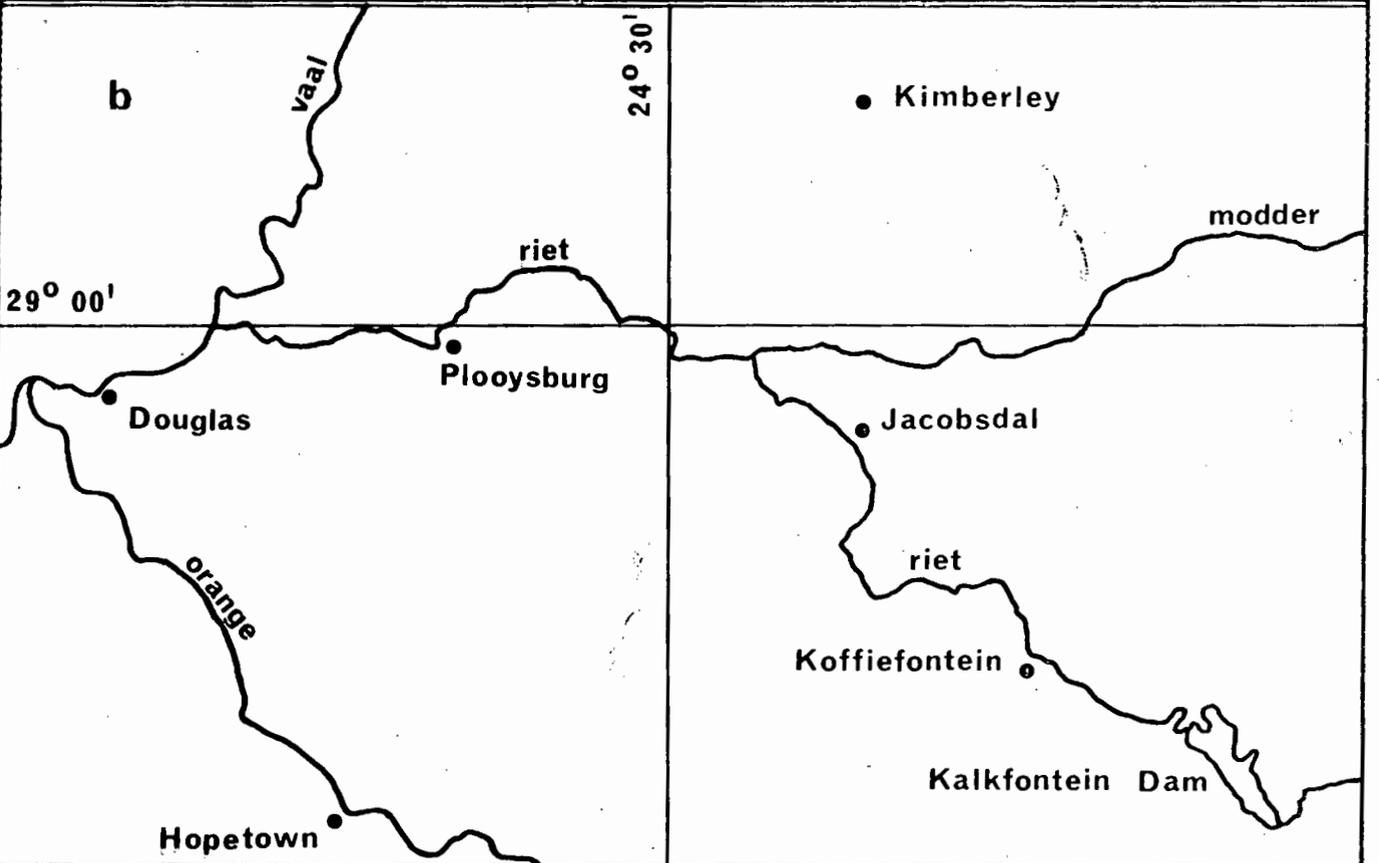
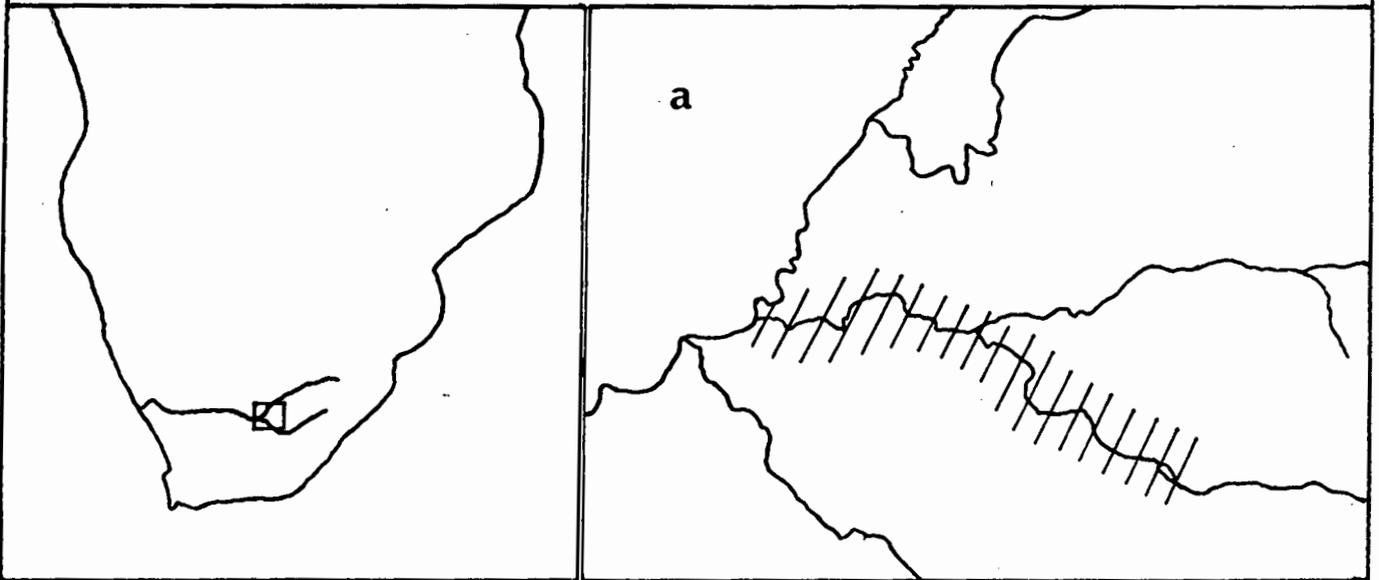
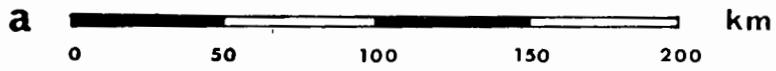


Fig 2:1

have since been destroyed - such examples will be indicated in the list). These "traces" take the form either of the entire Settlement Unit which may be visible on the aerial photographs or of Structures (usually the large enclosure) that are taken to represent individual Settlement Units. On the western extreme of the Type R Settlement Area around Plooyburg only the large enclosures tend to be visible on aerial photographs - this may be a result of differences in vegetation cover between this area and the more easterly reaches of the Riet River.

The Settlement Units are labelled according to farm name (taken from 1:50,000 map series) and numbered in order of discovery, thus "Pramburg 3" would be the third Settlement Unit to be found on the farm Pramburg, etc.

No attempt has been made in this list to define the number of Structures within each Settlement Unit. In order to show the assignation of each number to the respective Settlement Units, a sketch based upon the aerial photographs (Fig. 2:2) has been made of every Settlement Locale which is composed of more than one Settlement Unit.

Appended to some of the Settlement Units listed are "Notes" - these notes are additional specialised information on the respective Settlement Units.

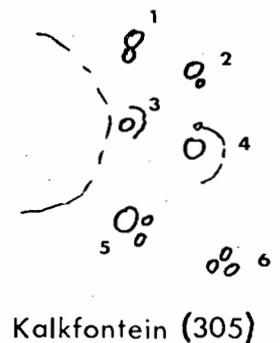
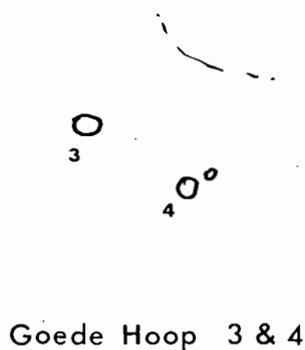
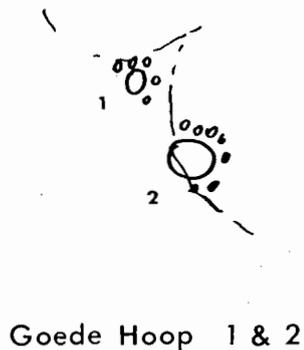
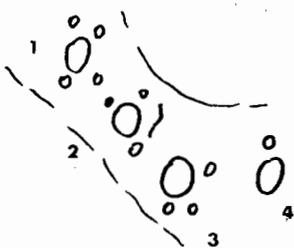
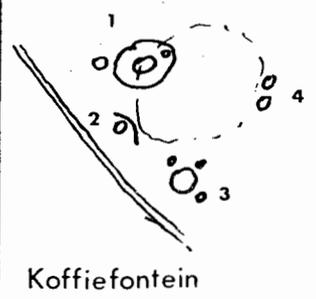
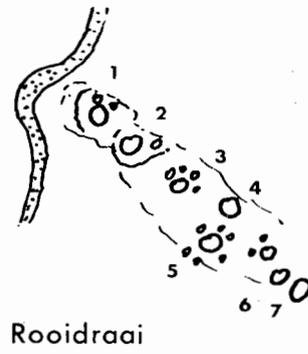
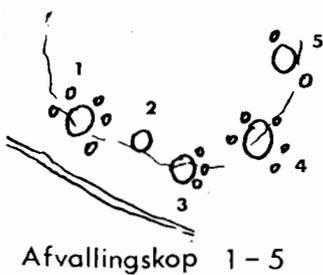
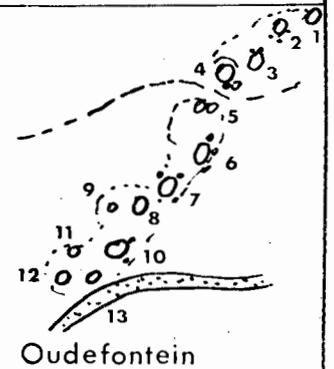
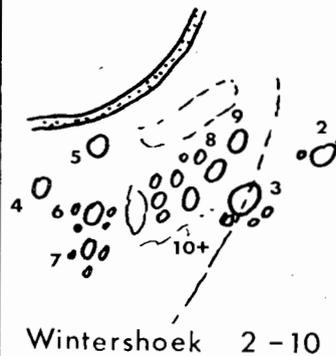
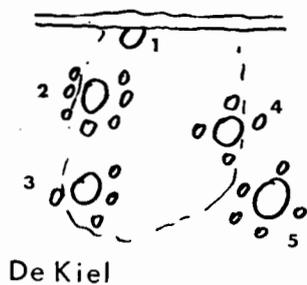
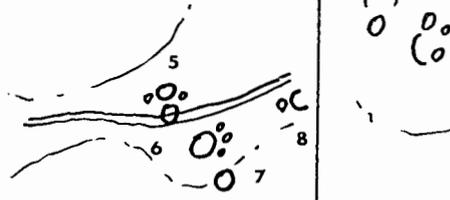
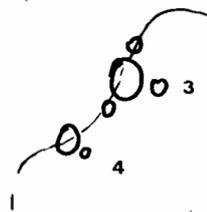
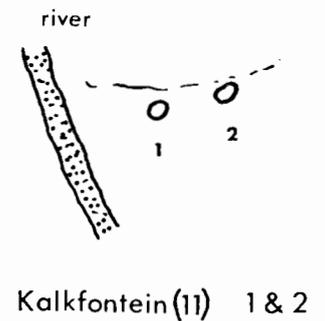
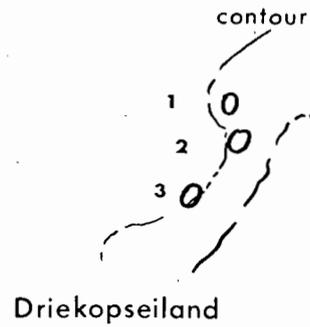
The list starts with the Settlement Units in the west and works east more or less in order of occurrence. Settlement Units belonging to individual Settlement Locales have been bracketed.

Most of the Settlement Units were visited in the field - see map in Fig. 2:3 for extent of research on the Settlement Units. The Type R Settlement area is shown in Figs. 2:4 and 2:5.

SETTLEMENT LOCALES

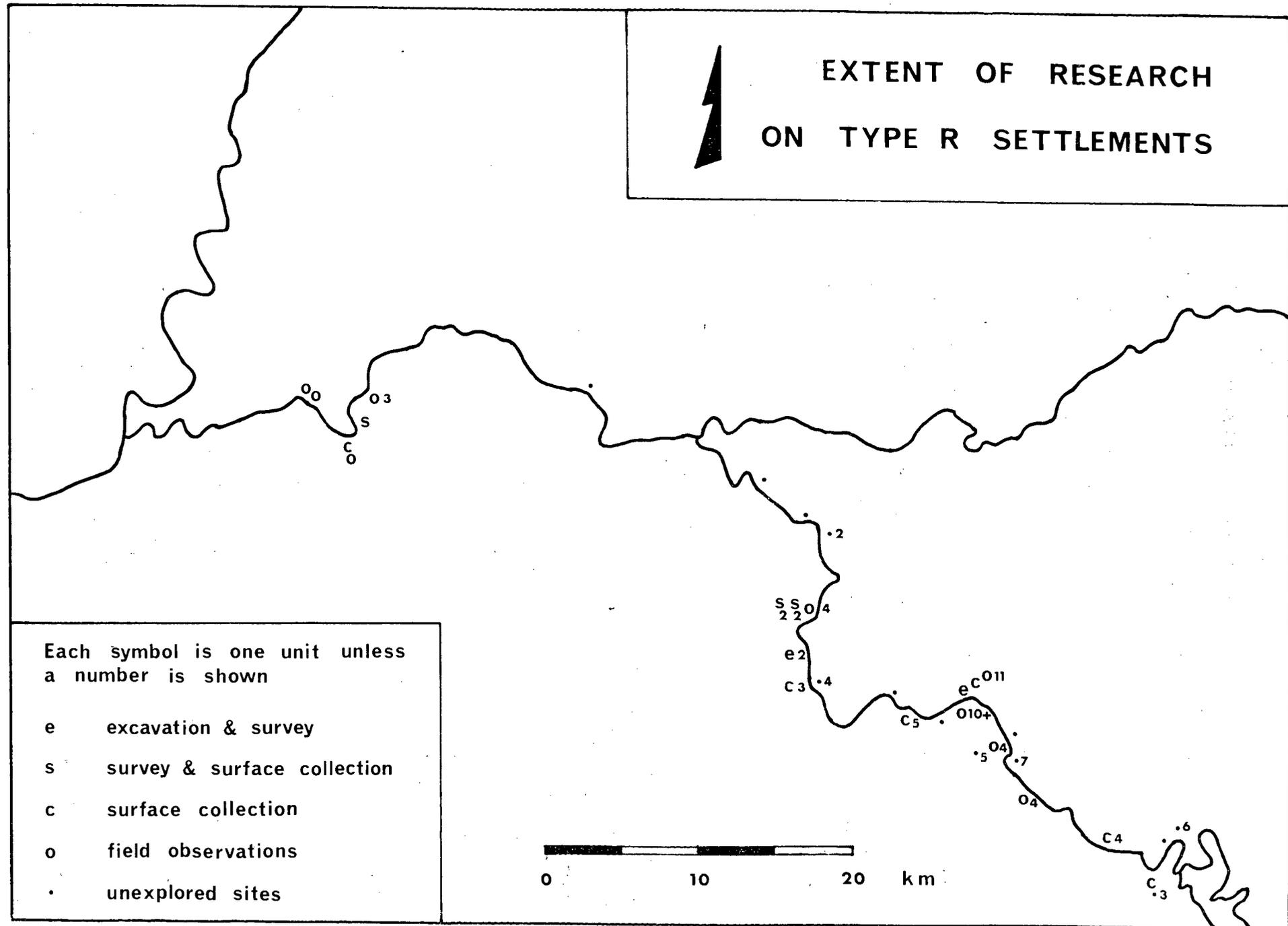
CONSISTING OF MORE THAN ONE SETTLEMENT UNIT.

scale not uniform





EXTENT OF RESEARCH
ON TYPE R SETTLEMENTS



Each symbol is one unit unless
a number is shown

e excavation & survey
s survey & surface collection
c surface collection
o field observations
• unexplored sites

Fig 2:3

TYPE R DISTRIBUTION

WESTERN SECTION

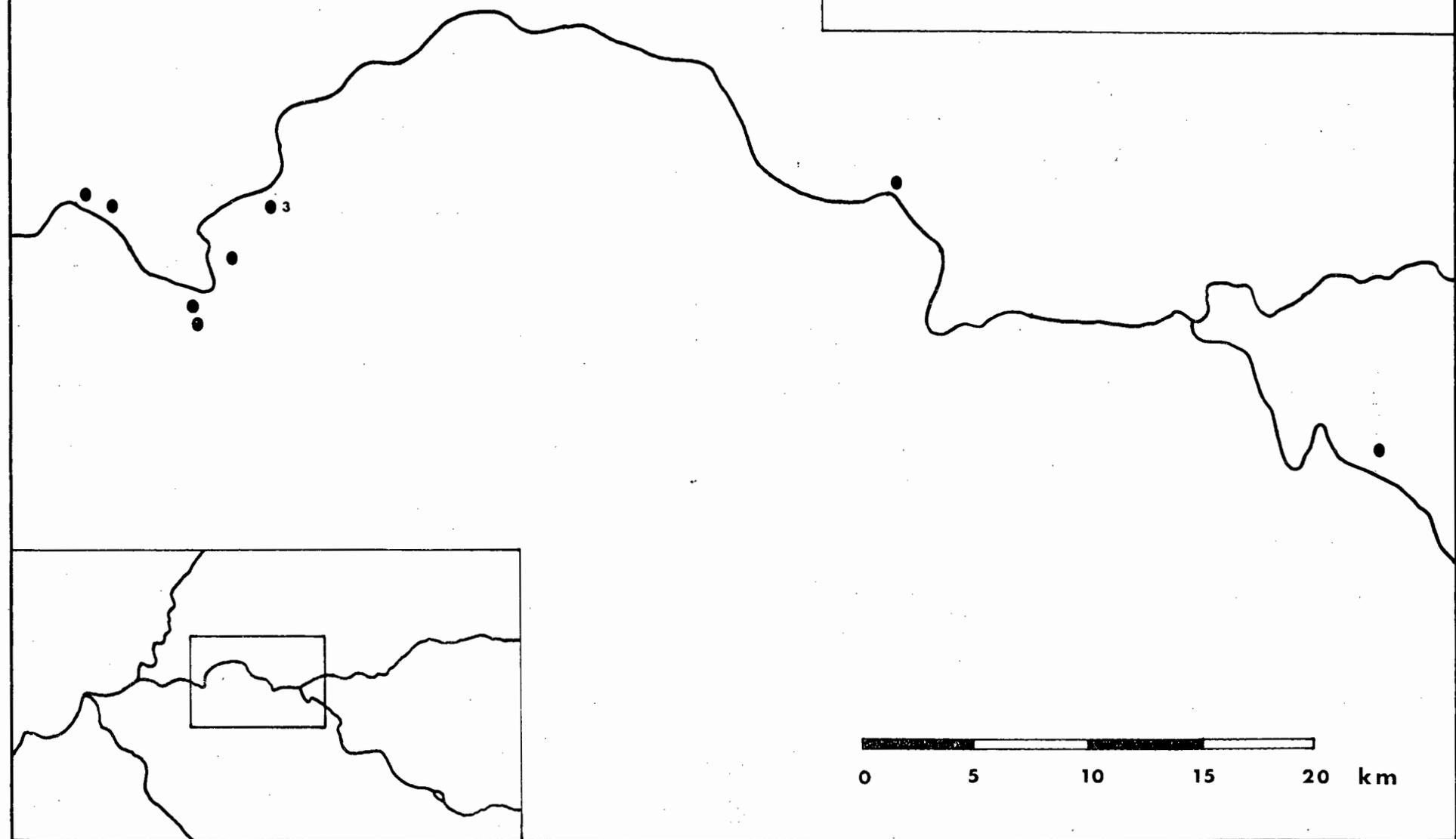


Fig 2:4

NAME	CO-ORDINATES	1:50,000 MAP	AIR PHOTO. Job.Strip.No.	NOTES
Zulani	29°0.2'24°6.5'	2924AA	395:25:7221	
Christians Drift 1	29°0.6'24°8.4'	2924AA	395:25:7221	
Weltevreden 1	29°2.2'24°10.9'	2924AA	395:25:7219	Note 1
Weltevreden 2	29°2.7'24°11.0'	2924AA	395:25:7219	
Mierkraal 1	29°1.5'24°11.8'	2924AA	395:25:7219	Note 2
Driekopseiland 1	29°0.2'24°13.8'	2924AA	395:25:7217	Note 3
Driekopseiland 2	do	do	do	do
Driekopseiland 3	do	do	do	do
Dekrans 1	-	2924AB	-	Note 4
Klipfontein 1	-	2924BA	-	Note 5
Kalkfontein (11) 1	29°9.6'24°47.4'	2924BB	472:4:9448	
Kalkfontein (11) 2	do	do	do	
Kalkfontein (11) 3	-	2924BA	-	Note 6
Pramberg 1	29°13.1'24°45.4'	2924BB	472:4:9448	Note 7
Pramberg 2	do	do	do	do
Pramberg 3	29°13.1'24°45.9'	2924BB	472:4:9448	Note 8
Pramberg 4	do	do	do	do
Pramberg 5	29°14.6'24°46.5'	2924BB	472:4:9448	
Pramberg 6	do	do	do	
Pramberg 7	do	do	do	
Pramberg 8	do	do	do	
Khartoum 1	29°16.3'24°44.6'	2924BC	472:6:9553	Note 9
Khartoum 2	do	do	do	do
Waternal West 1	29°18.2'24°44.6'	2924BC	472:6:9553	Note 10
Waternal West 2	do	do	do	do
Waternal West 3	do	do	do	do
De Aar 1	29°18.3'24°47.1'	2924BD	472:6:9553	Note 11
De Aar 2	do	do	do	
De Aar 3	do	do	do	
De Aar 4	do	do	do	

NAME	CO-ORDINATES	1:50,000 MAP	AIR PHOTO. Job.Strip.No.	NOTES
Blauwbank 1	29°18.4'24°51.4'	2924BD	472:6:9557	
De Kiel 1	29°20' 24°52.5'	2924BD	472:6:9557	Note 12
De Kiel 2	do	do	do	do
De Kiel 3	do	do	do	do
De Kiel 4	do	do	do	do
De Kiel 5	do	do	do	do
Wintershoek 1	29°19.6'24°55.3'	2924BD	472:6:9558	
Wintershoek 2	29°19.4'24°56.5'	2924BD	472:6:9558	Note 13
Wintershoek 3	do	do	do	do
Wintershoek 4	do	do	do	do
Wintershoek 5	do	do	do	do
Wintershoek 6	do	do	do	do
Wintershoek 7	do	do	do	do
Wintershoek 8	do	do	do	do
Wintershoek 9	do	do	do	do
Wintershoek 10	do	do	do	do
Oudefontein 1	29°17.6'to 29°18.7'S	2924BD	472:6:9558	Note 14
Oudefontein 2	and	do	do	
Oudefontein 3	24°56.6'to 24°57.4'E	do	do	
Oudefontein 4		do	do	
Oudefontein 5		do	do	
Oudefontein 6		do	do	Note 15
Oudefontein 7		do	do	
Oudefontein 8		do	do	
Oudefontein 9		do	do	
Oudefontein 10		do	do	
Oudefontein 11		do	do	
Oudefontein 12		do	do	Note 16
Oudefontein 13		do	do	
Afvallingskop 1	29°21.9'24°57.9'	2924BD	472:7:9610	
Afvallingskop 2	do	do	do	
Afvallingskop 3	do	do	do	
Afvallingskop 4	do	do	do	
Afvallingskop 5	do	do	do	

NAME	CO-ORDINATES	1:50,000 MAP	AIR PHOTO. Job.Strip.No.	NOTES
Afvallingskop 6	29°21.3'24°59.0'	2924BD	472:7:9610	Note 17
Afvallingskop 7	do	do	do	
Afvallingskop 8	do	do	do	
Afvallingskop 9	do	do	do	
Leeuwarden 1	29°21.2'25°0.4'	2925AC	472:7:9610	
Rooidraai 1	29°22.8'25°0.5'	2925AC	472:7:9610	
Rooidraai 2	do	do	do	
Rooidraai 3	do	do	do	
Rooidraai 4	do	do	do	
Rooidraai 5	do	do	do	
Rooidraai 6	do	do	do	
Rooidraai 7	do	do	do	
Koffiefontein 1	29°25.3'25°1.2'	2925AC	472:8:2059	Note 18
Koffiefontein 2	do	do	do	do
Koffiefontein 3	do	do	do	do
Koffiefontein 4	do	do	do	do
Poortje 1	29°27.4'25°7.2'	2925AC	472:8:2061	Note 19
Poortje 2	do	do	do	do
Poortje 3	do	do	do	do
Poortje 4	do	do	do	do
Goede Hoop 1	?	2925CA	472:9:9703	Note 20
Goede Hoop 2	?	do	do	
Goede Hoop 3	?	2925CA	472:9:9703	
Goede Hoop 4	?	do	do	
Bergfontein 1	29°28.1'25°11.5'	2925AC	472:9:9703	
Kalkfontein (305) 1	29°27' 25°12.8'	2925AC	472:9:9703	
Kalkfontein (305) 2	do	do	do	
Kalkfontein (305) 3	do	do	do	
Kalkfontein (305) 4	do	do	do	
Kalkfontein (305) 5	do	do	do	
Kalkfontein (305) 6	do	do	do	

NOTES ON THE FOREGOING LIST OF SETTLEMENT UNITS.

Note 1. This Settlement Unit occurs on the top of a flat topped kopje. The Weltevreden Burial (Humphreys 1970; Appendix 1) was located at the north west base of the kopje. A large assemblage of pottery was recovered from the base of this kopje by Dr. G.J. Fock in 1967, prior to the commencement of this project (MMK 6243 - Museum reference number). A scatter of potsherds was located about 1 km east of Weltevrede 1 on the farm Tafelberg. The sherds were not associated with a Settlement Unit, but are indistinguishable from the pottery found on Settlement Units.

Note 2. This Settlement Unit was surveyed and a ground plan drawn (Fig. 2:6). Cultural material was also collected from Mierkraal 1 (MMK 6415).

Note 3. These three Settlement Units occur 2 km south of the Driekopseiland engraving site and are the ones referred to by Du Toit (1964) and Fock (1969 a & b). In 1954 Mason (1954) excavated a burial near the engraving site and Battiss (1948 + pers. comm.) recovered a skull from a burial partially uncovered in a donga after torrential rains; a further burial was excavated "about 10 years ago" (Rightmire pers. comm.)

Note 4. This Settlement Unit was recorded by Du Toit (1964). It does not seem to be visible on aerial photographs.

Note 5. This Settlement Unit has been destroyed through exploitation by stone collectors and appears only as a vague outline (Maggs 1971 : 40). It was, however, recorded by Van Riet Lowe (1929) and there is, in the McGregor Museum, a small assemblage of pottery recovered from this Settlement Unit in 1953 by Mr. J.H. Power (MMK 5248).

Note 6. This Settlement Unit is not visible on aerial photographs today but was recorded by Van Riet Lowe (1929). Its close proximity to the Jacobsdal African Township and the development associated with the Riet River Scheme have no doubt contributed to its obliteration.

Note 7. These Settlement Units have been somewhat damaged by a road which runs through the middle of them. They have, however,

been surveyed and the ground plan is reproduced in Fig. 2:7. Pottery samples have also been collected (MMK 6416).

Note 8. These Settlement Units have been surveyed (ground plan in Fig. 2:8) and pottery was collected (MMK 6417).

Note 9. Khartoum 1 & 2 have been investigated in detail - data from the survey and excavations will be presented later (MMK 6439).

Note 10. Cultural material was collected from this Settlement Area (MMK 6440).

Note 11. These Settlement Units were recorded by Van Riet Lowe (1929).

Note 12. Settlement Unit De Kiel 1 has been partially destroyed by a road which obliterated some of the Structures. Cultural material was collected from De Kiel 1 (MMK 6441).

Note 13. This Settlement Locale is rather complex as can be seen from the enlarged aerial photographs in Plate 2.

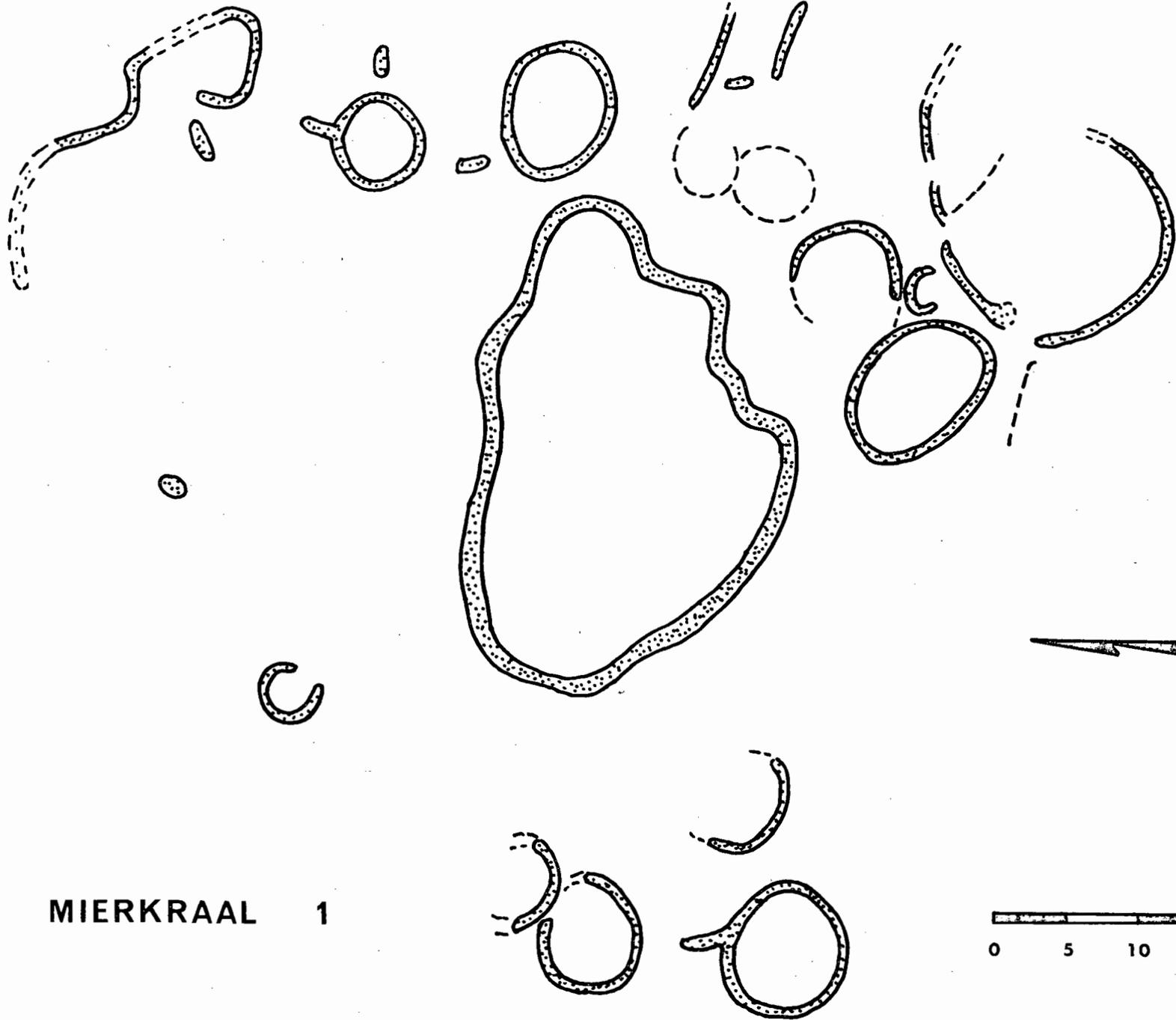
Note 14. This Settlement Locale was recorded by Van Riet Lowe (1929). Just south of the Settlement Locale is the Burial Ground described by Humphreys and Maggs (1970 & Appendix 2) where two burials were excavated and a surface collection made of "Later Stone Age" cultural material. The Settlement Locale was described by Maggs (1971).

Note 15. Cultural material was collected from this Settlement Unit (MMK 6409).

Note 16. Oudefontein 12 is the Settlement Unit excavated by Maggs (1971) and called OFD 1 Settlement Unit A. Maggs' findings will be discussed in detail later (Fig. 2:9).

Note 17. This is the Settlement Unit illustrated by Van Riet Lowe (1931) and recorded on his map (Van Riet Lowe 1929). Descriptions in their respective papers suggest that this Settlement Unit is also one of those referred to by Wilman (1933), Laidler (1936), Schofield (1948), Battiss (1948) and Walton (1956). (Plate 1).

Note 18. This Settlement Locale is recorded by Van Riet Lowe (1929; 1931) and by the later writers mentioned in Note 17.



MIERKRAAL 1

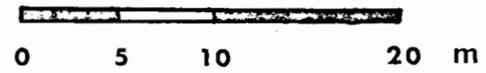
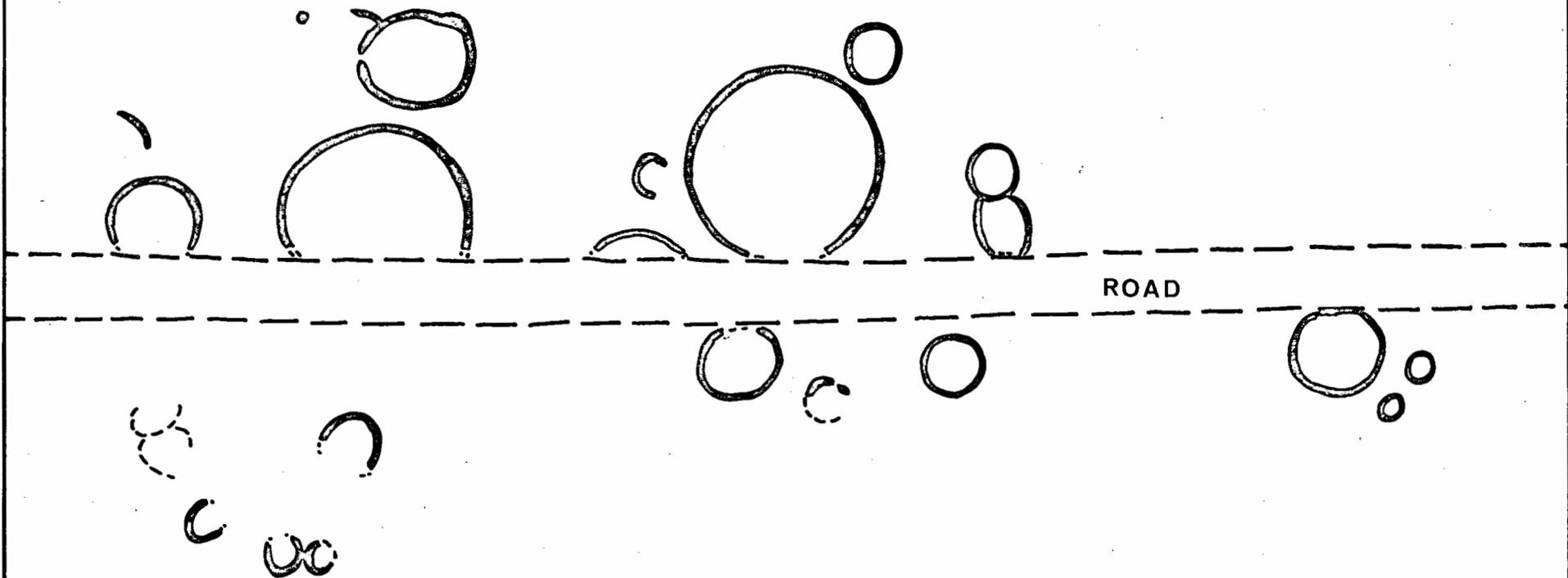


Fig 2:6



PRAMBERG 1 & 2



ROAD



Fig 2 : 7

PRAMBERG 3 & 4

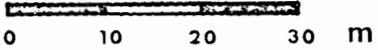
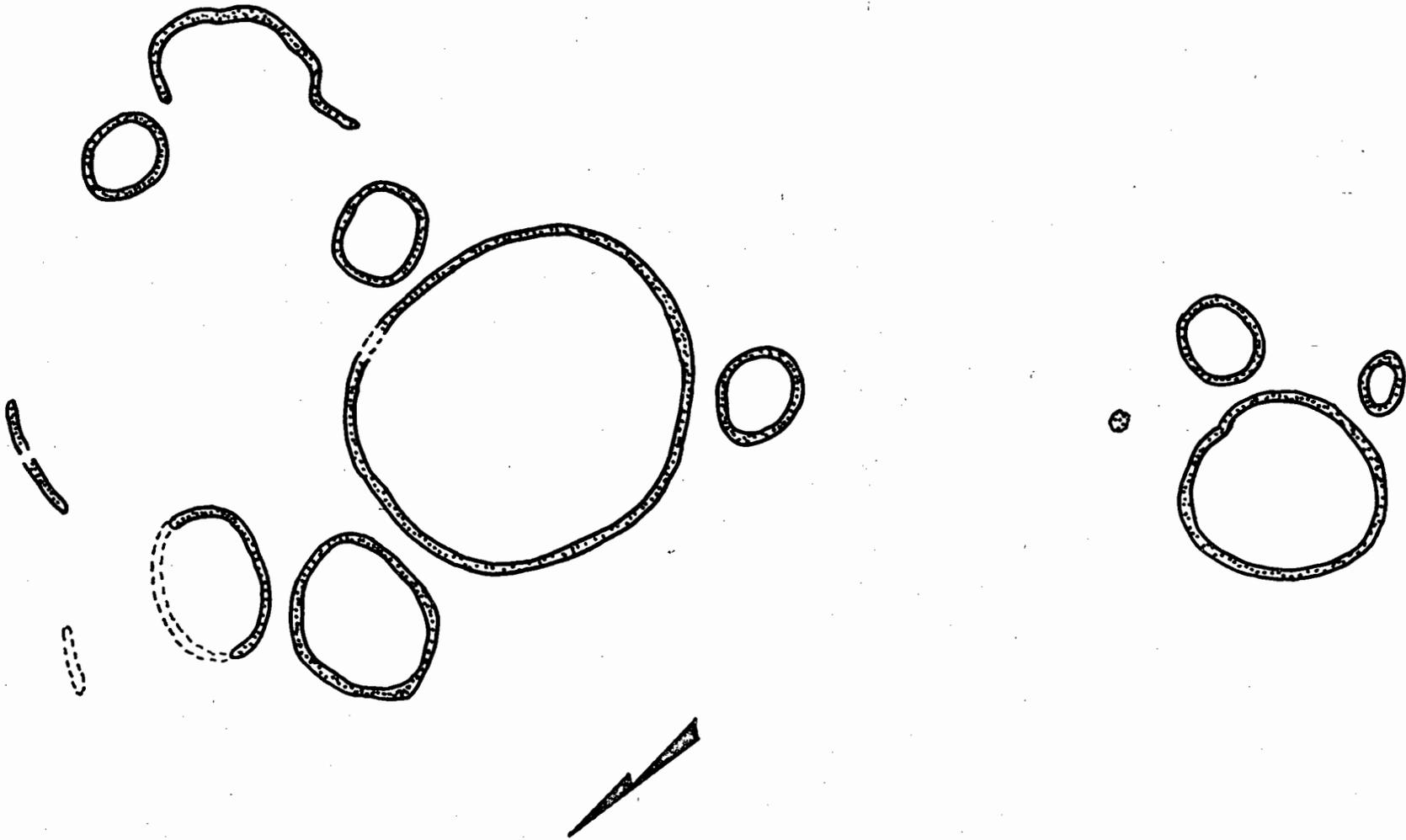


Fig 2:8

OUDEFONTEIN 12

from Maggs '71 (OFD 1 Unit A)

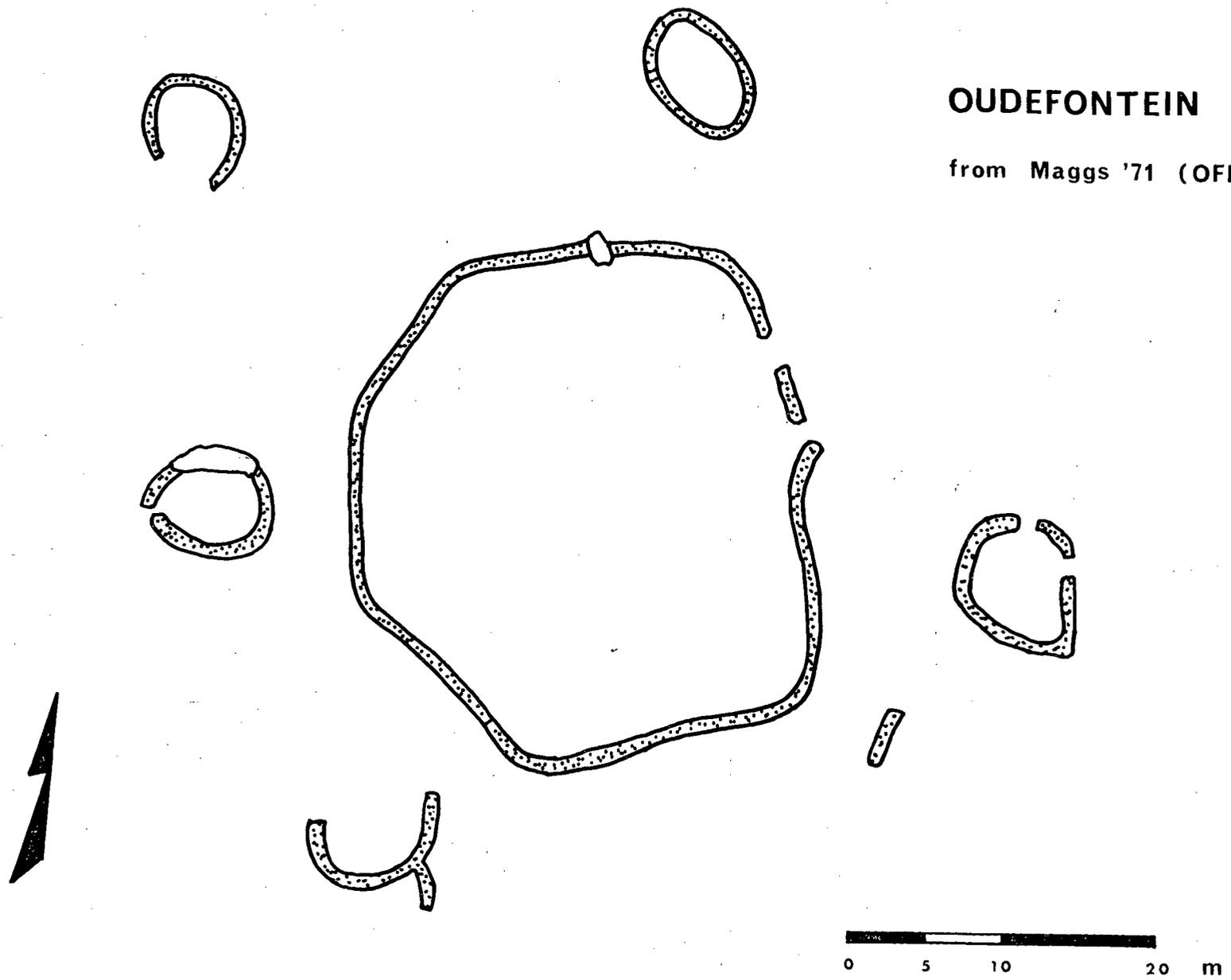


Fig 2 : 9

This is also probably the Settlement Locale referred to by Johnson (1910). Just north of this Settlement Locale, on the opposite bank of the Riet River, Van Riet Lowe (1931) excavated the two Blaauwheuwel burials.

Note 19. Samples of pottery have been collected from this Settlement Locale (MMK 6433).

Note 20. A large sample of pottery was collected from this Settlement Unit sometime pre-1968 by Mr. D. White-Cooper (MMK 6419). The co-ordinates for none of the Settlement Units on Goede Hoop have been recorded because 1:50,000 maps of the area are unavailable; readings taken from 1:250,000 maps would be so vague as to be meaningless.

CONCLUSION.

This list represents the known Type R Settlement Units, and it is upon these Settlement Units that the picture of the Type R Settlement Pattern must be built. However, before a detailed examination of the Settlement Area can be undertaken, it is first necessary to examine the "background" information available - the Natural History, Later Prehistory and Early History of the area - and this will be done in the following three sections.

SECTION 3THE RIET RIVER VALLEY

"For nature made her what she is"

Robert Burns.

INTRODUCTION.

The part of the Riet River Valley to be considered in this thesis is that section flowing between the Kalkfontein Dam in the east ($29^{\circ} 30'S 25^{\circ} 13'E$) and the confluence of the Riet and Vaal Rivers in the west ($29^{\circ} 00'S 23^{\circ} 53'E$). As the inclusion of its confluence suggests, the section of the Riet River under consideration is the lower reaches of the river. The Riet River has its source in the eastern Orange Free State and it flows in a north-westerly direction mainly through that province except for the last stretch where it enters the northern Cape Province, is met by its main tributary, the Modder River, and then joins the Vaal River just north-east of Douglas. A profile of this section of the Riet River has been drawn in Fig. 3:1.

The name "Riet" is the Afrikaans for "reed" - the Reed River. This name is the result of the profuse growth of reeds (mainly Phragmites communis) along its banks. It is only since 1860, however, that the entire Riet River as we know it today, has been so named. Prior to 1860 the lower section of the Riet River from its confluence with the Modder River was also called the Modder River. Thus in those days the Riet River was considered a tributary of the Modder River (rather than the position today where the Modder River is a tributary of the Riet). The section of the Riet above its confluence with the Modder has always therefore been the Riet and the present Modder River has always been the Modder whereas the lower section changed in 1860 from being the Modder to being the Riet.

This change in name has been emphasised because it is crucial to the understanding of the early historical names for the Riet River as we know it today.

The earliest recorded name for the Riet River is the Kora name of Gmaap (Maap or Gumaap). According to Van Vreeden (1961) the derivation of this name is as follows: \neq goab-!ab $>$ \neq goa-ap (Griqua influence) $>$ gmaap. This early name is recorded by such writers as Burchell (1822) - Gmaap and Maap - and Stow (1905) - 'Gumaap, and means "mud" or "muddy".

In 1813 the Revd. John Campbell (1822) recorded the name as being Mud (this being a reference to the lower section of the Riet) but apparently decided to rename it Alexander River in honour of the Colonial Secretary at Cape Town. This name of Alexander does not seem to have stuck for apart from George Thompson (1827) who visited the area in 1823 and referred to the river as "the Modder (Muddy) (called) by Mr. Campbell the Alexander" the name is not recorded again. The name Modder seems to have superceded Gmaap and was the accepted name for the lower section until 1860 when it was changed to Riet River. The name Modder was however retained for what is today still called the Modder River.

GEOLOGY. (Fig. 3:2)

The "solid geology" of the Riet River area is relatively straightforward. From the Kalkfontein Dam to about 10 km east of the Cape/Orange Free State Border the Riet flows over the Ecca Series of the Karoo System; from here on it crosses onto the Dwyka Series over which it flows until its confluence with the Vaal River. From Ritchie for about 10 km west there is an outcrop of earlier Ventersdorp lava over which the Riet flows; other outcrops of Ventersdorp lava are located just north of the Modder River near its confluence with the Riet and around Plooyburg further to the west. These are the only geological formations over which the Riet River flows.

The rocks of the Ventersdorp System are largely volcanic in origin, although some sedimentary rocks have been included (Pniel Series) but the latter need not concern us here as they are not represented in the Riet River area. The bulk of the volcanic rocks are amygdaloidal basalt and andesite and these outcrop at the various spots mentioned above. The Ventersdorp System is considerably older than the Karoo System which overlies it for much of the Cape section of the Riet River.

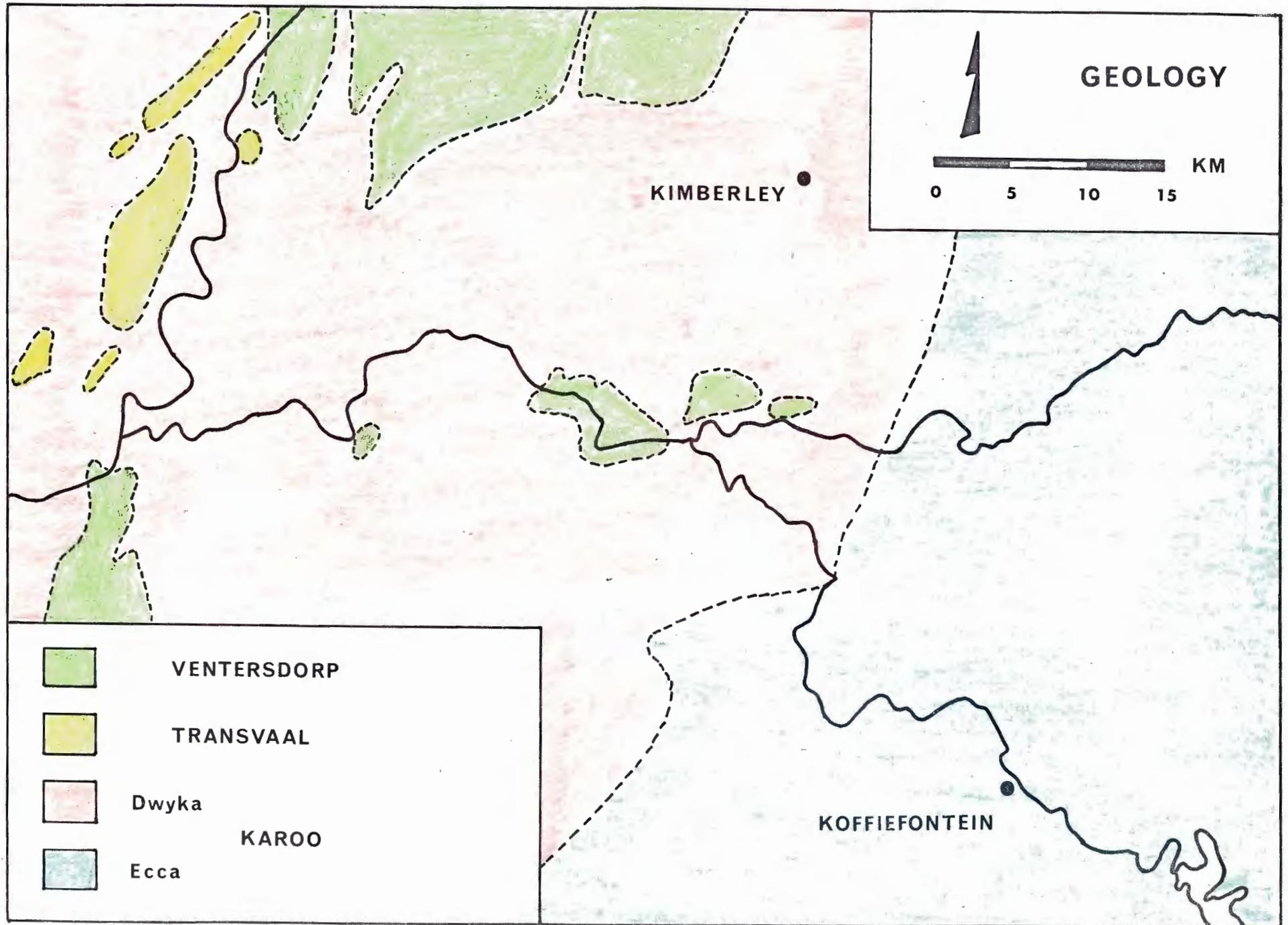


FIG 3:2

The Dwyka Series of the Karoo System over which the western section of the Riet flows consists mainly of tillite. This tillite overlies the Ventersdorp lava and such sites as Driekops-eiland, in the bed of the Riet River, not only show the contact between these two but also preserve the striations cut into the lava by the great Dwyka icesheets.

Further to the east in the Orange Free State, the Ecca Series conformably overlies the Dwyka. The lower part of the Ecca Series consists of blue-grey shales and darkish sandstones; the overlying parts contain the coal seams which are exploited in other parts of the Orange Free State.

A very important feature of this area is the outcropping of Karoo Dolerites. These outcrops are the subsequent exposures of intrusive dolerite dykes and sills. The exposure of this more resistant rock in the softer sedimentary rocks of the Karoo System has caused the mass of dolerite kopjes and ridges that are dotted over the northern Cape and Orange Free State countryside. The dolerite intrusions not only produced these kopjes and ridges but were also responsible for the formation of lydianite or indurated shale (as a result of the great heat and pressure involved in the intrusion of the dolerite), a raw material that was extensively exploited by Stone Age Man.

The kopjes and ridges of Karoo dolerite are far too numerous and small to show on a map of the scale produced in Fig. 3:2. They are not only a characteristic feature of the landscape but also played a significant part in the placing of Type R Settlement Units as we shall see later. Dolerite characteristically weathers into large round boulders of a dark grey or black colour and these provided useful building material for the builders of Type R Structures.

The "solid geology" of the entire area is overlain by Quaternary red sands and calcretes. The red sands have often been called Kalahari Sands but Piaget (1963) has shown that most of these sands are purely local occurrences and there is no reason to suppose that they have been blown in from other areas; they are formed by the natural weathering of the underlying solid rocks.

An important feature of the Riet River area (and parts of the northern Cape and Orange Free State in general) is the occurrence

of large numbers of pans. There seem to be various ways in which pans can be formed (Wellington 1945) but probably the main modes of formation in our area are by wind deflation in the flat relatively dry landscape and by the blocking of old drainage courses. These pans, once formed, are of purely local importance, acting as isolated drainage basins; they usually only carry water in the rainy seasons. Some of the pans are salty, as the village name of Saltlake suggests, and are being exploited commercially today; there is also evidence that they were exploited in early historical times (Campbell 1822).

GEOGRAPHY.

The entire Riet River area falls within the South African summer rainfall region. The average rainfall for the area is about 15" (38 cm) - the 15" isohyet crosses the Riet River near Koffiefontein. Rain falls mainly in the summer months and in addition to being low, is notoriously unreliable varying greatly from month to month and year to year. The heavy rains of the early 1972 season when virtually all the dams in the area were filled, were exceptional and stated by some older residents of the area to be the best in 30 years. Thunder storms are typical of the area and there is rapid run-off as sheetwash.

The main drainage of the area is, of course, the Riet and Modder Rivers with their various minor stream tributaries. The catchment area of the Riet River (including the section above the Kalkfontein Dam which would naturally contribute to the flow of the section under consideration) is about 10,480 square miles (Natural Resources Development Council 1953). During an "average year" the run-off for the Riet and Modder Rivers is 198,300 acre feet, whereas in a drought year the run-off from the Modder River is 64,500 acre feet and the section of the Riet River above its confluence with the Modder River ceases to flow. (These figures are based upon gaugings taken in 1930-3 and noted in Natural Resources Development Council 1953).

The numerous pans occurring in the area fill up after heavy rains but few hold water for long periods and so as a water supply they are directly dependant upon the rains.

The region is not only subject to erratic rains but is also

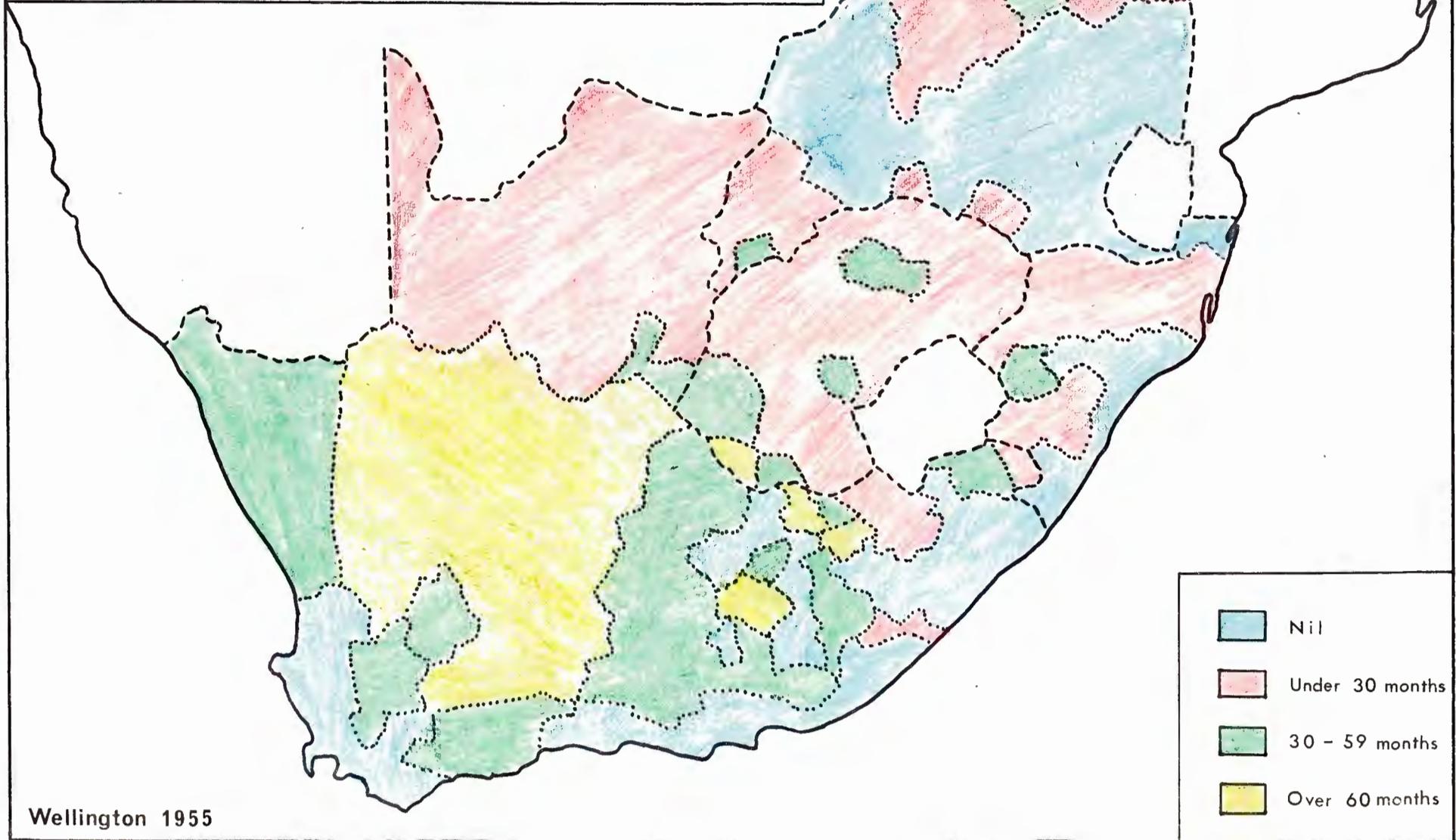
an area of extremes in temperature. January is the hottest month and temperatures can rise as high as 38°C (average about 25°C); during winter, temperatures can drop below freezing (average about 8°C but the mean minimum is -5°C). Frost is common in winter (Wellington 1955). Diurnal and nocturnal fluctuations are very great, particularly during winter.

Throughout the area evaporation exceeds precipitation and so it may be regarded as semi-arid to arid (Piaget 1963). Fig. 3:3 shows the various areas in South Africa which were declared drought-stricken during the period 1926-39. From this map it can be seen that the Riet River area was declared drought-stricken for between 30 and 59 months during that period; this contrasts with two "better" areas that were either never drought-stricken or only drought-stricken for less than 30 months, and one "worst" area that was drought-stricken for 60 months and over. The distribution of these various areas relative to the Riet River area is of some interest. The "best" areas in South Africa from the point of view of having never been declared drought-stricken or of having been declared for under 30 months, are the far northern Cape Province, most of the Orange Free State, most of the Transvaal, Natal, and the coastal strip along to the western Cape. The "worst" area in South Africa is the Karoo Region south of the Orange and north of the Western Cape. The Riet River area, along with others, may be regarded as being marginal between the "best" and "worst" areas from the point of view of being declared in that it was drought-stricken for 30-59 months. But in terms of its geographical situation relative to the other areas, it is also marginal; the Riet River area is placed between the "good" area to the north in the northern Cape, and Orange Free State and the "bad" area in the Karoo. It is interesting to note, that Iron Age settlement in South Africa was, as we shall see later, confined more or less to the "good" areas (i.e. those never declared or declared for under 30 months) in the northern Cape, Orange Free State and Transvaal (little is as yet known about the Natal area).

In terms of its tendency towards drought, therefore, the Riet River area may be regarded as marginal between the "best" and "worst" areas in South Africa.

AREAS DECLARED DROUGHT-STRICKEN

1926 - 39



Wellington 1955

FIG 3:3

VEGETATION.

From the point of view of the vegetation the Riet River area can also be regarded as being marginal. Fig. 3:4 shows the distribution of vegetation types existing today. There is, however, evidence to suggest that vegetation patterns in this area, as well as others, have altered greatly during the last 100 years (Acocks 1953). The picture today is essentially one of an area basically of Sweetgrass Veld having been invaded by Karoo vegetation. There are, however, differences in vegetation between the eastern and western sections of the Riet River and so it is necessary to examine the situation in more detail.

Acocks (1953) has published a map of what he considered to be the vegetation types and their distribution in 1400. According to this map the Riet River flowed through two major vegetation types. The eastern section to just west of the confluence of the Riet and Modder Rivers is believed to have been Sweet Grassveld. The western section of the Riet, almost to the confluence with the Vaal, flowed through Bushveld.

The Sweet Grassveld of the eastern section is considered to have been grassveld of the "Dry Cymbopogon - Themeda Veld" type. According to Acocks (1953: 134) "It was a particularly valuable sheep veld in having Tetrachne dregei, a broad-leaved evergreen grass. The special value of this veld type has been destroyed, thrown away along with the soil and it is very doubtful if it can be fully restored."

The destruction of this veld type has resulted from the invasion of the area by Karoo-type vegetation and the formation of the vegetation type now flourishing in the area called False Karoo. The more desirable Sweet Grassveld grasses have given way to various less attractive ones such as species of Aristida and Eragrostis, while types of bushes such as Eriocephalus and Pentzia have become much more abundant and widespread.

The picture on the westerly section of the Riet River is slightly different. In 1400 Acocks regards this area as having been Bushveld but today it has regressed to Kalahari Thornveld invaded by Karoo; this section has also fallen victim to the gradual advance of the Karoo-type vegetation. The vegetational variations in these veld types are great and can only be described

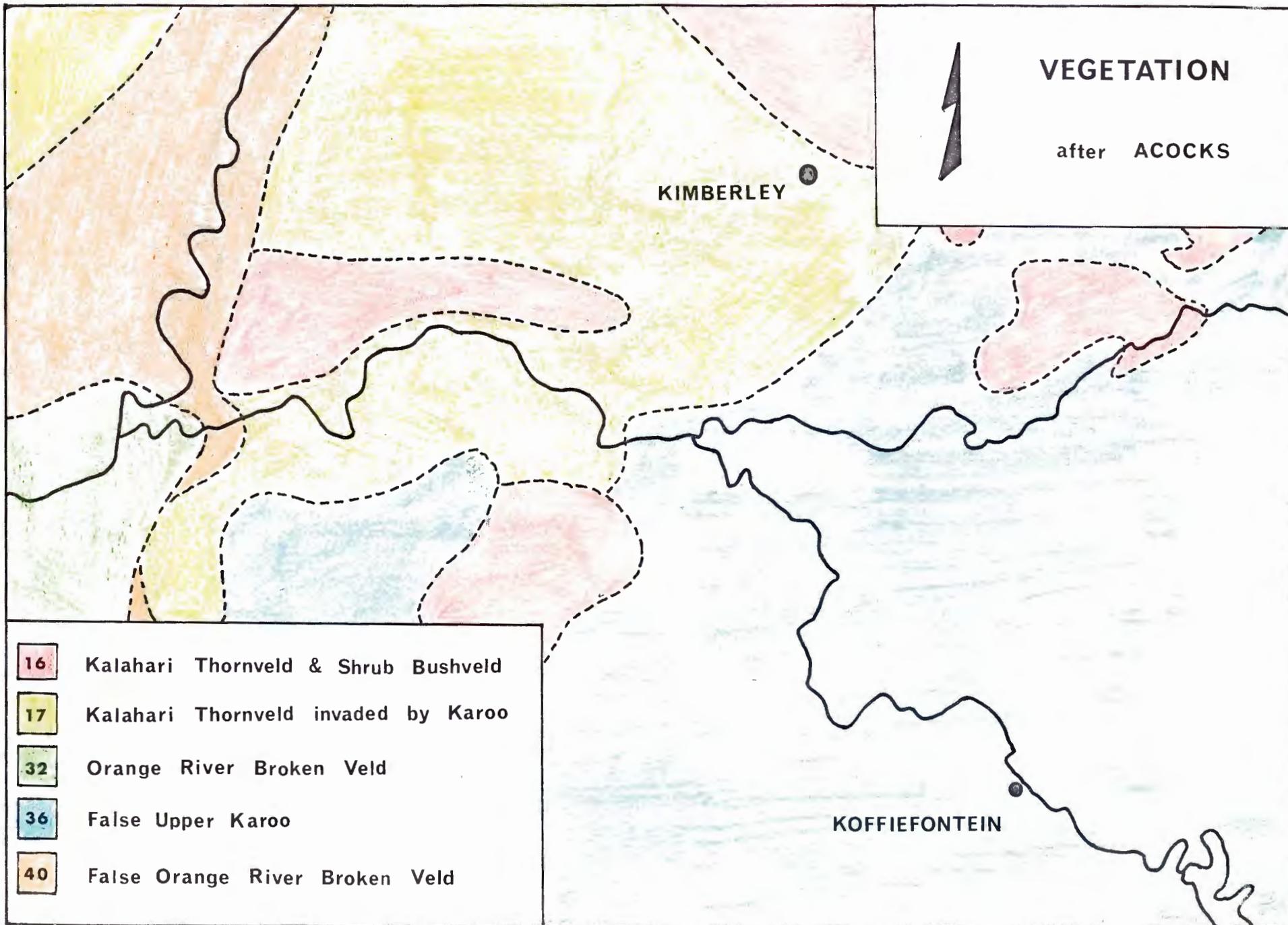


FIG 3:4

in general terms (Acocks 1953 : 62). Broadly speaking the area was one composed of fairly dense bushveld of shrubs and small trees in a mixed grassveld, but through time the grassveld constituent has gradually been replaced by various Karoo-types of vegetation; thorn-trees and bushes such as Acacia giraffae, A. tortilis and A. retinens predominate.

These facts indicate that a radical change has taken place in the vegetational cover of the Riet River in the last 500 years. However, it would seem that the change was not gradual over that whole period but that very significant changes took place in the last 150 years. Punt (1931) for example, claims that the advance of the Voortrekkers was greatly facilitated by the extensive grasslands of the Orange Free State where excellent grazing was available and livestock had abundant pasture. The fact that the early travellers could journey through the entire Karoo area "with sufficient certainty of finding both grazing and water for the oxen, to justify a feeling of surprise if one did not find them" (Acocks 1953 : 12) is in itself an indication of a very different state of affairs to that prevailing today. On the other hand, there is no reason to assume that this "better" state of affairs prevailed all the year round, or that it was the general rule. Backhouse (1844) when he had crossed the Orange River on 3rd September 1839 remarked, "The country continued very poor; in some places it was bare, red sand." He also refers to "the sombre Karoo". Individual early traveller references to the geography of the area will be discussed later, but at this point it is important to note that conditions were probably generally better a hundred years ago than they are today.

Perhaps the most dramatic and at the same time most objective evidence of vegetational changes is to be found in the photographic documentation stretching over about a third of a century by Shantz and Turner (1958). These botanists collected early photographs showing vegetation in various areas and then returned to the precise spot from where the views were taken and rephotographed the vegetation as it exists today. The change is in some cases very radical. The change observed near Kimberley (the nearest point to the Riet River investigated) was from a cover of Aristida uniplumus and Themeda triandra to A. uniplumus,

Eragrostis lehmanniana and Schmidtia bulbosa with only occasional T. triandra. Shantz and Turner concluded that in general succulent bushes and thorn shrubs have increased at the expense of the various types of grasses, a finding that accords well with Acocks' results.

The type of changes that have taken place over the last one hundred years seem to be the result not of general climatic change but of excessive grazing pressure (Piaget 1963). If this is the case, then the most dramatic changes would have taken place since the advent of intensive stock-farming about 150 years ago. Prior to this the vegetation would probably have been more like the 1400 picture produced by Acocks than the 1950 picture.

This change in vegetation cover has had an interesting effect upon the value of the veld as pasturage. The whole question of grazing and pasturage is a complex one and only a very broad outline of the change in pasture value is necessary here.

As we have seen, the invasion by Karoo vegetation has led to a general deterioration of the veld as pasture but this deterioration has not been entirely without some sort of compensation.

The annual growth cycle in grassland areas naturally varies considerably from place to place but in general it is as follows: "Before the beginning of the (summer) rains a scanty spring growth of new grass is put forth, drawing on the root reserves; but with the onset of the rains the spring growth is accelerated, and within about 3 months most grasses have reached maturity, after which the mixed mineral content of their foliage rapidly wanes" (Wellington 1955 : 290). This cycle means that for 3-4 months of the year the grassveld provides good pasturage but in winter there is a serious deficiency of both phosphorous and protein. Grassveld pasturage can therefore be regarded as markedly seasonal.

The picture presented by Karoo type plants is slightly different. One of the most important features about Karoo bushes is their resistance to drought. Whereas other types of plants may be permanently injured by drought, Karoo bushes are able to endure drought without much deterioration. This resistance is apparently accomplished by two main factors: a deep root system and a low rate of transpiration. The resistance to drought means that even during dry seasons the Karoo plants maintain a relatively high mineral content - an attribute which contrasts

with the situation prevailing in the grassveld areas.

Henrici (1932) carried out a series of experiments on the stock carrying capacity of the Karoo veld near Fauresmith which is, in fact, just south of the Kalkfontein Dam, and so her conclusions should apply in general terms to the Riet River area. Henrici was able to show that depending upon the relative abundance of various groups of Karoo plants, the carrying capacity of the veld varies from 2.75 to 1.33 sheep per morgen.

According to Wellington (1955 : 283) "Two important facts emerge from these tests: first, that "carrying capacity and increase in body weights do not go hand in hand in a Karoo veld," and secondly that bushes providing only a maintenance ration often withstand drought better than those having a high carrying capacity and providing more body weight. The great value of the mixed veld - i.e. containing a great variety of bushes - emerges from these facts."

From these facts it seems that a grassveld would have a high carrying capacity during the best season but that as conditions deteriorated in winter the stock could run into serious shortages of necessary nutrition. In a Karoo situation, however, the "best" carrying capacity is lower than that of the grassveld, but the stock is assured of good nutrition all the year round. Clearly in competitive farming where the farmer is trying to get the most out of his land a high carrying capacity potential would be an advantage but in a situation where the maximum carrying capacity of the veld is not being exploited (i.e. where the land is continuously "under stocked" by choice) the availability of all year round nutrition would perhaps be of greater value.

We may therefore conclude that while the Riet River area may not be one of the best pasture areas in South Africa, it nevertheless has some advantages, especially for smaller numbers of livestock. These conditions have probably prevailed for a long time with the trend being away from good seasonal pasturage to average all year round grazing.

FAUNA.

The status and distribution of ungulate mammals, and indeed most faunal types, in the Riet River area is little known and

understood. This is the position in most of the rest of South Africa as well (Bigalke and Bateman 1962). In view of this lack of information on the present distribution of ungulates, any inferences about past populations and distributions are likely to be extremely tenuous to say the least.

Recently Bigalke and Bateman (1962) undertook a survey on the status and distribution of ungulate mammals in the Cape Province. This survey took the form of a questionnaire that was sent out to farmers listing various ungulate mammals and requesting information on the presence or absence of certain species and estimates of the numbers of other species. In the case of the presence or absence of a species Bigalke and Bateman worked out a "percentage occurrence" for that species. This percentage was based upon the number of replies recording the presence of a species expressed as a proportion of the total number of replies received for that particular district.

The districts through which the Riet River flows in the Cape Province are Kimberley and Herbert, and the data on ungulate occurrences in these districts are recorded in Table 3:1. The figures are extremely general, but they do give some reflection of the occurrence of these animals today. Evidence of earlier distributions is, of course, lacking but from the records of the early travellers we know that at least the following animals inhabited the Northern Cape in the nineteenth century: buffalo, elephant, giraffe, hippopotamus, quagga, rhinoceros, roan antelope, and zebra (Fock 1966), in addition to those listed by Bigalke and Bateman.

Unfortunately a comparable study to that done for the Cape Province has not been undertaken for the Orange Free State and so we have no means of extending the distribution to include the eastern section of the Riet River. Van Ee (1962) has, however, published a few brief remarks on the distribution of ungulates in the Orange Free State and these throw a little light on the possible position along the Riet River. Van Ee makes the following observations:

Steenbok: ... fairly general distribution throughout the Provinces, but occurs in greatest numbers (i.e. averaging 20 or more per farm per district) along rivers..(..Koffiefontein)

TABLE 3:1PERCENTAGE OCCURRENCE OF CERTAIN UNGULATES.

	<u>Kimberley</u>		<u>Herbert</u>	
Aardvark	62.1		67.3	
Dassie	37.1		52.2	
Tree Dassie	-		-	
Mountain Zebra	-		-	
Bush Pig	-		-	
Warthog	-		-	
Blue Duiker	-		-	
Duiker	90.3		52.2	
Steenbok	95.2		95.6	
Grysbok	-		-	
Oribi	-		-	
Klipspringer	-		1.8	(10)
Vaal Ribbok	11.3	(99)	7.9	(164)
Rooi Ribbok	4.8	(78)	2.7	(11)
Springbok	80.0	(11,407)	66.4	(6,863)
Gemsbok	1.6		1.8	
Blesbok	16.1	(512)	23.9	(359)
Hartebeest	9.7	(312)	1.8	(5)
Black Wildebeest	3.2	(16)	1.8	(8)
Bushbuck	-		-	
Kudu	17.7		20.4	
Eland	3.2		0.9	

In brackets are included estimates of the population of certain species.

From: Bigalke and Bateman (1962).

Duiker: ... occurs naturally in the central and western Free State in numbers which average 25 per farm (... Koffiefontein ...)

Vaal Ribbok - Rooi Ribbok: ... recorded from Koffiefontein...

Klipspringer: ... now very rare.

Blesbok: ... found throughout the Free State ...

Springbok: large herds of 200 or more are found in the western, south western and central Free State ...

Black Wildebeest: Only a few natural herds are left ...

From these notes we can assume that the ungulate populations and distributions in the Orange Free State area of the Riet River are probably not radically different from those recorded for the Cape area. The same would probably be true of historical times.

We may conclude therefore that the Riet River area, like most other parts of South Africa, today preserves only the remnants of what was once probably a very rich faunal population. Vegetation changes, intensive farming and even more intensive butchering have contributed to the depletion and extinction of parts of that population.

RECENT DEVELOPMENT OF THE RIET RIVER.

The period 1935-40 saw the construction of the Kalkfontein Dam on the Riet River some 25 km above Koffiefontein. This dam provides the water supply for the Riet River Irrigation Scheme which stretches along the Riet River from the dam as far down as the confluence with the Modder River. The potential irrigable area is 23,000 acres but at present only some 11,500 acres are under irrigation. The original purpose of the scheme was to provide water, via a series of canals, for the production of fodder crops, but other crops such as potatoes have become important as well (Cole 1961).

The Irrigation Scheme has clearly changed the face of the countryside along the banks of the Orange Free State section of the Riet River and may well have been instrumental in the destruction of much archaeological evidence.

SECTION 4.THE LATER PREHISTORY OF THE RIET RIVER VALLEY
AND SURROUNDING AREAS.

"O! call back yesterday, bid time return."

William Shakespeare.

No prehistoric entity can be assessed or understood in isolation. All manifestations in the archaeological record must be seen in the context of the whole complex framework of the prehistory of that area and time span. In order to understand the Type R Settlement Pattern it is therefore necessary to view that Settlement Pattern in the context of what is known about the prehistory of the Riet River Valley and, because the Valley itself cannot be assessed in isolation, of the surrounding areas.

Clearly such prehistoric entities as those generally called the "Early Stone Age" and "Middle Stone Age" which are far removed in time from the period into which the Type R Settlement Units can be placed are unlikely to have any direct bearing on the Type R Settlement Pattern and so discussion in this section will be confined to the "Later Stone Age" and Iron Age. This discussion on the "Later Stone Age" and Iron Age will be followed by a few comments on interaction between the two "Ages". Often archaeologists tend to over-categorise and implicitly regard such terms as "Later Stone Age" and Iron Age as representing mutually exclusive entities. This is, of course, an oversimplification and a denial of the existence of any possibility of contact between peoples living different ways of life - both equally undesirable errors. The discussion on contact between the "Later Stone Age" and Iron Age must therefore be regarded as an important part of the general assessment of the prehistory of the area.

THE LATER STONE AGE.

The Riet River Valley has long been famous in the literature for the vast numbers of stone artefacts occurring within the area.

Van Riet Lowe's remarks made in 1931 (Van Riet Lowe 1931) are a typical example: "Throughout the last hundred miles of its course, the Riet River Valley in the south-western Orange Free State is among the richest known natural museums of prehistoric human remains. Stone Age settlement, home and factory sites extend for mile after mile - the river banks being literally strewn with debris and artefacts left by our prehistoric forerunners. The removal of tens of thousands of implements has left no scar and in one's preliminary survey of the Valley, most particularly in the vicinity of Koffiefontein, one recalls strongly the feelings experienced by Miss Caton Thompson when she first approached the Kharga Scarp ... As a museum of the past, this area is probably unique (certainly unique in South Africa) ... "

The Riet River Valley as part of the south-western Orange Free State made a significant contribution to the original definition of the Smithfield Culture (Goodwin and Van Riet Lowe 1929). The term Smithfield was first used to describe surface collections from near the town of Smithfield which were made by Dr. Kannemeyer in 1925 (Inskeep 1967). The term Smithfield was later extended to cover most of the Orange Free State (Van Riet Lowe 1929) including the Riet River Area.

In 1926 while working on the farm De Kiel Oost No. 101 (adjacent to the farm De Kiel (393) on which are located several Type R Settlement Units), Van Riet Lowe "... first discovered ... not only the possibility of, but also the necessity for, dividing the Smithfield Industry into two clearly defined lithicultural groups, and (he) suggested a Lower and an Upper phase, the time sequence of the industrial groups being indicated by a marked variation in incrustation and patina between the different and differing assemblages" (Van Riet Lowe 1929 : 153). These two "phases" were later named Smithfield A and B respectively. In 1927, however, another "phase", Smithfield C, was added to the Smithfield Industry.

The Riet River Valley was, therefore, not only a focus of "Smithfield activity" but also provided some of the evidence in the original formulations of the concept. Van Riet Lowe (1929 : Plates 37 and 38) published various distribution maps of the Smithfield in which the Riet River Valley was prominently

represented by the number of sites which it yielded. On one of his maps (Plate 38) Van Riet Lowe showed the Riet River Valley to be within the area covered by Smithfield A and B with the Smithfield C distribution area occurring further to the east.

Subsequent to this early definition later writers also comment upon the Riet River and south-western Orange Free State when discussing the occurrence of the Smithfield (eg. Clark 1959).

In 1965, however, Inskip (1967), in an outstanding discussion on the state of investigations into the "Later Stone Age" of Southern Africa, drew attention to the total inadequacies of the early definitions of both the Smithfield and the Wilton and, in fact, concluded that, "In my opinion the whole status of the Smithfield culture and its variants, its chronology, and its relationships within the complex, and to cultures and industries other than the Smithfield within the Later Stone Age is still wide open. Indeed, it is rather difficult to believe that an entire industry ... could be as severely limited to scraper production as the Smithfield variants appear to be. It is desirable that the Smithfield should be redefined on the basis of new collections, ... preferably from the type locality of the Orange Free State. Until this is done there would seem to be little value in further discussion of the Smithfield culture complex, or in attempting to write syntheses on the history of the period" (Inskip 1967 : 568).

The earlier discussions on the "Later Stone Age" of the south-western Orange Free State and adjacent northern Cape must therefore be regarded as almost meaningless in terms of human activity in the area. All the early collecting amounts to little more than confirmation of the fact that this area is very rich in artefacts known to have been produced during what is called the "Later Stone Age" and that the area must therefore have been occupied for some or all of that period (whatever the length of time involved may be).

In 1965, however, Garth Sampson commenced work on the Orange River Scheme. Sampson's objective was to salvage as much as possible of the archaeological material that would be submerged when the various dams were built. During the course of his research in the area, Sampson undertook numerous excavations and made collections of "Middle Stone Age" and "Later Stone Age"

assemblages (Sampson 1967 a,b,c,d; 1968; 1970). The core of Sampson's work was a detailed typological description of systematically collected assemblages - he paid scant attention to other features (Deacon 1970). For the "Later Stone Age" (which is the only aspect of Sampson's work of concern here) Sampson used the evidence from both shelter excavations and open sites. Sampson's approach was to excavate very thin spit levels in the shelters and to study the assemblages from each level. On the basis of fluctuations in tool types from level to level Sampson was able to isolate various "phases" within the evolution of the industries through time as represented by the stratification of his "levels". He found correlations between his various shelter sites and so defined a series of "Phases" for his "Later Stone Age". The stratification of the Phases within the shelters gave a time dimension for the "Later Stone Age" and using this sequence Sampson was able to order the many surface occurrences which he investigated by relating these isolated assemblages to the series of Phases defined in the shelters - the relationship between an isolated surface occurrence and the series of Phases was established on the basis of the typological similarity between that occurrence and any particular Phase within the sequence. Using this approach Sampson suggested a "Later Stone Age" sequence for the area consisting of 6 Phases and one Transitional Phase. The shelters excavated by Sampson together cover the entire "Later Stone Age" sequence except for Phase 1 which occurs at the open site of Zeekoegat 13. This Phase is related to the rest of the sequence on the basis of the correlation between a stratigraphically later assemblage at Zeekoegat 13 and Phase 2 as recognised in Zaayfontein Shelter. The Upper Level at Zeekoegat 13 is related to Phase 2 (the earliest phase identified in the shelters) and so the earlier or lower level is regarded as representing an earlier phase not found in the shelters - Phase 1.

Recently the writer criticised this approach and questioned the existence of Phase 1 (Humphreys 1972), but despite the reservations expressed in that paper, there seems to be little doubt that, on the basis of typological evolution, Sampson has been able to identify a cultural entity evolving through time. This evolution can be seen in, among other things, a gradual

change in the use of specific types of raw material and a related shift in emphasis from Small Convex Scrapers to various types of End Scrapers (Humphreys 1972).

This new scheme of Phases based upon detailed typological studies is, according to Sampson, not meant to be an attempt to establish a new terminology for the "Later Stone Age" in place of the "Smithfield" Industry or Culture shown to be inadequate by Inskip. However, despite this reservation expressed by Sampson, there is no doubt that, in the absence of any studies in the area of a comparable standard, this scheme must be taken as the starting point or basis of any further studies of the "Later Stone Age" in the interior of South Africa - and this includes the Riet River Area.

A full scale study of the "Later Stone Age" of the Riet River Valley is beyond the scope of this project but in order to gain an impression of the nature of some aspects of the "Later Stone Age" two surface occurrences were sampled. The limitations of surface occurrences are well known and it is against the background of these limitations that any of the remarks which are to be made on these occurrences must be viewed. These occurrences were however studied according to the methods used by Sampson and so they are comparable with the results achieved in the Orange River Area.

THE ASSEMBLAGE FROM OUDEFONTEIN.

The first assemblage to be investigated was collected on the farm Oudefontein. The assemblage was obtained from an area of some 30 square metres within the burial ground located just south of the Settlement Locale on Oudefontein. The site and the assemblage have been described in detail by Humphreys and Maggs (1970) and the full information is to be found in Appendix 2. However, in order to make the present discussion more complete a few main points may be summarised here.

The assemblage consisted of some 1982 pieces of which 172 or 8.7% were shaped tools. The assemblage was analysed using a slightly modified version of the typology devised by Sampson for the Orange River area (see Appendix 2 for the modifications made). On the basis of this analysis the assemblage was assigned to Sampson's Phase 6 as there was a close coincidence between the typological features of Phase 6 and the Oudefontein assemblage. Reservations were however expressed about this assignation

because the Oudefontein assemblage seemed to have a very high proportion of Utilised Flakes relative to other Phase 6 assemblages which had been described up to that time. It was suggested that the high proportion of Utilised Flakes may be related to an occupational variation associated with open sites because the only site with a comparable high percentage of Utilised Flakes was the open site of Zeekoegat 13. Subsequent publications by Sampson (1970) of further Phase 6 assemblages have shown these tentative suggestions to be incorrect - more Phase 6 occurrences have given better definition to the range of variation to be expected on these sites and a high proportion of Utilised Flakes is not exceptional. The possibility still exists, however, that there is not necessarily a direct correlation between shelter occurrences and open occurrences (Humphreys 1972).

On the basis of Sampson's methods therefore, the Oudefontein assemblage may be regarded as being related Phase 6, and so probably representing a late phase in the "Later Stone Age".

THE ASSEMBLAGE FROM KHARTOUM.

During the investigations of the Settlement Unit Khartoum 1 a wide scatter of "Later Stone Age" artefacts was located within the large enclosure. These artefacts were overlying the deposit banked up against the walls of the enclosure and they were tentatively regarded as being unassociated with the Settlement Unit. (Subsequent excavations proved this assumption to be correct - see Section 7). It was decided to sample this occurrence. The analysis was undertaken for two reasons: (1) to investigate the nature of the assemblage in the general context of the "Later Stone Age" and (2) to establish some sort of control for the assessment of any "Later Stone Age" artefacts that might be found within the excavations to be carried out at Khartoum 1.

A grid of approximately 8 m x 10 m was laid out within the large enclosure (see Fig. 7:3 for precise position) and all cultural material was systematically collected.

The cultural material collected was removed to the McGregor Museum for analysis. As analysis proceeded it became clear that two "phases" of "Later Stone Age" cultural material were represented in the sample collected. On the basis of etat physique it was possible to distinguish between completely fresh

artefacts and a series that was heavily weathered to a reddish brown colour. In the fresh series all the flaked and retouched areas were a blackish grey colour where the lydianite had been worked, whereas the weathered artefacts, although also of lydianite, showed no black areas whatsoever (excepting, of course, for modern damage that had occurred in some cases).

The heavily weathered specimens were sorted out of the assemblage and have not yet been analysed. The fresh artefacts were analysed using the same methods as were used on the Oudefontein assemblage.

Details of the composition of both the Khartoum and Oudefontein assemblages are given in Table 4:1, while a graphic comparison between the tool type proportions is given in Fig. 4:1.

COMPARISONS BETWEEN THE RIET "LSA" ASSEMBLAGES AND PHASE 6.

It has already been pointed out above and in Appendix 2 that the Oudefontein assemblage seems to have affinities with Sampson's Phase 6. The histogram in Fig. 4:1 which shows the relative proportions of tool types in the Khartoum and Oudefontein assemblages demonstrates a close resemblance between these two assemblages and therefore also a resemblance to the Phase 6 of the Orange River area.

Fig. 4:2 shows some of the metrical attributes of the Khartoum assemblage. Perhaps of greatest interest is the comparison between End Scraper lengths from Khartoum and those for eight Phase 6 assemblages and also Ventershoek. The Phase 6 and Ventershoek data is taken from Sampson (1970 : 146). While there is no similarity between the Khartoum End Scraper lengths and those from the eight Phase 6 assemblages, there is nevertheless a remarkable coincidence between the Khartoum and Ventershoek lengths. Sampson (1970 : 139) in attempting to explain the different End Scraper length distribution between Ventershoek and the Phase 6 assemblages, points to the fact that 21.1% of the tools were made from silicious rocks and, because the flakes derived from silicious pebbles from the river gravels would tend to be smaller than those derived from large chunks of lydianite, the End Scrapers produced from them would also tend to be smaller and that this is reflected in the length distribution. Whatever the merits of this argument may be, it cannot be applied to the Khartoum situation

TABLE 4:1.

<u>LITHIC.</u>	<u>OUDEFONTEIN</u>	<u>KHARTOUM</u>
Shaped:		
End scrapers	16	12
Side and end scrapers	21	18
Small end scrapers	34	19
Core hammers	25	11
Convex Scrapers	30	25
Adzes	4	4
Outils ecaillés	-	3
Small convex scrapers	22	17
Backed blades	3	-
Notched scrapers	17	9
Burins	-	5
Borers	-	2
Hollow scrapers	-	1
	172 8.7%	126 17.4%
Utilised:		
Utilised flakes (whole)	61	75
Utilised flakes (broken)	140	69
Grindstones (upper)	6	5
(lower)	1	3
Grooved stones	-	1
Hammer stones	-	3
Slabs	-	2
	208 10.4%	158 22.4%
Waste:		
Waste flakes	231	149
Cores	25	19
Chips and Chunks	1307	246
	1563 78.8%	414 58.0%
<u>NON-LITHIC</u>		
Pottery	37	19
Ostrich egg-shell beads	1	-
Specularite	1	-
	39 2.0%	19 2.8%
<u>TOTAL</u>	<u>1982</u>	<u>717</u>

RIET RIVER L.S.A.

SHAPED TOOLS

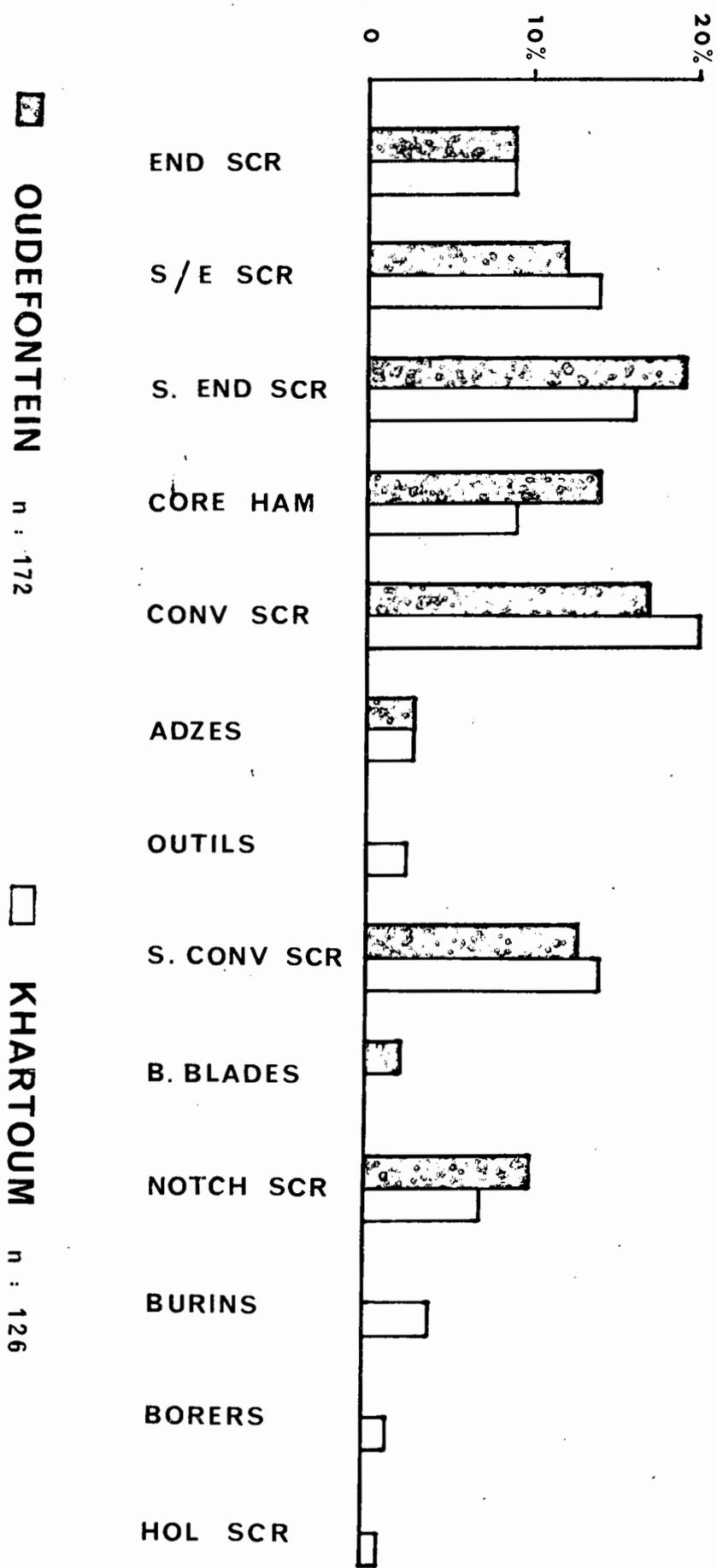


Fig 4:1

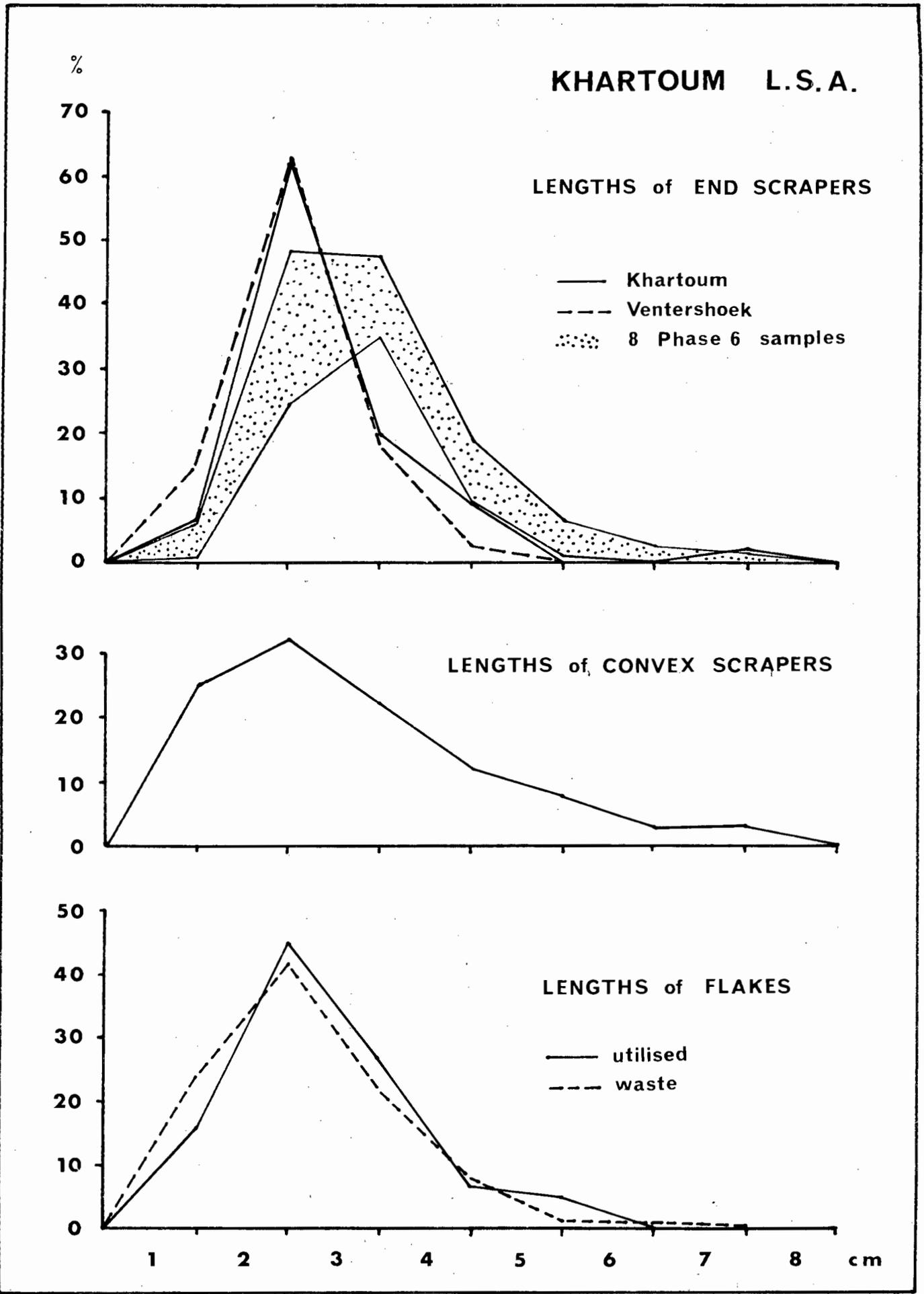


Fig 4:2

because there all the End Scrapers were made on lydianite and so the relative sizes of silicious materials and lydianite chunks would be irrelevant. It is not clear at this stage why the End Scrapers from Khartoum are shorter than those from the Orange River area - this is something that will be explained only when more extensive and rigorous analysis is undertaken.

The other two graphs in Fig. 4:2 show the lengths of Convex Scrapers and of Whole Waste and Utilised Flakes. Measurements of the Khartoum Convex Scrapers confirm the finding made at Oudefontein that there is no basis for Sampson's arbitrary division of Convex Scrapers into "large" and "small" depending upon whether they are more or less than 1" in length. The length distribution of Waste and Utilised Flakes is similar to that obtained at Oudefontein and therefore also suggests that except for very small flakes which tend to be left as "waste" there does not seem to be any selection of flakes for utilisation on the basis of length - Utilised and Waste Flakes show a very similar length distribution.

In view of the broad similarities between these two assemblages from the Riet River and those from the Orange River area in terms of the method of analysis used by Sampson, there does not seem any reason why we should not assume, in the absence of any other evidence, that the "Later Stone Age" of the Riet River area followed a similar pattern to that in the Orange River Basin. Apart from the general similarities between the Riet assemblages described and the Orange River Phase 6 there are other considerations that would also tend to support the idea that the "Later Stone Age" was similar in both regions. In the first place the Riet River area is not very far north of the Orange River area studied by Sampson - indeed, it is as near geographically to the Orange River as the sites of Blydefontein and Ventershoek, both of which were shown by Sampson to have preserved a similar pattern to that found in the Orange River Basin proper. A second factor which may also be significant is the occurrence and distribution of tanged arrowheads. Elsewhere the writer has published a map of the known distribution of tanged arrowheads (Humphreys 1969) and this covers, very broadly, the Northern Cape, O.F.S., Lesotho and parts of Natal. Although Sampson did not recover any tanged arrowheads on his own excavations, two specimens were found in an earlier excavation in

Blydefontein shelter (Sampson 1970 : 99). This would suggest that tanged arrowheads are in some way associated with the "Later Stone Age" pattern described by Sampson and the wider distribution of these arrowheads may give some very broad indication of the possible distribution of this cultural pattern. Arrowheads have not been found in the Riet River Valley itself, but a specimen has been recovered from Kimberley, to the north - the Riet River therefore falls within the arrowhead distribution area.

In view of all these factors it would seem that we are not entirely unjustified in drawing broad parallels between the "Later Stone Age" exploitation patterns discovered in the Orange River Area and what might have taken place in the Riet River Valley.

What, therefore, do we know of "Later Stone Age" life in the Orange River Area? As mentioned earlier, Sampson's approach in the Orange River area was very "lithic-orientated" and we have little "environmental exploitation" information along the lines of that produced by Carter (1969; 1970) for Lesotho, and by Parkington and Poggenpoel (1971) for the south-west Cape, and outlined by Deacon (1972) in his synthesis on the Post-Pleistocene. So far Sampson has not even published detailed analyses of the faunal remains recovered in his excavations and so we have little information on changes in dietary patterns.

In a recent paper, the writer suggested the possibility that the Orange River area investigated by Sampson was only occupied by "Later Stone Age" man within about the last 4,000 years (Humphreys 1972). It is, of course, far too early to claim any definite basis for this suggestion but the idea of a relatively late phase of occupation of the interior of South Africa during the "Later Stone Age" has also been suggested by Deacon (1972) on different grounds. He says: "In reviewing the dating evidence of the Smithfield culture one cannot but be impressed by the apparent absence of Smithfield occurrences in the time range of the climax Wilton" and "... the last two thousand years have been described in relation to the local sequence at the Wilton Rock Shelter as the post-climax Wilton phase. Implied here is the breakdown of the traditional Wilton socio-economic system with the appearance of altered norms of artefact production and different ecological and geographical orientations in the eastern

Cape. In part this may reflect competing systems based on animal husbandry appearing in the area, but it also apparently reflects the emergence of the late "Smithfield" cultural tradition with its focus in the interior plateau. On the evidence available from the Orange River Basin and the Transvaal the time depth of the latter tradition would appear to be restricted and to be contemporary with the post-climax Wilton." The origins of, and the reasons for, this late cultural tradition in the interior are as yet unknown, but there does seem to be some evidence for its having existed.

In terms of the writer's interpretation of Sampson's "Later Stone Age" sequence, therefore, the Orange River Basin may only have been occupied by "Later Stone Age" man around 4,000 years ago. From that time on (and there is good dating evidence for the entire sequence) there was a gradual evolution of the cultural system with the introduction of a pottery making tradition around 1200 AD (Sampson 1970 : 97). The cultural system seems to have survived until recent times as is evidenced by dates of 90 ± 90 BP and 235 ± 80 BP from Glen Elliot (Sampson 1970) and historical evidence of "Bushmen" living in Zaayfontein and Glen Elliot (Sampson 1967 c : 142) and Riversmead (Deacon 1970). If the same cultural patterns existed in the Riet River Valley, as we have suggested, then it is possible that the "Bushmen" (San) met by such early travellers as Andrew Smith (whose records will be discussed in detail later) may have been responsible for the "Phase 6" artefacts described above; Smith visited the Riet in 1834-5 and this date accords well with the historical and radiocarbon dates for the Orange River "Bushmen" (San).

At this stage there is little information on "Later Stone Age" 'life' in the Orange River Basin (and therefore the Riet River area) in terms of economic exploitation patterns, social organisation, etc, but according to Sampson (pers.comm.) work along these lines is soon to be undertaken and so this type of evidence should become available in the future. In terms of the existing lithic model therefore all that can be said for the Riet River Valley and adjacent areas is that a "Later Stone Age" hunter/gatherer tradition existed for about the last 4,000 years and that the San seen by early travellers are likely to have been

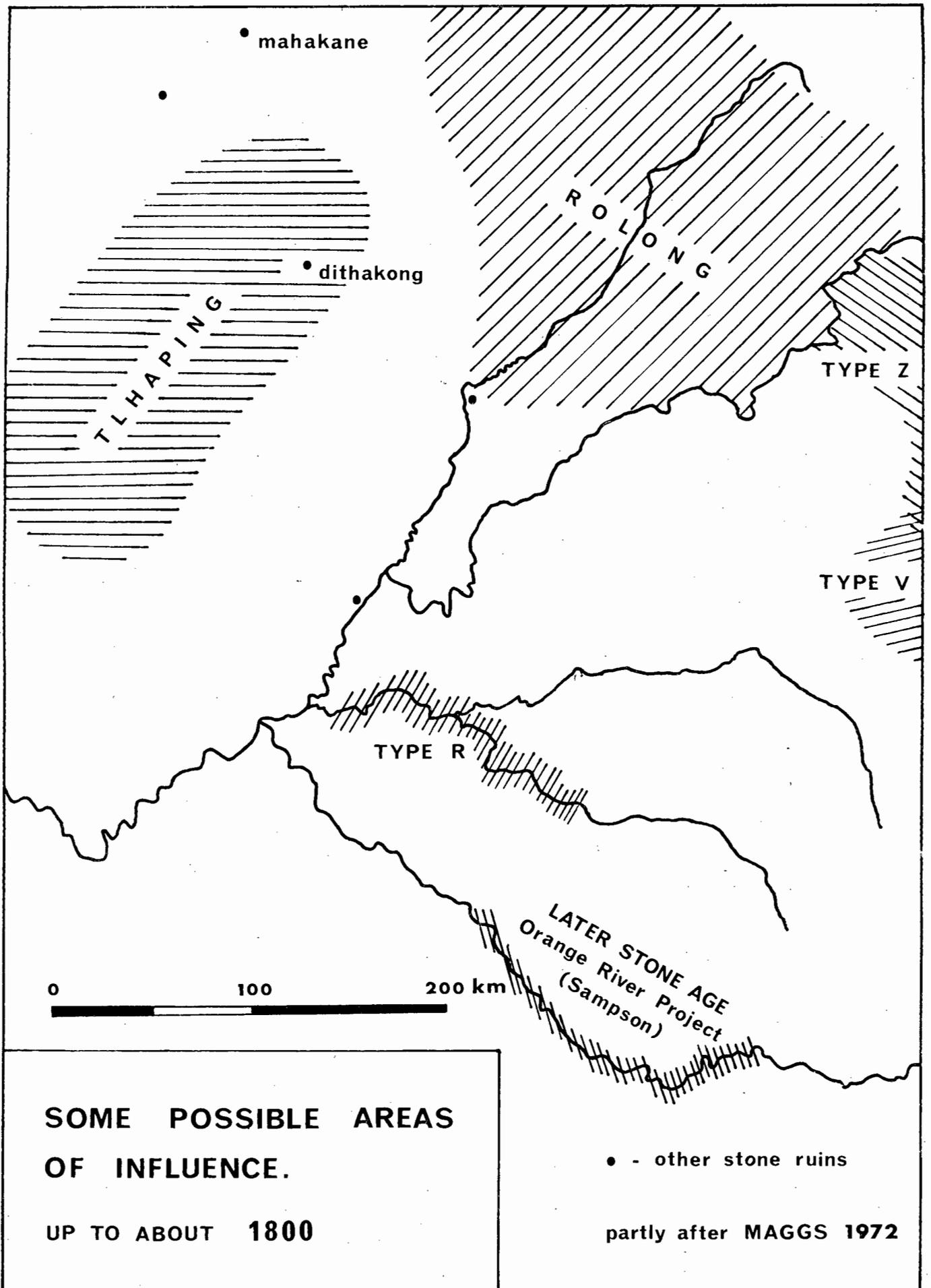
the historical representatives of this cultural tradition, known presently only through its lithic component.

THE IRON AGE.

Iron Age studies in South Africa were late in getting started when compared with Rhodesia and Zambia. However from 1964 (Mason 1965) systematic work on the Iron Age of the Transvaal began and this project is still underway. In 1967 Maggs (1967) started a project on the Iron Age of the Orange Free State, as has already been pointed out in Section 1. This project has also not yet been completed and detailed reports are still awaited. Only the project undertaken by Maggs is of concern here for it covers the Orange Free State and parts of the Northern Cape and these are the only Iron Age areas that are likely to have any direct bearing on the events in the Riet River Area.

In his initial study of aerial photographs, Maggs (1967) not only defined the distribution of Type R Settlement Units but also identified various types of Iron Age settlement. The two main Iron Age settlement areas in the Orange Free State seem to be Type V and Type Z. These "types" are defined initially on the basis of settlement plan as revealed by aerial photographs. The distribution of these settlement types is shown in part on the map in Fig. 4:3.

Fieldwork on Type V sites confirms the settlement plan observed on aerial photographs. The settlement unit "consists of a group of primary enclosures linked in a ring to form a secondary enclosure. These primary enclosures include both livestock pens and huts but there may also be a number of detached huts and other structures scattered around the outside. At site OND 3 at the southernmost extent of this settlement type, the large primary enclosures are linked by secondary walling and most of their entrances open into the secondary enclosures thus formed. This in turn appears to have only one entrance. All the huts are detached and scattered around the exterior with one possible exception. Whilst the central part of the settlement consists of dry stone walling, the huts have only a single row of stones marking the base of their walls. Above this base walls and roof must have been built of more perishable material. Some of the huts have paved floors. Further north in the Orange Free State



**SOME POSSIBLE AREAS
OF INFLUENCE.**

UP TO ABOUT 1800

• - other stone ruins

partly after MAGGS 1972

Fig 4:3

Type V sites usually have corbelled stone huts. Some of these are linked by secondary walling as part of the secondary enclosure, while others are scattered around the periphery of the settlement units" (Maggs 1967).

As yet no description of Type V pottery has been published and so no comments can be made on this aspect of the settlement pattern. Dates for a Type V settlement of 1880 ± 50 AD (Pta 133) and 1810 ± 50 AD (Pta 134) have been published but these are considered to err on the late side (Sutton 1972) and so little is known about the dating of these settlements although they are known to have flourished for a long period prior to the Difaqane.

It is clear from the description given above that Type V settlement units differ radically from those occurring along the Riet River; this point has also been made by Maggs (1967; 1971). In the absence of published information no comparisons can be made between pottery types and decoration but according to Maggs (pers. comm.) there are also great differences between the two groups on this level. } **

Slightly more information is at present available on the Type Z settlements. Field investigations have confirmed the settlement pattern observed on the aerial photographs. "The settlement consists of a series of separate enclosures with a tendency for a group of the larger primary enclosures to be surrounded by smaller structures. However it now becomes apparent that these smaller structures are not primary enclosures but huts containing front and rear lobe-shaped courtyards. This arrangement is so characteristic of the site that the term "bilobial dwelling" has been adopted" (Maggs 1967). These bilobial dwellings are not only typical of Type Z settlements but Maggs (1972) has been able to trace this building feature right down to modern times. One of the Type Z settlements has produced a date of $AD\ 1635 \pm 95$ (GX 1462) showing that the bilobial tradition dates back (using the correction curve) to at least somewhere between 1470 and 1650 AD for there is no reason to believe that this represents the very earliest date for the tradition (Maggs 1972). When William Burchell (1822) visited Dithakong in 1812 he sketched some huts which were built in this same bilobial manner but by that time stone had been replaced as

a building material. In 1969 Maggs and the writer visited the modern settlement at Dithakong and noted that some huts were still being built in this bilobial style. It is therefore possible not only to trace this building technique through a long period of time but also to work back in time from the present or historical times to the archaeological record and suggest some ethnographic connections for the Type Z settlements. The existing evidence would seem to suggest that the Type Z settlements were built by the Rolong peoples - a section of the Tswana. Historical evidence coupled with the archaeological record would therefore suggest that the Tswana peoples had reached the southern limits of their distribution more or less along the Sand, Vaal and Orange Rivers, by at least the seventeenth century (Maggs 1972).

This continuity established on the basis of bilobial dwellings is supported by ceramic evidence (Maggs 1972). The pottery from Type Z sites "consists mainly of spherical and sub-spherical pots and bowls. The pots have short, upright or everted rims, usually with a well-defined point of inflection. Decoration is mainly by shallow grooves and ochre lines, often combined in various motifs. The largest pots are usually undecorated ... it is possible to see a general resemblance between modern Tswana pottery and that from the bilobial dwellings" (Maggs 1972).

More detailed information is once again still awaited but at this stage it can be seen that there is little similarity between Type Z and Type R on the basis of Settlement Unit plans.

Although the evidence is still scant at this stage, it is clear that the main Iron Age occupations to the north of the Riet River area date from at least the 1600's so from then on there was the possibility of contacts between these peoples and others further to the south on the Riet River and elsewhere.

CONTACTS BETWEEN IRON AGE AND "LATER STONE AGE" PEOPLES.

There has always been a general lack of discussion on the relationship between Iron Age and "Later Stone Age" peoples (Miller 1969) and so no real models have emerged for this "culture contact" field. In the northern Cape and Orange Free State area the situation is further aggravated by the scarcity of published data on the actual Iron Age and "Later Stone Age" cultures themselves.

The conventional picture that has emerged in South Africa (based more upon what was thought to have happened than upon what has been demonstrated to have happened) is one of three independent groups of peoples prior to European colonisation: Bushmen or San hunters-gatherers, Hottentot or Khoikhoi pastoralists and Bantu-speaking Negro mixed farmers (Derricourt 1971). These groups were assumed to be distinguishable on the grounds of physical type, linguistics and economy and technology, with each attribute being peculiar to that group. Thus all "Bushman" spoke a Bush language, were small in stature with steatopygia and lived by hunting and gathering; the "Hottentots" and "Bantu" similarly had their own peculiar attributes. It has now been realised however, that there is in fact no direct correlation between language, physical type and economy (Wilson and Thompson 1969).

This realisation has important implications for archaeology. Clearly linguistics can play no part in archaeological investigations but physical type (with the aid of physical anthropologists) and economy and technology fall within the domain of archaeology. If there is no guarantee that a hunter-gatherer camp was occupied by San in the physical sense or that farming activities must automatically imply Negro occupation then the range of possibilities is very wide from an archaeological point of view. Just as physical anthropologists now realise that from a physical point of view it is not merely a case of black and white (metaphorically speaking!) but of a series of shades of grey, so the archaeologist must realise that his concepts of an "extreme" hunter-gatherer way of life and of a farming way of life based upon cultivation, stock-keeping and settled community life only represent ideal poles and that in reality the ways of life he is likely to detect in the archaeological record will represent stages between these two extremes. In the old "three-group" model the only concession to these "shades of grey" was the "Hottentot" pastoralists, but even this was defined as an exact entity rather than a stage in a continuum.

Present evidence suggests that the way of life which archaeologists have come to call Iron Age had its origins outside of South Africa (Inskeep 1969) and so to some extent Iron Age attributes represent something completely new in the context

of prehistoric life in South Africa. It is, of course, too early yet, but the time may come when these new attributes (like stock-keeping, certain types of cultivation, metal working and settled community life, among others) will be sufficiently defined and isolated in time and space to make studies of contact between Iron Age peoples and "Later Stone Age" hunter-gatherers a meaningful pursuit. Until that time, discussions, like this one, on contacts between Iron Age and "Later Stone Age" peoples can only take place at a very general and superficial level.

As we have already seen, published information on the Iron Age of the Orange Free State is very scant and it is therefore impossible to make any comments on the possible effects of contact on the Iron Age peoples themselves. Contacts will probably be detected through trade links as has been done in Zambia (Miller 1969) but this is speculation on something that will only come out in the future.

Turning from the Iron Age to the "Later Stone Age" we are little better off. Clearly an important factor in the study of culture contact is the relative physical position of the groups involved; more contact is going to take place between peoples living 40 km apart than between those living 400 km apart. There is good historical evidence (Wikar 1935 and others) to show that the Tlhaping carried out quite an extensive trade with peoples living along the lower Orange River, a good distance from their general settlement area.

However, in the purely archaeological record we have some interesting information from Sampson's project. This information is particularly important from the Riet River point of view for the Riet is situated approximately halfway between the Middle Orange River area and the main Iron Age settlement areas. The Riet would therefore possibly have been subject to similar or even more intensive influence than that recorded for the Orange River Area. Fig. 4:3 shows the relative positions of the Iron Age settlement areas, the Riet River and the Orange River area investigated by Sampson.

The evidence for Iron Age contact with the Orange River area that will be considered here is confined to that obtained from excavated shelters. This limitation has been made because any

finds on open sites cannot be demonstrated with certainty to be "associated" with the material with which they might have been found.

The shelters which have produced evidence, and the evidence itself, are listed below (information from Sampson 1967 a,b,c,d; 1970):

GLEN ELLIOT

Level II fragment of pipe bowl

Level III 4 glass beads
 1 copper bead

Level IV 1 glass bead

Levels I - III are Phase 6.

Level IV (and others) is Phase 5.

Level III is dated to 90 ± 90 B.P.
 235 ± 80 B.P.

ZAAYFONTEIN

Level I 1 glass bead

Level II 1 glass bead

Level V 1 fragment of beaten sheet copper
 1 iron arrowhead

Levels I - IV are Phase 6

Level V is Phase 5

Level VI is dated to 430 ± 90 B.P.

VENTERSHOEK

Level I 1 metal bead - copper

Level III 1 iron arrowhead + 2 fragments

All Phase 6.

HOLMSGROVE

Level I 1 glass bead
 1 glass bead fragment

Level III	1 glass bead
	1 laminated iron strip
	1 small copper hook
Level IV	1 glass bead

Levels I - II are Phase 6

Levels III - IV are Phase 5

Several important conclusions can be drawn from this information. Perhaps the most obvious point is the relative rarity of items related to the Iron Age. It would seem that what contacts did exist did not lead to very significant exchanges of materials - from the "Later Stone Age" point of view at least although, of course, "rare" trade items would have been relatively valuable and so less likely to have been abandoned. However, despite the paucity of Iron Age items in these "Later Stone Age" contexts a significant pattern does emerge. All contact resulting in trade seems to have taken place within Sampson's Phases 5 and 6 and according to a date from Level VI from Zaayfontein which immediately underlies Level V which yielded not only a fragment of copper sheet but also an iron arrowhead, this contact began in at least the 1500's. This fact together with the date of 90 ± 90 B.P. for Level III at Glen Elliot shows that contact must have taken place over a period approaching 400 years. This would also indicate that Maggs' date of 1600 does not represent the earliest occupation of the area by the Iron Age peoples to the north. It is perhaps of some interest to note that no evidence of Iron Age contact was found at either Blydefontein shelter which is over 60 km south of the Orange River or at Merino Walk shelter, 127 km south of the Orange River area. The latter shelter does, however, contain rock paintings depicting "recognisable Bantu" as well as cattle, but in spite of these paintings it was not intensively occupied in the past, if the paucity of stone artefacts is any criterion. Sampson (1970 : 113) says that the shields depicted in the paintings are of typical Nguni type which would suggest that the paintings relate to the main Nguni raids in the nineteenth century; the shelter, which is very damp, may only have served as a temporary refuge during these times, hence

the very few "Later Stone Age" cultural remains recovered. Merino Walk can therefore not be regarded as having produced "Iron Age" evidence comparable with that found in the other shelters to the north. This lack of evidence of contact with Iron Age peoples in the Blydefontein and Merino Walk shelters, which are the most southerly sites investigated by Sampson, may reflect the southern limits of Iron Age contact. However, the absence of evidence of contact does not prove that contact did not take place and further investigation will be required before the southern limits of Iron Age influence can be defined with any certainty.

The immediate concern at this point is contact with the Orange River and as we have seen this dates back to about 1500. There is therefore every likelihood that Iron Age contact with the Riet River area began at that time as well, if not slightly earlier in view of the closer proximity of the Riet River to the Iron Age settlement areas.

CONCLUDING REMARKS.

Several points have emerged as a result of this discussion on the later prehistory of the Riet River Area. The "Later Stone Age" in the Riet River area is likely to have followed the same lithocultural pattern as the middle Orange River area and probably persisted into historical times as it did on the Orange - this persistence is suggested in the early traveller records which will be examined in detail later.

Evidence produced by Maggs on the basis of the study of aerial photographs shows that the Iron Age settlement areas which can be identified in the northern Orange Free State did not extend as far south as the Riet River area - any Iron Age settlement which may have existed in the area has up to this point, not been identified as such in the archaeological record. However, evidence from "Later Stone Age" sites to the south of the Riet River show that people in the Riet River area are likely to have been in contact with the Iron Age peoples from about 1500 onwards.

This is the general picture that has emerged as a result of systematic archaeological research but odd isolated pieces of archaeological evidence suggest the existence in the area, at some time in the past, of other peoples whose identity and way of life are as yet not understood. This evidence takes the form of three pot lugs which were recovered in the Koffiefontein area.

Two of these lugs are in the McGregor Museum, Kimberley, and the third is at the University of the Witwatersrand Medical School (Maggs 1971). The writer has only had the opportunity of studying the two lugs in the McGregor Museum. These lugs (Fig. 4:4) are isolated finds; there is no information on their precise place of discovery other than "from Koffiefontein area", or of their cultural associations. They are, however, quite unlike any pottery found in a "Later Stone Age" context either by Sampson or by the writer. "Later Stone Age" pottery is characteristically grass tempered (Sampson 1967 b) while the lugs show no sign of this type of temper. The lugs are very similar to some examples published by Rudner (1968) and rated as Strandlooper or "Hottentot" in origin. In view of the comments made at the beginning of this section this identification does not elucidate the situation. The presence of these lugs must, however, be seen as evidence of the existence in the Riet River area of some "shade" in the spectrum of ways of life, other than the "Later Stone Age" and Iron Age way of life so far identified in the archaeological record. The existence of peoples living a way of life other than these two is, of course, implicit in the undertaking of the project described in this thesis, and in trying to determine what these unknown peoples were doing we must be aware of the matrix in which they existed even if this is not represented in the archaeological record in its entirety. The isolated pot lugs clearly represent one of the groups of people not yet given full definition in terms of the archaeological record.

This seems, therefore, as far as we can go in terms of the picture produced so far by purely archaeological technique. Historical documents, although not being able to elucidate any of the purely prehistoric problems can nevertheless give some impression as to activities in the area in later times and so it is now necessary to turn to the historical record for further information.

LUGS FROM KOFFIEFONTEIN

1397

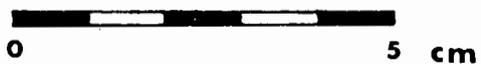
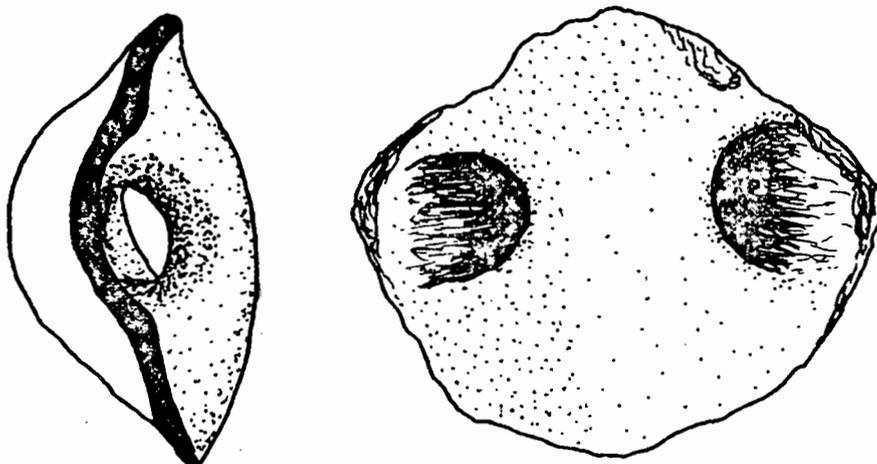
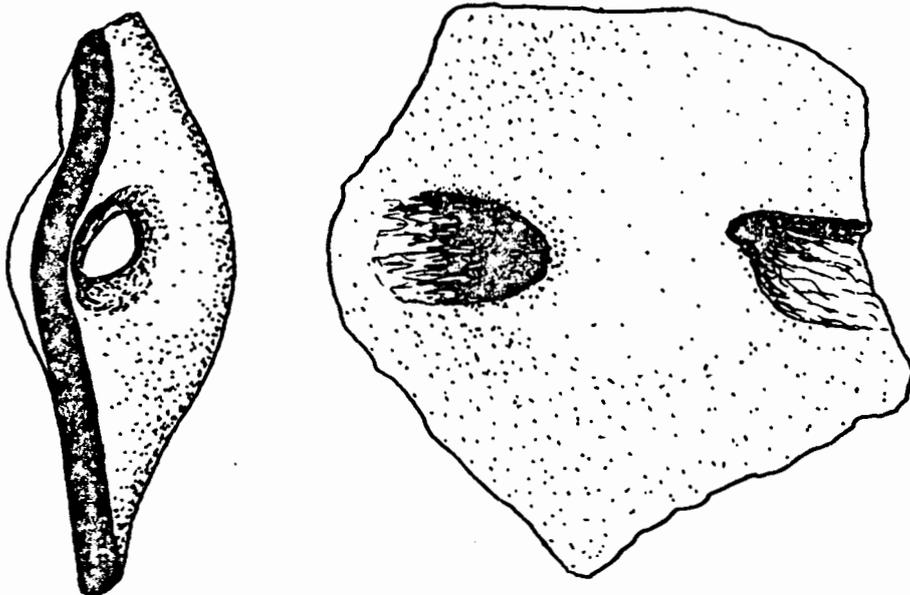


Fig 4:4

SECTION 5.THE RIET RIVER VALLEY IN HISTORY.

"What experience and history teach is this.."

Georg Wilhelm Hegel.

Very early documentary evidence relating to the interior of South Africa is derived almost exclusively from the writings of the travellers and missionaries of the 18th and 19th centuries. These writings consist, in the main, of their journals and letters, which were naturally written from the point of view of the particular interests of the pioneer concerned, whether these be hunting or converting the heathen. Many of these writings are therefore both tantalising and frustrating to the archaeologist. They are tantalising in the possibilities, from the archaeological point of view, of the many observations on the culture and movements of the early inhabitants of the country, but frustrating to the extent that they are seldom specific and therefore do not provide conclusive answers to the questions that we may ask today. The early travellers were unfortunately not archaeologists and so did not make "archaeological" observations. They are however, our only source of documentary evidence for this period and so any scrap of information that can be gleaned must be used to try and amplify the picture produced by purely archaeological techniques.

The section of the Riet River along which the Type R Settlement Units are located does not feature very prominently in the records of the early travellers. The reason for this would seem to be its geographical position relative to the routes and the mission stations of the early days. Much of the early exploration followed the western section of the Orange River and on to the Dithakong (Lattakoo, Letakoo, Leetakoun, etc.) area (eg. Wikar, 1778; Truter and Somerville, 1801) (Mason 1967) and this trend was later reinforced by the establishment of the mission stations at Campbell and Griquatown. Missionary areas in the east like Philippolis and Thaba Bosiu (among others) tended to attract

travellers in that direction. The Riet River, situated as it is between these two main areas, tended to be somewhat neglected by the early travellers. There are, nevertheless, some references to the Riet River in the records of the early explorers and missionaries and while they do not provide any concrete answers they at least give some clues to activities along the river and conditions in those times.

The information to be quoted here is taken from the published journals of the early explorers. No attempt has been made to scan the copious unpublished manuscripts and letters that are in existence as this would be a major undertaking in its own right. The published material does at least provide some outline of the experiences and impressions of the travellers in this part of the country.

THE EARLY RECORDS.

The earliest reference to the Riet River seems to have been made by William Burchell (1822) in 1811. His first comment appears in a general remark on the Orange River. He says (1822 : 224): The Gariiep (Orange) ".... receives the waters of three great rivers, the Ky Gariiep or Yellow River, coming from the north-eastward; the Maap or Muddy River, whose course and source are unknown" (As pointed out earlier, prior to 1860 the lower section of the Riet River was called the Modder River, hence the reference here to "Muddy River".)

When Burchell reached the Vaal River, he actually camped opposite the confluence of the Riet and Vaal Rivers. He says (1822 : 279) "We continued our way by the side of the river (the Vaal) for seven miles, till we arrived opposite the Maap, where, after reconnoitring the spot, we safely brought the wagons down the steep bank, and took up a station on the banks of the Yellow River ..."

Burchell himself does not seem to have explored any part of the Riet River, but during this stay on the banks of the Vaal River, his companion, Mr. Jansz, actually travelled some dozen or so miles (about 20 km) up the Riet. His impressions and experiences are, fortunately, recorded by Burchell (1822 : 302) who writes as follows: "On the preceding day (i.e. 5th November), Mr. Jansz, in consequence of the invitation we had received from our Bushmen friends, crossed the river on a raft conducted by six

Hottentot swimmers; and, accompanied by a party of the Klaarwater men, rode on horseback, about a dozen miles to their kraal, where he was received in a very friendly manner. This little village he found pleasantly situated on the banks of the Maap, and containing nearly as many dwellings as Klaarwater, ranged in a regular manner, and apparently very orderly. The name of the kraal he understood to be Karupny: it seemed to contain a large number of inhabitants, although not more than forty men were seen, the rest happened then to be abroad in the plains in search of game and wild roots. The number of women and children was much more considerable: they flocked around him, begging as usual for tobacco; some bringing milk. One old woman, with great disinterestedness, requested him to accept a mat, given purely, as she said, as a testimony of good-will. This instance of generosity was the more remarkable, as it is not the character of the nation to give away anything without receiving an equivalent. It would, therefore, seem illiberal to hint that she had no doubt of Mr. Jansz showing himself equally disinterested; because I believe them not incapable of genuine hospitality, however little they may have in their power to bestow, and however seldom it may happen that they are not themselves in the greater want.

"The inhabitants of this kraal appeared to be less wild, and much richer than those which he had hitherto had an opportunity of seeing. They possessed sheep, goats, and cows; which, however, they confessed were part of plunder obtained from the Caffres"

These observations are of great interest for they are the first historical records of settlement on the Riet River. Perhaps of greatest significance is the fact that "Bushmen" were seen to have been keeping sheep, goats and cattle. The term "Bushman", although in itself rather meaningless, has nevertheless, through general usage, come to be more or less synonymous with the term "hunter-gatherer" (Wilson and Thompson 1969), and so this early claim for stock-keeping "Bushmen" must be regarded as important. Today the term "Bushman" or San is the subject of much controversy and definitions differ from expert to expert, varying according to the criteria imposed, whether these be linguistic, cultural or physical, and so ideas on what were "Bushmen" in these early days are likely to have been even more hazy. The fact that these

stock-keeping "Bushmen" were not even regarded as "typical" by Burchell is suggested in the following quotation: "As Bushmen, they were considered good-looking and rather tall men, and in part like most of their countrymen, very erect" (Burchell 1822 : 303). Burchell (1822 : 301) does say earlier that these people were of mixed "Bushmen, Korana and Bichuana" descent but then goes on to call them simply "Bushmen". In terms of the popular concept of "Bushmen" these people were, therefore, neither "small" nor hunter-gatherers. However, this observation on stock-keeping "Bushmen" is not to be dismissed lightly because it is supported by other authorities, as we shall see in later quotations.

A further point of interest is the location of the settlement visited by Mr. Jansz. The settlement was called "Karupny" and located some "dozen miles" up the Riet River. According to Van Vreeden (1961) Karupny is the original name of what is now the farm Abrahammoosfontein (named after Abraham Moos, a Griqua citizen who became a member of Waterboer's Council). Abrahammoosfontein is located on the south bank of the Riet River some 15 km west of Driekopseiland; it is thus approximately 12 miles from the confluence of the Riet and Vaal, as estimated by Jansz. The precise location of Karupny on the existing farm Abrahammoosfontein is unknown; no signs of settlement can be located on aerial photographs and so whatever these people were building by way of structures, they apparently did not leave Type R archaeological remains. The existence of these settlements on the Riet is nevertheless an important observation.

Burchell (1822 : 302) also records some information on the Riet River itself: "The Maap was found to be of less breadth than the Yellow River; but is deeper, and remarkably meandering. The natives say that it receives, at some distance higher up, a considerable river from the northward; and that the Maap and the Black River (the Orange River), come from a distant country." The "considerable river" which the Riet River "receives at some distance higher up" may well be the Modder River which joins the Riet River from the east, although by present day standards to call it a "considerable river" is somewhat of an exaggeration!

The next early journal references to the Riet River were made some two years later in 1813 by the Revd. John Campbell.

He does not seem to have visited the Riet personally and so all his information is second-hand but it is nevertheless worth recording. As we have already seen Campbell called the Riet the Alexander River. He says "The Griquas called it mud,

From this information we agreed to name the Alexander River, after the Colonial Secretary at Cape Town ..." (Campbell 1822).

Campbell's comments to the Riet River are as follows: "The Bushmen further to the eastwards, on the Alexander and Yellow Rivers, have lately been discovered to be in a much more comfortable state than any of the Bushmen to the westward of that river, possessing comparatively many cattle; some kraals have as many as five hundred" (Campbell 1822 : 287).

Here again is the reference to stock-keeping "Bushmen" and, appearing only two years after Burchell's observations, it must refer to the same peoples. Further evidence of this phenomenon is also recorded by Campbell for an area some 20 km south of the Riet - "The poor Bushmen on the salt-lake district possessed many sheep and goats till about eight years ago, when a plundering party of Caffres came into their country, carried off the whole, and killed some of the Bushmen ..." (Campbell 1822 : 287).

It is clear that regardless of the true identity of the "Bushmen", stock-keeping and settlement was taking place on the Riet River at the beginning of the 1800's.

Some 10 years later in 1823 George Thompson makes brief reference to the Riet River but it adds little to our knowledge: "A little above the salt-pans another stream, called by the Griquas the Modder (Muddy), by Mr. Campbell the Alexander, joins the Yellow River" (Thompson 1827 : 78).

In 1826 the Revd. T.L. Hodgson travelled along part of the Riet River and although he does not record any detail he does make an important observation which supports the records of Burchell and Campbell about stock-keeping "Bushmen". He says, "I left my family and undertook a journey up the Modder river

The journey occupied four days more time than we had calculated on; and as I had travelled into a part of the country where the Bushmen had been robbed of their cattle some time before, by the half-cast tribes, and who were, therefore, under the influence of a spirit of revenge, considerable alarm was felt

for my safety" (Shaw 1836 : 180). This reference, not only to "Bushmen" having had stock, but also to the fact that they " had been robbed of their cattle some time before" must mark the beginning of the changed situation brought about by the Difaqane with its resultant changes in equilibrium.

Evidence of this disruption is to be found in a remark made by Robert Moffat in his journal entry for 5th July, 1823. He says: "I received a letter from Andrews Waterboer (sic), informing us that an immense body of Mantatees were coming down the Yellow and Mud Rivers towards Griqua Town" (Schapera 1951 : 99). Whether the "Mantatees" recorded by the early travellers were in fact associated with MmaNthetisi is somewhat doubtful (Lye 1967) but the important point here is that disrupting forces were known to have been active in the Riet River area at that time. This remark made by Moffat probably ties in with Hodgson's observations.

To this point all references are to the western section of the Riet River, below its confluence with the Modder River. It is only post the 1820's that references to the eastern courses of the Riet River seem to appear. The post 1820's not only mark the earliest references to the Orange Free State section of the Riet, but also the post-Difaqane times when the general upheavals felt in the interior of South Africa (Lye 1969) also had their repercussions on the Riet River area - as we have just seen. These upheavals are likely to have disrupted any settlement pattern which may have existed along the Riet prior to the Difaqane, as has already been suggested in the quotation from Hodgson. It is against the background of these changed social conditions that these later references to the Riet must be viewed.

In 1834 Andrew Geddes Bain made a journey from Graaff-Reinet to the mission stations to the north, and crossed the Riet and Modder Rivers in the process. He records leaving Philippolis, crossing the Riet and Modder Rivers and passing the "forsaken Missionary Station of Platberg" and so if he travelled in a more or less straight line he is likely to have crossed the Riet somewhere between Koffiefontein and the Kalkfontein Dam. His comments are as follows: "Four days travelling brought us to the Riet River; but the country through which we passed, not only from Philippolis, but all the way from Graaff-Reinet, was in such a

miserable condition from the long continued droughts, that our cattle were in the greatest danger of perishing, as not a blade of vegetation was anywhere to be seen. Here we found a number of Boers from the colony in search of pasturage for their cattle" (Bain 1949 : 135).

An interesting point that emerges from this brief passage is not only the very dry conditions apparently prevailing at the time but also the fact that European exploitation of the Riet River area had already begun. It therefore seems likely that not only did the Difaqane generally upset the earlier existing order but that the advent of European exploitation had added a new dimension to activities along the Riet River.

In this regard it is worth noting that in 1826 Bain undertook an earlier journey to the north but on this occasion he passed the western section of the Riet River: "Having reached the Nu-Gariep, or Black River of Burchell (the Orange), we struck across the country to the Muddy River and travelled along its bank till we came to its junction with the Vaal River, or Ky-Gariep, along the north side of which we continued" (Bain 1949 : 9). There is no mention of the stock-keeping "Bushmen" or of the settlements recorded by Burchell and Campbell which would suggest either that he did not consider them worth recording or that they were no longer in that area. The former is probably unlikely to be the case as Bain does not seem to have disregarded the peoples he saw along the way; he refers, for example, to the Boers he met along the Riet and also comments after crossing the Modder River that, "The country we found completely uninhabited all the way from Modder River to Poccanna (Pokwani, just south of Taung) only having met two or three Griquas and a few Bechuanas at Bootchaap (Boetsap)" (Bain 1949 : 137). It would therefore seem probable that the stock-keeping "Bushmen" had, by this time, disappeared from the scene - a situation that would fit in well with Hodgson's observations.

Following closely on Bain in 1834 was Andrew Smith. This journey is of particular significance because Smith travelled all along the section of the Riet River under consideration in this thesis; he met the Riet near where the Kalkfontein Dam today stands and followed the river right through to its confluence

with the Vaal. Smith's journal records his observations along the river and because of their importance in throwing light on activities along the Riet it is necessary to study them in some detail. Smith reached the Riet on 30th December 1834 and after following its course arrived at the confluence with the Vaal on 6th January 1835 (Smith 1939). The map (Fig. 5:1) shows the various stages in his journey and the relative positions of his observations. The following quotations are extracts from his daily records that are of relevance to our topic; each day's entry is followed by a few comments on the significance of his observations.

"30th December 1834: Started at daylight (from Skanse) and reached False Fountain about $\frac{1}{2}$ past nine a.m. Till about noon rather chilly; sun very powerful at ten; heat very oppressive Boers took up their residence here last year and opened the spring. (It) discharges at present a considerable quantity of water There were 4 wagons belonging to Boers near this place left about 2 weeks ago; 4 men also at the spring about 4 months ago. A man belonging to Andries Waterboer visited us at False Fountain near which he has been resident during the last four months; (he) has lost neither cattle nor sheep by the Bushmen. Two wild Bushmen visited him soon after he arrived here and begged tobacco"

Smith's observations at False Fountain would seem to confirm the presence of Boers along that stretch of the Riet as recorded by Bain. The reference to "a man belonging to Andries Waterboer" is a reflection of the strong Griqua influence in this area at that time resulting from communications between the main Griqua areas of Campbell and Griquatown in the west and Philippolis in the east. Smith makes several other references to Griquas along the Riet River as will be seen in the following quotations.

These and later references to "wild Bushmen" are also interesting. The whole concept of "wild Bushmen" contrasts with the picture drawn by Burchell and Campbell of the stock-keeping "Bushmen". These "wild Bushmen" may have been living a similar way of life to that recorded for the Orange River Area

ANDREW SMITH

RIET RIVER 30 Dec., 1834 - 6 Jan., 1835

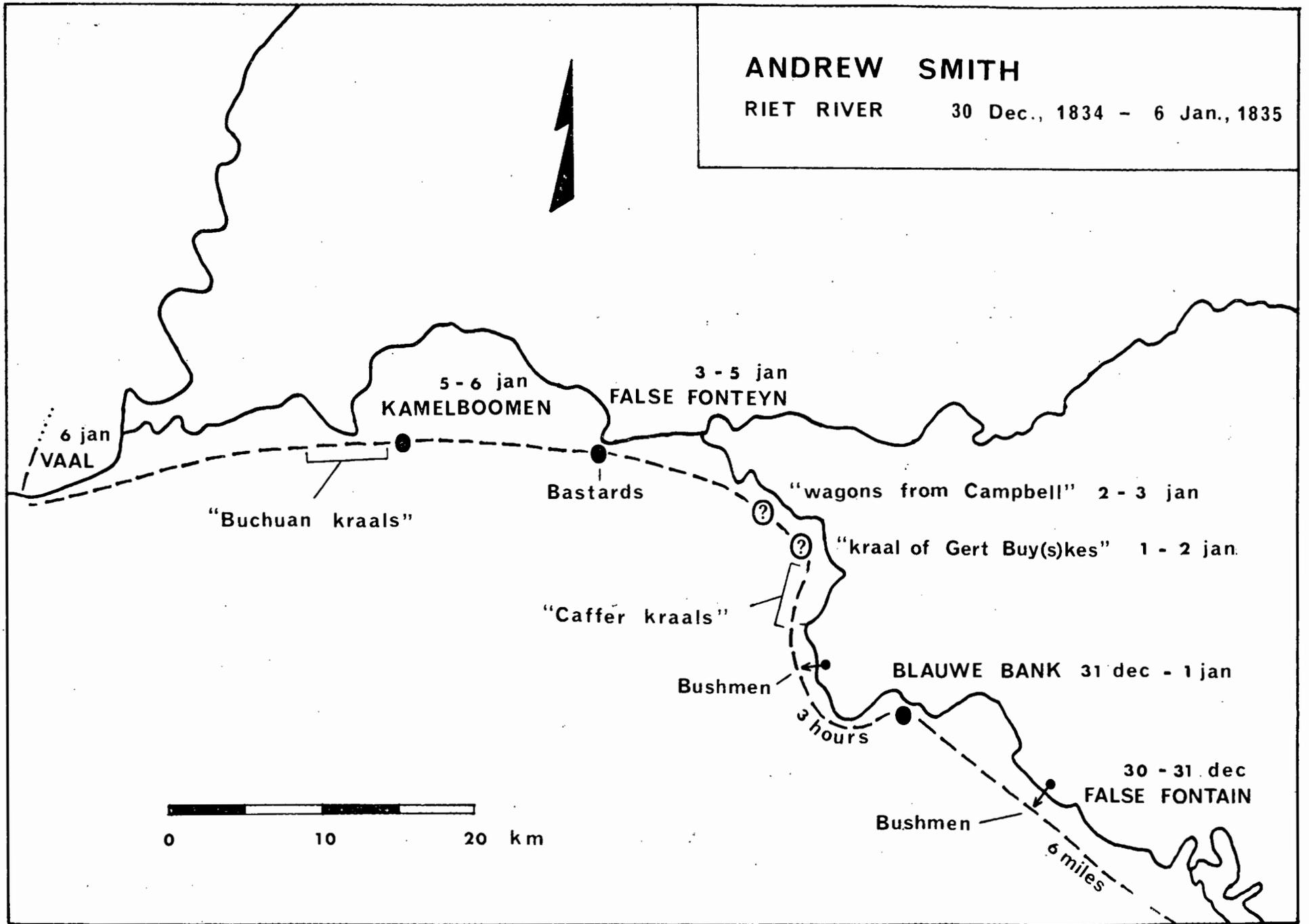


Fig 5 : 1

"Later Stone Age" "Bushmen" observed by Stow and the old farmer referred to by Deacon (1970) and may be responsible for the "Phase 6" cultural material found along the Riet River.

"31st December 1834: Employed during the early part of the day grinding corn. About $\frac{1}{2}$ past one started, and about $\frac{1}{2}$ past six reached Blauwe Bank on the Riet River. The river (is) called by the Griquas, etc, Black Mudder River, by the Boers Riet River. After proceeding on our journey about 6 miles met a party of Griquas from the Vaal River bound to Philippolis consisting of about ten or twelve persons. Two parties of Bushwomen ran across from the north of the river to the wagons and begged most vehemently for tobacco. One party consisted of six and the other of four Close to where the last party said they resided our guide Loedwyk on his way to Philippolis about ten days ago was chased by a Bushman and only got out of his way by artifice. Lodwyk is also a Bushman, but civilised and a subject of Cornelius Kok's at Campbell. The Hottentots, Bastards and Griquas are afraid to travel singly and unarmed in these parts. They state that the Bushmen are very evilly disposed and will often waylay one or two persons proceeding along the road. They will not attack where there is a wagon because they cannot be certain of what is in it, nor of the weapons with which the people may be supplied"

There is again reference to the Griquas travelling along the Riet to Philippolis, as well as the existence of "wild Bushmen". The latter are of interest here because of their apparent hostility - again a contrast in the reception accorded to Burchell by his stock-keeping "Bushmen".

"1st January 1835: Started about sunrise and travelled nearly three hours along the Riet River; halted on its banks to breakfast. At halting place 11 Bushwomen came to us, no men; and they lived on the northern banks of the river. Begged hard for tobacco; said as I had so large a beard I must have plenty of tobacco. The only

coverings they wore were a short kaross which hung a little below the nates and a small apron of strips of leather in front of the lower part of the stomach; some of the latter were so small as not to conceal entirely the parts intended to be covered. Round the neck they had ropes of leather entwisted nearly as thick as the arm. To the kaross in front are attached portions of skin, turtles, etc., in great abundance. Many of them have leather thongs encircling the loins, some in one, others in three or four circles, and each has also a small covering of sheepskin which hangs over the posteriors and is fastened in front by a small thong. This reaches on each side as far forward as a line drawn down the outside of (the) thigh from (the) anterior superior spinous process. This in some of those more marked by gay dispositions is edged with beads or small pieces of iron encircling a thong; the like covered thongs they also wear round the lower part of belly. Some have strings of plaited grass round the neck. All have round the body hanging a number of bags of leather of different sizes for untjies, etc.; (they) also have a large sack on the back in which they carry various articles. The men, Kok thinks, do not come from fear; the women always coming free with the Boers, they venture. The Bushwomen that visited the wagons had each a cap on the head made of the skin of some animal, the fur or hair inside and regularly turned up in front when not edged with beads or iron on thongs. Some of them wore steenbok skins, others the red cat, one or two had beads round the neck and the karosses margined in various places with rows thereof. All they begged was tobacco, none asked for anything else. Each had sandals fixed on the feet; a loop admitted the toe next the great one, a loop was also attached to the hinder part of the sole and a piece of rim (riem) was carried through that and then twisted with another piece which passed through the toe-loop and tied in front of the foot. Their cap karosses were formed of sheep skin. One woman pulled the cap off head and placed it in one of the bags, being too hot, and continued with the head exposed to the powerful sun.

That woman had all the hair cut short except a little in the shape of a horse-shoe upon the fore part of the head reaching till near the crown. Not one well made. Used red clay to adorn the face. Very anxious for (fat) to grease the body. One got a little, smeared it upon the palms of the hands, and with the greatest indifference rubbed it over her thighs and upon the insides thereof close to the pubis in presence of all the party by the fire. They have a degree of delicacy as when they seat themselves they always take care to turn in the apron below them; sit usually with the backs of the legs drawn back to hinder parts of the thighs, knees consequently very high.

Reached about $\frac{1}{2}$ past six p.m. the kraal of Gert Buykes (Buyskes) on the banks of the Riet River. Several small kraals, some of Caffers under the protection of Cornelius Kok, this being a portion of the country given up to him to govern. Found at this kraal 7 wagons belonging to the people of Kok which had been to the pan for salt

The after kaross in most instances has the hair removed from its middle parts upon which they usually sit, and left existing on the sides which envelope the outsides of the thighs. I mean in the Buchuanna women The Buchuannas have a different way of fixing their sandals to the Bushmen; they have no loop round the second toe, the thong is brought through between the great and next toe"

This entry is a very interesting description of the general mode of dress of the San who visited Smith. There is no precise information on where they lived other than on the northern banks of the river but allowing for a distance of some 6 or 7 miles to have been travelled during the 3 hours after setting off from Blauwe Bank, Smith would have met the party of San in the general vicinity of the Khartoum Settlement Units. (This calculation of the distance covered in the 3 hours is based upon the following estimate by Clement (1967 : 92): "A normal speed of $2 - 2\frac{1}{2}$ miles an hour could be maintained for eight hours (i.e. 16 - 20 miles a day) when spread over two or three scofts

and three miles an hour was possible in very easy conditions.") The fact that Smith mentions no people other than the San from the north bank would seem to suggest that the Settlement Units were unoccupied at that time.

Points of particular importance in the description of the San dress are the use of beads (probably made of ostrich eggshell) and "small pieces of iron" on thongs. It is not clear if the "iron" was in the form of beads or if little pieces of iron were merely threaded onto thongs. If the latter is the case it is of some interest from the point of view of finds made in some of the burials which will be discussed in detail later. At this stage the main point is the fact that these people had access to "pieces of iron" from some or other source.

The sandal description is also interesting; they seem to differ in construction, however, from one found in Berea in Lesotho and ascribed by How (1962 : 50) to the "Bushmen".

It is not clear what the "red clay to adorn the face" consisted of, but this habit is of importance in view of discoveries of the use of red ochre in some of the burials and on some Settlement Units. (This point will be taken up in detail later).

It has not been possible to fix the precise location of Gert Buyskes' kraal but again using Clement's rough estimate of the speed of ox wagon travel an approximate position has been recorded on the map. Just prior to reaching Gert Buyskes' kraal, Smith passed "several small kraals, some of Caffers" His wording here is rather ambiguous but it would seem that there were also kraals other than those occupied by "Caffers". (These "Caffers" are likely to have been Tswana peoples displaced by the Difaqane - Lye 1969). The "Caffer" and other kraals were probably located in the Pramberg area where several Type R Settlement Units occur and so the identity of these "other" kraals' inhabitants may well be crucial. There is, however, no evidence on this point and so there is no way of knowing if the Pramberg Type R Settlement Units were occupied at that time. If the Khartoum Settlement Units were unoccupied at this time as has been suggested, then the Pramberg ones may well also have been abandoned, but again there is no way of telling. This is merely one of those frustrating points in the records of the early

travellers!

"2nd January 1835: Travelled nearly along to the south bank of the Riet River, a distance of about 3 miles. Met wagons from Campbell, and from the people with them heard that the Vaal River was full. Abram Kok was with them and as I wished to get some information from him we halted for the night....."

This overnight stop, being some 3 miles further on from the unlocated kraal of Gert Buyskes, can also not be pin-pointed with any accuracy.

"3rd January 1835: About $\frac{1}{2}$ past one started and travelled parallel with the river to False Fonteyn where we found a party of Bastards living who belonged to Waterboer. But little grass....."

False Fonteyn (or Valschfontein, called Springfield today) can be located on the map. The remains of the settlement are not visible today but interestingly enough a burial was excavated on the present day Springfield by Power in 1950 which was found to be extended (therefore showing European Christian influence) and the skeleton was described as being of a hybrid (Tobias 1953). This burial may well relate to this "Bastard" occupation; it will be discussed in more detail in the burial section.

"4th January 1835: Very hot and sultry during the day. Prayers were read in the evening when the people of the kraal attended and also the party with the Captain Adam Kok." The full day was spent at False Fonteyn.

"5th January 1835: Started about sunrise from False Fonteyn and reached the Kamelboomen in about two hours where we halted for breakfast. Country still very dry, but still some grass. Visited by some Bechuannas who reside here and who brought two boks, a hare and a muishond for sale. A good deal of thunder in the afternoon. "

Today no place called Kamelboomen exists but there is a farm called Kamel Doorns which is within reach in about two hours of travel by ox wagon and so it may well be related to the Kamelboomen recorded by Smith. Kamelboomen has been located on the map on the basis of the position of the present day farm.

Smith records "Bechuannas" living in the area but no settlements on the farm Kamel Doorns are visible on aerial photographs. They would therefore presumably not be associated with the Type R Settlement Units; they were probably Tswana displaced by the Difaqane.

"6th January 1835: Started from the Modder River about 3 p.m. and reached the Vaal River about 10 p.m. The road nearly the whole way with a deep coating of sand which rendered it very laborious for the oxen. Several Caffer kraals consisting of Bechuans living along the south side of the river all have a terrible dread of Masalacatzie; his name alone seems sufficient to terrify them. They all advise our not going there, declaring that he will certainly murder us all. On our arrival at the river we found it slightly flooded. The heat was very extreme Little or no grass near to the river. "

If Kamelboomen is accurately located (and even if the location is not precise, it cannot be radically far out) then the "Bechuan" kraals seen by Smith would probably have been in the Driekopseiland, Mierkraal, Weltevreden area. This could mean that the Type R Settlement Units on those farms are in some way connected with these Tswana peoples (unlikely, however, in view of the absence of similar settlements at Kamelboomen and the other points of observation of displaced Tswana made earlier in the journey) or that they were unoccupied at that time and that the Tswana living in that area were the only inhabitants and their settlement remains are as yet undetected in the archaeological record.

The fear of Mzilikazi expressed by these Tswana people is clear evidence of their having arrived in the area as a result of the Difaqane and they would therefore have only been there for about 10 years at the most - possibly a much shorter time if their fear of Mzilikazi was so vivid.

Tswana
stone
remains?

If the Tswana are not associated with the Type R Settlement Units then their occupation of the area may be slight indirect evidence that the Type R Settlement Pattern died out before or was exterminated by the Difaqane.

The point at which Smith reached the Vaal River was, according to Kirby (1965 : 167) where Douglas is today situated, so although he did not pass the actual confluence of the Riet and Vaal, Smith would have traversed the area occupied by the stock-keeping "Bushmen" recorded by Burchell and Campbell. He, like Bain some 9 years earlier, makes no reference to any other peoples in the area; the stock-keeping "Bushmen" had clearly disappeared from the scene by this time.

A point of some interest is Smith's comment on the state of the Vaal River. He says that it was "slightly flooded" yet according to John Barrow (a young assistant who travelled with Smith) they "arrived at the Vaal River late at night, when to our amazement we found it full and impassable ..." (Barrow 1971). There had clearly been good rains in the Vaal catchment area that year but both Smith and Bain comment on the dryness of the Riet River area. It would seem that then, as now, good rains in the Vaal areas to the north did not necessarily coincide with good rains in the Riet area. The first three months of 1972 saw exceptional rains throughout the summer rainfall areas of South Africa. The dams on the Vaal River began overflowing at the very beginning of the year and were full for the whole three month period; the Verwoerd Dam on the Orange River overflowed for the first time just before the official opening in mid March, yet it was only at the end of March that the Kalkfontein Dam began to overflow (Reports in the "Diamond Fields Advertiser" Jan-March 1972). From this we may conclude that there were better rains in the Vaal catchment areas to the north. It is therefore impossible to infer what the rainfall was like in the Riet area by an analysis of the records of travellers in other areas such as that attempted by Mason (1971) to establish evidence for higher rainfall in the Melville Koppies area. The only valid evidence of rainfall in the Riet area must be obtained from direct observation in that area. Such evidence is very scant; all that we know is that it was very dry in 1834-5.

CONCLUDING REMARKS.

Such is the extent of early documentary references to the Riet River Valley. All the observations other than those of Andrew Smith rate as little more than casual information. Smith's journey took place post-Difaqane and although his observations are reasonably detailed, they are observations of a situation that was apparently vastly different to that prevailing before the Difaqane. Observations on the pre-Difaqane period are very sketchy but nevertheless these records taken in conjunction with Smith's later observations do present a very interesting picture.

The pre-Difaqane period on the Riet River seems to have been free of most of the cultural influences recorded by Smith. The European farmers had not reached the Riet River by this time and so the only European influence would have been the very brief contacts made by the early travellers whose journals have been quoted here. The Griquas had not encroached onto the Riet River yet - Stow (1905 : 357) remarks, "So little had the Griquas penetrated to the eastward that it was only a short time before the arrival of Mr. Campbell that they had discovered the existence of the 'Gumaap or Great Riet river and the upper Orange or 'Nu Gariep.'" The earliest mention of Korana on the Riet seems to have been made in 1829 (Maggs 1971 : 58) which is post-Difaqane and so it seems possible that prior to the Difaqane there had been little Korana influence in that area.

The only peoples for which there is direct evidence of occupation of parts of the Riet River Valley are the stock-keeping "Bushmen" of Burchell and Campbell. It is also probably safe to assume that the "wild Bushmen" seen by Smith were exploiting the area prior to the Difaqane for there is no reason to believe that the "Later Stone Age" hunter-gatherer cultural sequence in the Riet River area was radically different to that defined by Sampson in the Orange River area as we saw in the previous section. The fact that other people are not mentioned does not, of course, mean that they did not exist - indeed, pre-Difaqane observations on the Riet River are so scant as to be almost meaningless in this regard. They do show that at least one cultural pattern (i.e. stock-keeping "Bushmen") did exist before the Difaqane and that it disappeared at the time of the upheavals; it is possible that other cultural

patterns existed as well and that these too disappeared at the time of, or as a result of the Difaqane. It is impossible to identify the makers of the pot lugs recorded in the previous section and so these may represent at least one other tradition that has disappeared without, so far, historical trace and very little archaeological trace.

Having studied the evidence for human activity in the Riet River area as it exists at the moment, it is now necessary to turn to the Type R Settlement Pattern itself, to examine and define it, and to see to what extent and how it fits into the picture outlined on the basis of presently known historical and archaeological evidence.

SECTION 6.HUMAN ACTIVITY WITHIN THE TYPE R SETTLEMENT AREA.

"There is but one law for all ... -
the law of nature and of nations."

Edmund Burke.

The main objective of this study, as pointed out in the Introductory Section, is the investigation of the Type R Settlement Pattern on two main levels: first as a pattern existing in a geographical area, and second, the study of the pattern existing on the individual Settlement Units. This Section is concerned with the first of these levels - the pattern existing in a geographical area.

This study will be undertaken in terms of the proposition made by Struever (1971 : 11) that, "Assuming that the physical environment is structured and that culture as an adaptive system articulates with it, then the subsistence economy and the closely linked settlement pattern should reflect this environment." The object of the study will therefore be to examine the extent to which the structure of the Type R Settlement Area is determined by and follows the structure of its external environment.

At the outset it is necessary to define precisely what the term "external environment" means in this context. For the definition of "external environment" we follow the view of David Clarke (1968 : 123) that ".... the external environment of cultural systems is taken as including other cultural systems beside the category under study in addition to the flora, fauna, geology and climate. Our use of the term environment implies total environment, including other sociocultural systems and also including those segments of reality not perceived or understood by the culture englobed The environment of a culture system expresses the attributes external to that system and their varying and successive states in time and space. These environmental attributes may be partly perceived by the enclosing culture and partly not" The external environment is

therefore the whole milieu that encloses a cultural system whether it be natural factors or other cultural influences.

The natural and cultural history of the Type R Settlement Area has already been described in detail in earlier Sections but in order to view the Type R Settlement Pattern within its "external environment" it is necessary to re-emphasise a few points.

The Type R Settlement Area is located geographically along the Riet River between the co-ordinates $29^{\circ}00'S$ $23^{\circ}53'E$ in the west and $29^{\circ}30'S$ $25^{\circ}13'E$ in the east. This geographical area falls within the summer rainfall area but, more specifically, it falls within an area that is marginal between "good" and "bad" areas in terms of susceptibility to drought conditions. The vegetation of the area has undergone great changes in the last few hundred years, the most significant change being the invasion of the area by Karoo-type vegetation. From the point of view of grazing this change has meant a decline in the maximum carrying capacity of the vegetation, which in earlier times was probably more seasonal than it is today; in compensation, however, the Karoo vegetation now established in the area, although having a lower carrying capacity, is not so markedly seasonal and is much more resistant to drought conditions with the result that there is now grazing more or less all year round.

The geology of the area is straightforward, producing an undulating flattish sedimentary landscape. The area is, however, punctuated by kopjes and ridges composed of Karoo Dolerite outcrops. This Karoo Dolerite weathers into large roundish boulders, and these provided the raw material from which the Type R Structures were built.

The cultural environment of the area consisted initially of extensive Iron Age occupation to the north with "Later Stone Age" hunter-gatherer exploitation in the Riet River area and to the south. It is of some interest to note that there is a coincidence between the distribution of Iron Age settlements and the "good" areas from the drought-stricken point of view; Iron Age occupation in the Transvaal, Orange Free State and Northern Cape is confined to those areas which were never declared drought-stricken or only declared for less than 30 months during the period 1926-39.

(Compare Fig. 3:3 showing drought-stricken areas and Fig. 4:3

which shows part of the Iron Age settlement areas.) This correlation between "good" areas and Iron Age settlement is probably a reflection of the suggestion that "North of the Vaal the 40 cm isohyet probably marked the approximate limits of cultivation. This just includes the area around Kuruman where there was agriculture (Moffat 1842), but further to the south and west conditions would have been too dry. South of the Vaal there does not seem to have been settlement west of the 50 cm isohyet, which may be indicative of a greater dependence on agriculture" (Maggs 1971 : 58-9).

This distribution pattern therefore means that the Riet River area, in addition to being marginal to the "good" rainfall areas, was also marginal to the areas settled by Iron Age peoples. From a cultural point of view the position of the Type R Settlement Area was marginal between areas extensively exploited by two radically different socio-economic systems: farming and hunting and gathering.

After the Difaqane in the 1820's the cultural environment changed radically. The Difaqane was probably largely responsible for the destruction of the settled existence of the Iron Age peoples to the north (Maggs pers. comm.) and the period immediately following the Difaqane saw the establishment of new cultural systems in the Riet River area as we have already seen in Section 5. Among the new arrivals on the Riet River were Koranã, Griqua and European groups, as well as various splinter groups displaced by the Difaqane; these peoples were all moving into an area that they not hitherto been exploiting to any significant degree, and in so doing they apparently contributed to the upsetting of most of the cultural systems existing on the Riet River until that time.

These points serve to outline the location of the Type R Settlement Area within its natural and cultural external environment. Having established the position of the Type R Settlement Area itself let us turn our attention to the location of Settlement Locales and Settlement Units within the Type R Settlement Area and their interaction with their external environment.

The Settlement Units occur, as we have already noted, either singly or as groups in Settlement Locales. According to our definition, Settlement Locales "consist of the area in which groups

of Settlement Units occurring within $\frac{1}{2}$ km of each other are situated, or where single Settlement Units are situated in isolation more than $\frac{1}{2}$ km from their nearest neighbours". Essentially, therefore, the Settlement Locales (rather than the Settlement Units) represent the localities from which the environment was exploited, while the Settlement Units themselves each represent the material remains of some sort of socio-economic unit formed to exploit the environment from any particular Settlement Locale. The fact that each Settlement Unit on its own represents a discrete entity seems to be proved by the fact that the largest proportion of Settlement Locales consist of only one Settlement Unit (Fig. 6:1).

If we regard the Settlement Locales as being the localities from which the environment was exploited several important points emerge. It is possible in the first place to study the distribution of these localities within the environment in an effort to determine any underlying strategy which may have existed in the siting of those localities. This type of approach is called the study of "location strategy". According to Clarke (1968 : 503) "The application of the strategy concept and models to site distribution arises from the idea of site location as a vector resolving many competing factors in a single mixed satisficer strategy. In this view the location of every living site, hunting site, fishing site, or military site is a vector integrating a few major factors and myriad minor factors each with differing through overlapping requirements - necessitating something like a minimax "best blend" solution to fit the graded importance of the competing factors". From this it follows that the location of sites (or in our case, Settlement Locales) is not related directly to the general environment but rather to the location from which the desired resources within that environment can best be exploited. To a certain extent therefore, the localities at which sites are situated can be regarded as being atypical of the general environment because they are geared to specific resources within the environment rather than being integrated with the environment at large: consider, for example, the fact that all desert settlements are located around water holes which are atypical of general desert conditions (Vita-Finzi & Higgs 1970).

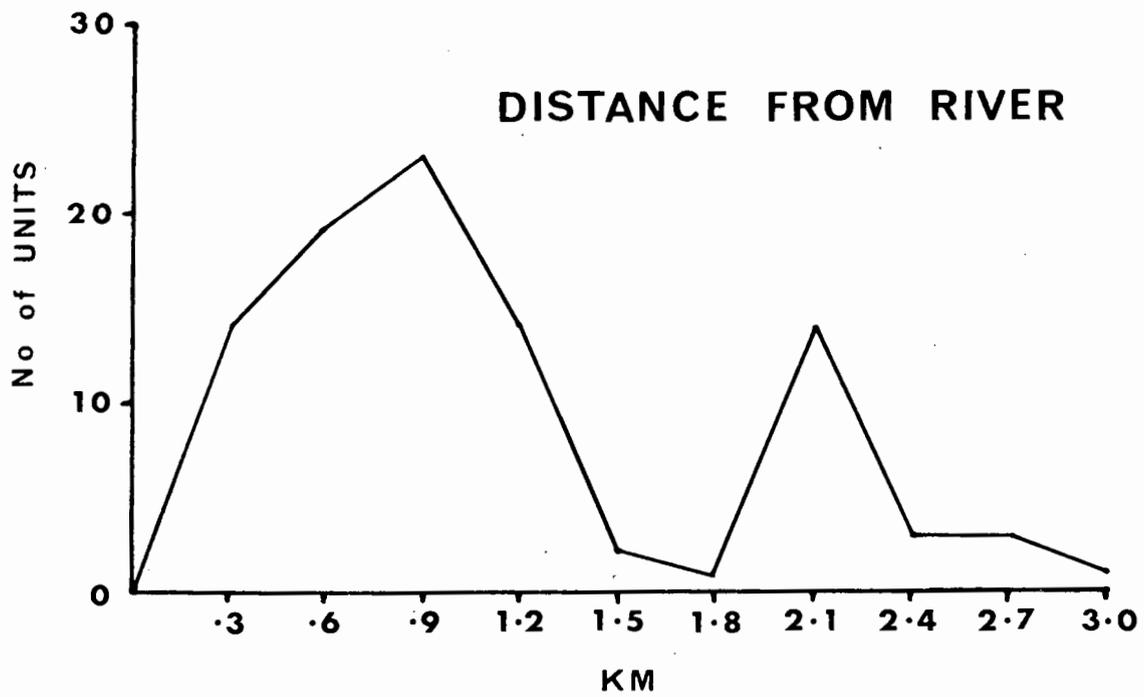
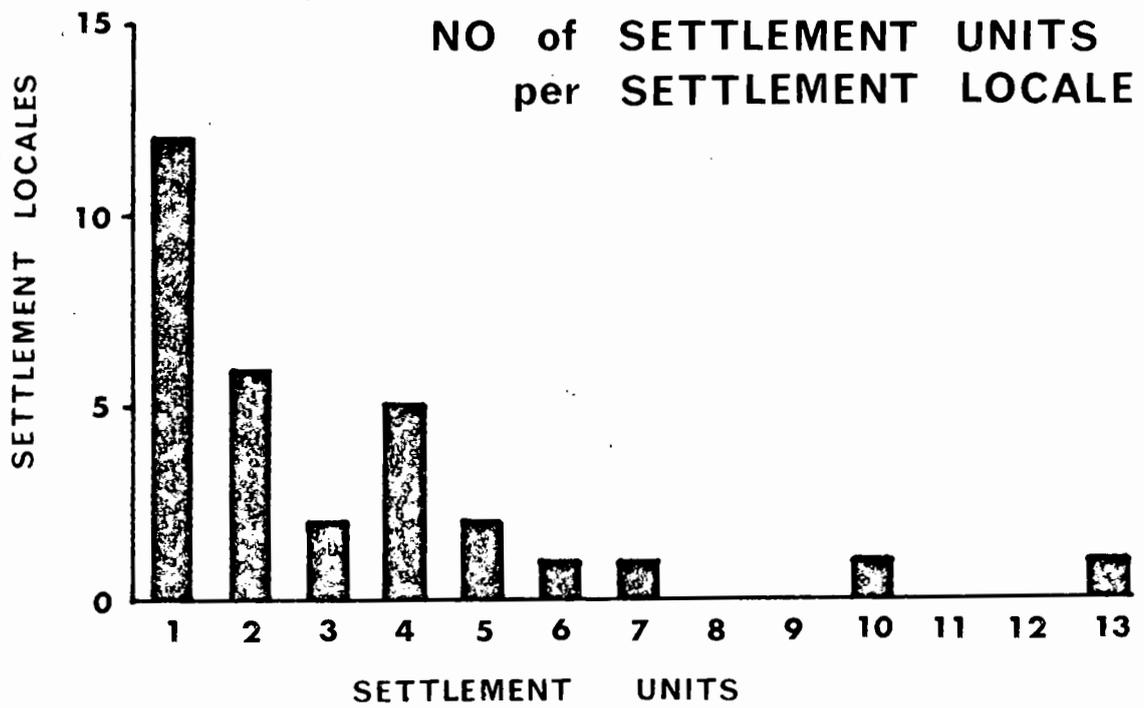


Fig 6 : 1

The position of the site is furthermore likely to be a compromise between the relative degrees of importance of the particular resources that are being exploited at that site. The various degrees of importance of resources will, of course, vary according to the particular requirements at that site, so, for example, at a fishing site the availability of fishing facilities would probably be a most important factor, whereas at a military site a defensive situation would assume greater importance. Despite these varying resources or requirements there are some basic human needs that would have to be satisfied by all sites whether they be fishing or military or whatever. If any site is to be occupied for any length of time the following would seem to be essential requirements:

- 1) Water supply
- 2) Food resources
- 3) Fuel for fire
- 4) Facilities for artificial or natural cover.
- 5) Raw material for tools or artefacts

Allowing for these basic requirements and any specialised needs at a given time the location of a site is likely to be dictated by the availability and siting of these resources and so the location is going to be "constrained by regularities in the zonation of these resources." According to Clarke (1968 : 505)" ... the natural regularities in the zonation of resources are often transferred to the orientations of the site territories which may be arranged in a minimax fashion to ensure a transect of that combination of zones which will yield on average the most stable range of high returns in resources throughout the year, in a run of good and bad years ..."

Haggett (1965 : 95) has shown in theoretical terms the settlement patterns associated with the relative positions of the resources being exploited. In the case of a uniform distribution of resources the settlement pattern will form a uniform lattice. On the other hand, if the resource occurs only in a particular zone, the settlement pattern will be modified accordingly. One of Haggett's hypothetical "localised resources" is a linear resource (e.g. a river or routeway) and in this situation the settlements within the settlement pattern tend to become arranged

in a similar linear fashion with their exploitation territories running at right angles to the linearity of the main resource.

When we look at the distribution of Settlement Locales within the Type R Settlement Area, it is clear that they are distributed in a linear fashion which follows very closely the course of the Riet River. From this it would seem clear that the pattern of distribution of the Settlement Locales has been determined by the linear occurrence of the main resource that was being exploited - the Riet River water supply. Fig. 6:1 shows the distance of Settlement Units (as parts of the Settlement Locales) from the Riet River. The average distance is 1.0 km and as the graph shows the great majority of the Settlement Units occur at about that distance from the river. The graph does, however, show a bimodal curve with modes at the 1.0 km and 2.0 km marks (approximately); it is not clear why there is this bimodality. It is interesting to note that all the Settlement Units (and therefore Settlement Locales) occur within about 3.0 km of the river. This close proximity contrasts with the general pattern existing in Iron Age settlement areas where sites are often 3-4 km away from the river (Maggs 1971 : 41). This may well be a reflection of the relatively greater importance of water resources in an area more prone to drought.

The linear pattern adopted by the Settlement Locales along the Riet River would seem to suggest that a water supply was the most important resource needed by the inhabitants of the Settlement Units.

With the recognition of the linear arrangement of Settlement Locales along the Riet River, the question now arises as to the pattern of occurrence along that line; are the Settlement Locales located at random along the Riet River or not?

Dacey (1960) has devised a method of analysing the spacing of river towns which makes use of a modified form of nearest-neighbour analysis. This technique can be applied directly in our context in the analysis of the distribution of Settlement Locales.

Dacey's technique can be used to establish whether or not objects occurring along a line are uniformly spaced, random or

grouped. The procedure used is straightforward and may be summarised as follows:

- 1) The points (Settlement Locales) are arranged in linear order (in this case running from west to east in order of occurrence along the Riet River).
- 2) The distance between successive points is measured. (Straight line distances read off 1:50,000 maps.)
- 3) The point nearest to each point is determined and this nearest neighbour relationship is indicated by drawing a directed arrow from each point to its nearest point. (see Figs. 6:2-4).
- 4) Some of the directed arrows are paired indicating that the relationship of nearest neighbour is reflexive. The paired points are the nearest neighbours of their nearest neighbours. These points are counted.
- 5) The number of points which have reflexive nearest neighbours is expressed as a proportion of the total number of points.

At this stage the reflexive nearest-neighbour analysis may be carried out but a more thorough evaluation may be achieved by extending the analysis to the second and third nearest neighbour (or even more) by using the same technique used in determining the nearest neighbour and then calculating the various proportions.

A nearest-neighbour analysis carried to the third nearest was used on the Settlement Locales occurring on the north and south banks and on the Settlement Locales as a combined group and the results are shown in Figs. 6:2-4.

The numbers of reflexive points are as follows:

		<u>Reflexive Points</u>
North Bank (Fig. 6:2)	Nearest	10
	Second	6
	Third	4
South Bank (Fig. 6:3)	Nearest	12
	Second	6
	Third	6
Combined (Fig. 6:4)	Nearest	20
	Second	8
	Third	6

NEAREST NEIGHBOUR ANALYSIS OF SETTLEMENT LOCALES ON SOUTH BANK.

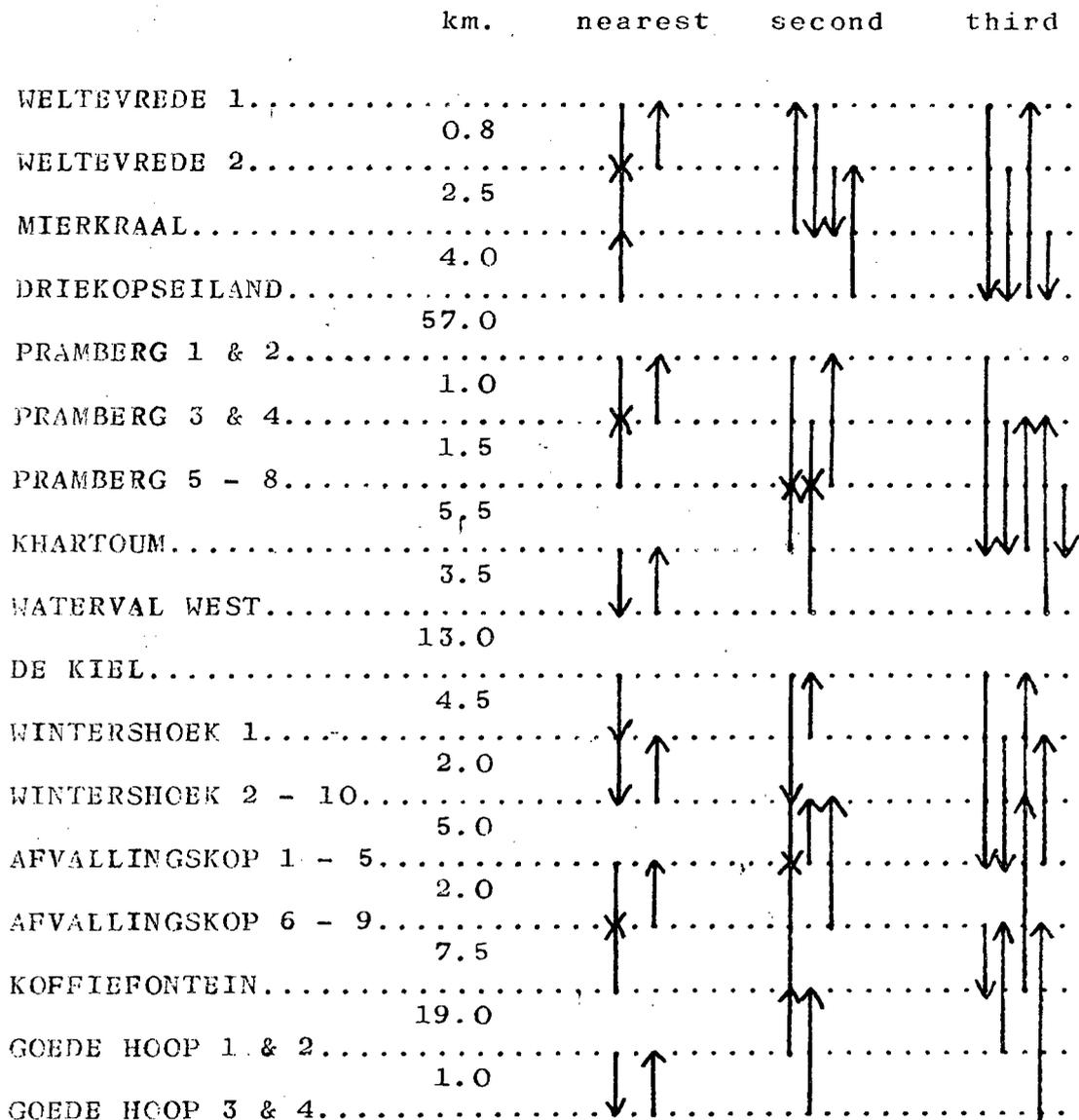


Fig 6 : 3

NEAREST NEIGHBOUR ANALYSIS OF ALL SETTLEMENT LOCALES

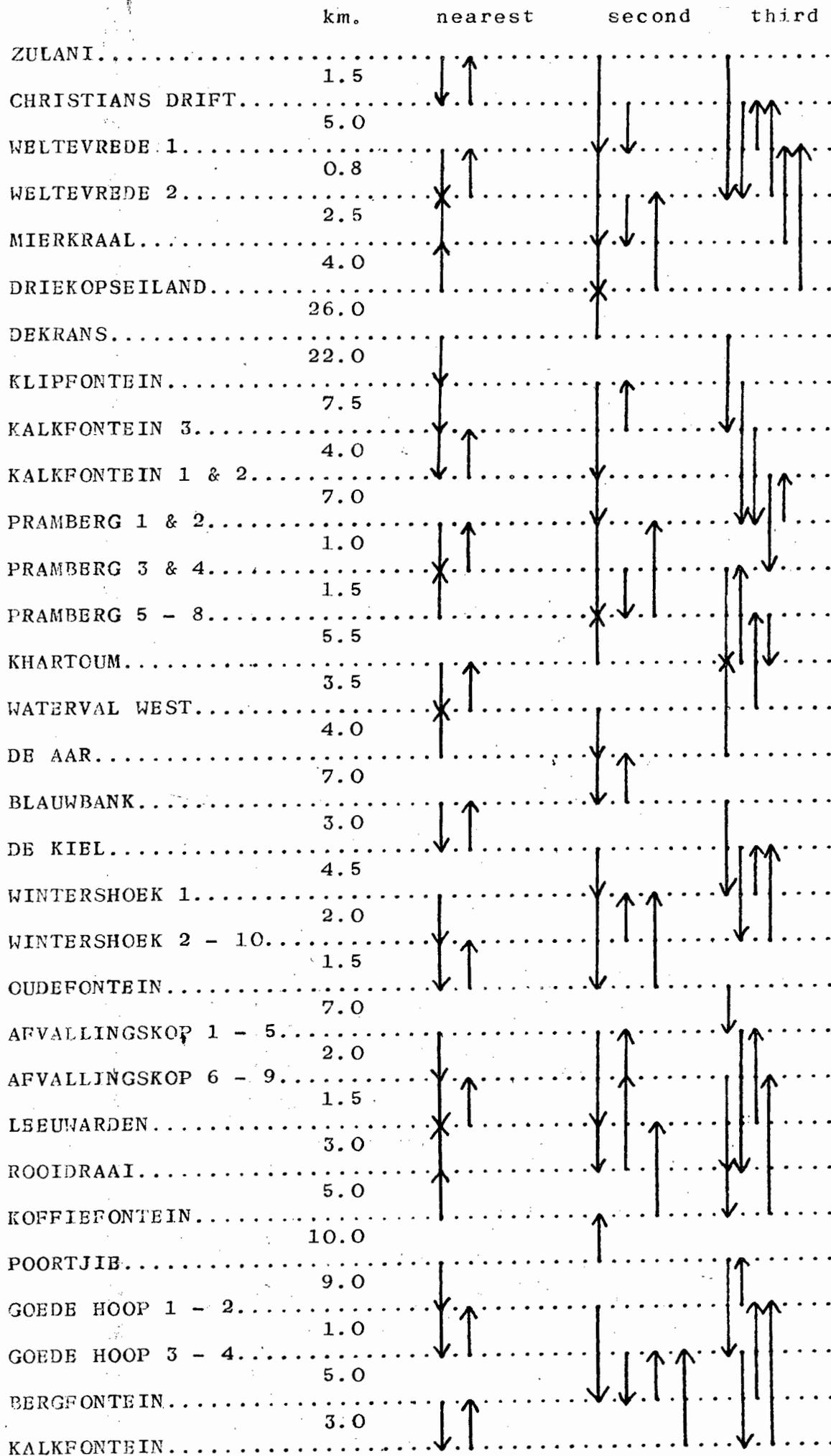


Fig 6:4

It has been shown by Clark (1956) that when the spacing between points is random, the proportion of points which have n th order of reflexive nearest neighbours is equal to $(2/3)^n$. There is a uniform spacing of points when the proportion of points having n the order reflexive nearest neighbours is greater than $(2/3)^n$ and the spacing is grouped when the proportion is less than $(2/3)^n$. The greater the deviation from $(2/3)^n$ the more pronounced the grouping or uniformity. In simplified terms this means that in a random spacing of points the proportions of points having reflexive first, second and third nearest neighbours are $2/3 = 0.667$, $(2/3)^2 = 0.444$, and $(2/3)^3 = 0.296$ (Dacey 1960). In order to determine the structure of the distribution of the Settlement Locales it is necessary to compare the observed proportion of reflexive nearest neighbours with the expected proportion in a random distribution and this has been done below:

<u>NORTH BANK</u>			
	<u>Observed Proportion</u>	<u>Expected Proportion</u>	<u>Description</u>
Nearest	0.715	0.667	Uniform
Second	0.429	0.444	Grouped
Third	0.286	0.296	Grouped
<u>SOUTH BANK</u>			
Nearest	0.714	0.667	Uniform
Second	0.353	0.444	Grouped
Third	0.353	0.296	Uniform
<u>COMBINED</u>			
Nearest	0.645	0.667	Grouped
Second	0.258	0.444	Grouped
Third	0.194	0.296	Grouped

These figures and the derived "descriptions" show that there is not a clear cut result to this analysis. The "Combined" Settlement Locale analysis is the only one that produced a positive result: taken as a whole the Settlement Locales on the north and south banks of the Riet River are slightly grouped. The adjective "slightly" is added here because as we have seen, the degree of grouping or uniformity is indicated by the degree of deviation from $(2/3)^n$ and in this case the deviation is not very great indicating slight rather than marked grouping.

The results achieved for the north and south banks are rather anomalous; the description shifts from uniform to grouped

depending upon the particular nearest neighbour being analysed. However, in these cases, too, the deviation from the expected proportion is not very great.

In an ideal random situation the observed proportion of reflexive nearest neighbours would coincide exactly with the expected proportion. Random distributions are, however, not as common as one would think and so the chances of obtaining a precise coincidence between the observed and expected proportions in a nearest-neighbour analysis would be equally remote. The fact that the nearest-neighbour results for the north and south banks straddle the expected random proportion may justify interpreting the situation as representing a more or less random distribution of Settlement Locales. Certainly there is no clear grouping or uniformity on either north or south banks and the results seem to tend more towards a random distribution than towards either a uniform or a grouped distribution.

We may therefore conclude that, on the basis of a nearest-neighbour analysis, the distribution of Settlement Locales on the north and south banks of the Riet River does not follow any clear cut pattern in that it is not obviously influenced by factors creating a situation where either grouping or a more or less uniform distribution is necessitated.

The situation is, however, slightly different when the Settlement Locales from both banks are considered in combination. This "slightly grouped" result obtained may be a reflection of the fact that the distribution pattern on both banks is more or less similar. There are, for example, few areas along the Riet River where the occurrence of Settlement Locales on the north bank is not complimented by the occurrence of Settlement Locales on the south bank. This coincidence is by no means a general rule as a glance at Fig 6:5 will show, but there are enough complimentary north and south bank occurrences of Settlement Locales to affect the nearest-neighbour analysis to the extent of producing a "grouped" result.

We have already seen that the Settlement Locales are likely to represent the locations from which the various environmental resources were exploited. The distribution of these locations is, as the nearest-neighbour analysis has shown,

not clearly patterned and their distribution can be regarded as approaching a random situation. Each of these Settlement Locales does not, however, consist of an equal number of Settlement Units; the number of Settlement Units per Settlement Locale varies from one to thirteen. We have already pointed out that the fact that Settlement Units occur singly seems to suggest that each represents some sort of discrete socio-economic unit. However, this does not explain why most Settlement Locales have more than one Settlement Unit and this is the question that must be investigated now.

It would seem a reasonable assumption to make that the number of Settlement Units in any Settlement Locale is an indication of the intensity to which that location was exploited: clearly an area with thirteen Settlement Units is likely to have been more intensively exploited than an area with only one Settlement Unit. However, this intensive exploitation could take two forms and these could operate either independently or in varying degrees of combination. The Settlement Locales with more than one Settlement Unit could represent locations that were exploited "intensively" by several Settlement Units operating simultaneously in close proximity, or the Settlement Locale may have been exploited "intensively" by the (more or less) continuous occupation through time - in short each Settlement Locale may consist of several contemporary Settlement Units or it may have a sequence of Settlement Units built through time beginning with the earliest occupation and ending with the latest.

It would be extremely difficult to establish which of these two alternatives actually occurred. In the first place it would require the detailed study of every Settlement Unit in several Settlement Locales with a view to establishing a relative time relationship between the Settlement Units - something which has not been attempted in this project. It does seem doubtful, however, if such a relationship could be established. If, for example, a relatively short time span is involved, the standard error of any radiocarbon date could possibly be greater than the total length of time that that particular Settlement Locale was occupied and a series of dates would still therefore not reveal whether or not the Settlement Units were contemporary or if they

represent the accumulation of say 20 or 30 years of exploitation. (The C14 date from Khartoum 1 in fact proved this point - see Appendix 6.)

Empirical information on the nature of the occupation of the Settlement Locales is therefore not available but from a purely theoretical point of view it is possible to draw some conclusions as to which pattern of exploitation is more likely to have occurred.

There has been much discussion in recent years on the amount of territory required to support any given group of people according to particular technologies and on the area of territory or distance from any site which it is economically feasible to exploit. Estimates have varied from worker to worker according to the different approaches employed. Allan (1970), for example, claims that as a world average for hunter-gatherer societies, 26 sq. km. are required to support one individual; Vita-Finzi and Higgs (1970) have suggested that a group will only find it worthwhile to exploit resources within 2 hours walking distance of the site, while Lee (1965) suggests a radius of about 10 km. for the area of exploitation. These estimates are for hunter-gatherer societies but as technology improves the amount of land needed per individual decreases radically. Allan (1970) makes the following statement after claiming that 26 sq. km. are needed in hunter-gatherer societies: "The most extensive system of cultivation known to me, practised on the poorest soils with no implement but the axe and only finger millet as a major crop, can support 40 times as many people." However, despite any given area of land being able to support more and more people with ever increasing technological skills, all areas obviously have a limit to the number of people that they can support and all technologies impose a limit to the distance from any site that it is economically feasible to exploit resources. In the present day rural economies Chisholm (1968 : 66) found that "at a distance of 1 kilometer the decline in net return is large enough to be significant as a factor adversely affecting the prosperity of the farming population...."

At this stage we do not know the area needed or exploited by the inhabitants of a Type R Settlement Unit but clearly this is

likely to be less than for a hunter-gatherer group but more than for present day farming communities like those referred to by Chisholm. On this basis, even though we do not know the area exploited by a group inhabiting a Settlement Unit, it does seem doubtful whether large numbers of Settlement Units in a Settlement Locale within $\frac{1}{2}$ km of each other could exist simultaneously for any length of time as viable economic units; the pressure on the land would probably have been too great.

This is an argument against the Settlement Units in Settlement Locales being contemporary - what evidence is there for regarding them as representing a sequence through time?

Higgs (1967) has made some very pertinent observations. During his studies on the Palaeolithic of Greece, Higgs noted the exploitation patterns of present day Greek pastoralists and he makes the following comments: "Now some of the Sarakatsani (the Greek pastoralists) artefacts are related to the tribe's mobile way of life. They live in tents or temporary semi-permanent structures, round in shape if their stay is to be short, as round houses are quicker to construct; rectangular if their stay is to be long, as they are more comfortable. Such houses will leave a false impression of permanence in the archaeological record, for outside them is sometimes a low stone wall erected to protect them at the base against wind or heavy rain. It is not a part of the foundation They burn their temporary houses as a smoke signal to other groups that they are moving on They never camp precisely in the same place a second time. This is because their flocks and herds are gathered at night to protect them from predators, and the area round the camp is consequently unusually fertile and good grazing the following year. Previous camp marks often give a false impression of a vacated village."

It is not suggested that direct parallels exist between the Riet River area and Greece, but some of Higgs' observations are of interest in our context. It is possible that the different numbers of Settlement Units in some Settlement Locales may represent a situation through time (whether this be seasonal or more widely spread in time) where groups of people returned to the same Settlement Locale (as a location for the exploitation of the available resources) but did not return to the same

Settlement Unit (for reasons which may be similar to those mentioned by Higgs or for religious reasons or for any of a multitude of others). The fact that Type R Settlement Units follow a distinctive pattern with a large central enclosure surrounded by smaller ones makes them readily recognisable as discrete entities but had the pattern not been so clear out it may not have been possible to distinguish the constituent Settlement Units in each Settlement Locale and the whole Settlement Locale would possibly "give a false impression of a vacated village". The very confined area within Settlement Locale Wintershoek 2-10 may well have been a factor in the non-differentiation of Settlement Units Wintershoek 8, 9 and 10. (See Fig. 2:2; Plate 2.)

There is some direct evidence to suggest that at least a few Settlement Units are older than adjacent ones. This evidence is difficult to quantify as it takes the form of some Structures appearing to have been robbed of material to build other (presumably later) Structures. Maggs (1971 : 49), for example, remarks, when describing his Trench 3, that "Most of the stones from the wall had been robbed to build later enclosures nearby, so this would probably be a relatively early one." The writer has made similar observations but, as pointed out, these are somewhat subjective impressions.

All this evidence does suggest that it is probable that the Settlement Units all represent discrete socio-economic units and that through time the builders of these Settlement Units returned more frequently to some Settlement Locales than to others. Larger Settlement Locales are therefore more likely to represent preferred exploitation locations than more heavily populated areas.

So far we have only established that these Settlement Locales are more or less randomly spaced along the Riet River and that the Riet River as a water source was the prime factor in the orientation of the Type R Settlement Pattern. Let us therefore turn attention to other factors with a view to determining the reasons for the distribution of the Settlement Units themselves, and the reasons why some Settlement Locales were apparently more intensively exploited than others.

A natural extension of the consideration of the Riet River as a geographical feature is a discussion of the distribution of Settlement Units relative to other geographical or geological features. The geology of the Type R Settlement Area is, as we have already seen, relatively simple: the two main geological formations encountered are the Dwyka and Ecca Series of the Karoo System. In order to establish whether or not the distribution of Settlement Units differed according to differences in geological area the Chi-square test was used. In this test a comparison was made between the observed distribution of Settlement Units (o) and the pattern expected if the distribution in each geological area was the product of random factors (e). The null hypothesis set up was that there is no significant difference between geological areas and that the observed distribution is random. The expected distribution of Settlement Units is expressed as a percentage being equal to the proportion of the length of the Riet River flowing over the respective geological areas.

The null hypothesis was tested by applying the following formula:

$$\chi^2 = \text{sum of } \frac{(o - e)^2}{e}$$

and the data are shown below:

	<u>Dwyka</u>	<u>Ecca</u>
Per cent of total distance	63.8	36.2
Expected distribution (e)	61	34
Observed distribution (o)	13	82

$$\chi^2 = 105.4$$

The degrees of freedom are N-1, or in this case 2-1 and so we have only one degree of freedom. The probability of the null hypothesis being true is very much less than 1 per cent, and so on the basis of this test we must regard the distribution of Settlement Units as being strongly influenced by geological areas.

However, the solution is probably not as simple as that. In the first place the geological areas are very generalised, and in the second place, many other factors may also be involved.

In discussing the first consideration we must note that both the Dwyka and Ecca Series are composed of more than one rock type and that both have been invaded by yet another rock

type - the Karoo Dolerite. We have already mentioned that the Type R Structures were all built from rocks of dolerite. Clearly Structures could not be built in flat areas where there were no rock outcrops without the necessary raw materials being transported to the appropriate location. This latter course seems not to have been resorted to and in all cases Settlement Units occur on or very close to outcrops of rock that could be used for building Structures. Figs. 6:6 & 7 show the distribution of dolerite outcrops and the associated Settlement Units. The western map is based upon information obtained from Du Toit (1908) and from observations on aerial photographs, while the eastern distribution was plotted in the field by trained geologists and represents unpublished information; the eastern map is likely to be more detailed than the western one, but they nevertheless show that the Settlement Units were built close to or on top of dolerite outcrops. The distribution of Settlement Units is therefore more likely to be related to the occurrence of rocks suitable for building than to other features in the solid geology of either the Dwyka or Ecca areas. The maps clearly show that while dolerite is possibly more widespread in the eastern areas it is not as markedly biased towards the Ecca areas as the distribution figures for the Settlement Units would suggest. Maggs (1971 : 40) has pointed out that the area between Jacobsdal and Plooyburg "... is predominantly flat with few of the dolerite outcrops from which the structures were built," and suggests that this would account for the absence of many Settlement Units in that area. This observation on the relative abundance of dolerite outcrops is correct as the maps show, but they are by no means absent and so there must be some other reason for the scarcity of Settlement Units in the Dwyka or western area of the Riet River; while dolerite outcrops might have dictated where Settlement Units had to be built they were by no means a limiting factor for only a small proportion of the outcrops were exploited.

From this it seems clear that some other factor over and above simple geology was influencing the distribution of the Type R Settlement Units and so we must turn to the second of our two possibilities mentioned above, and look for other factors which may have influenced the distribution of the Settlement Units.

adapted from Du Toit 1908

SETTLEMENT UNITS RELATIVE TO DOLERITE

WESTERN SECTION

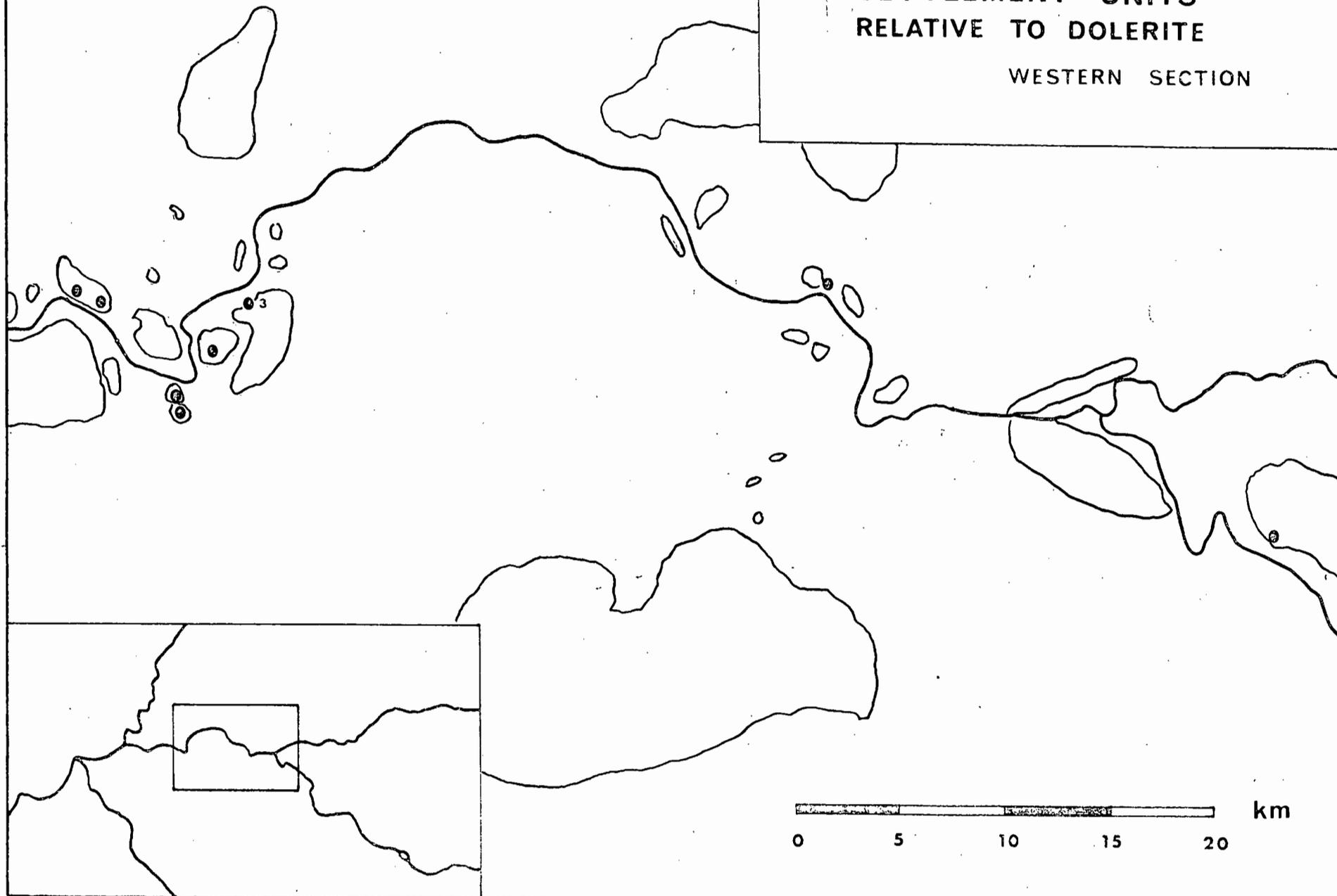


FIG 6:6

SETTLEMENT UNITS RELATIVE TO DOLERITE

EASTERN SECTION

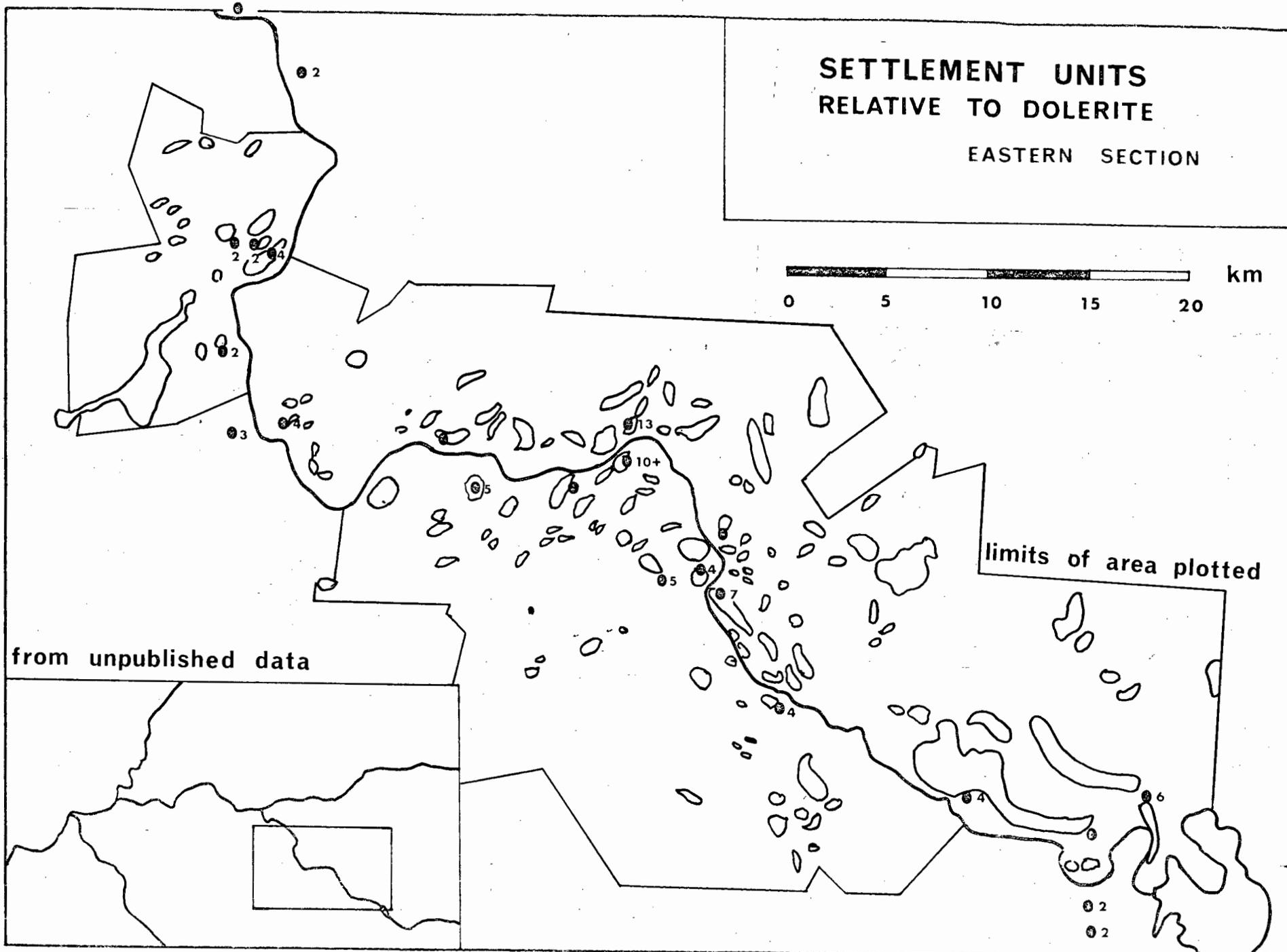
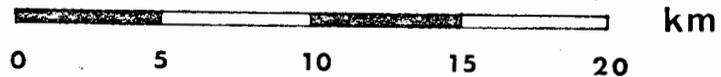


FIG 6:7

One factor of possible significance is the distribution of vegetation types. As we have already seen the Riet River flows through two major vegetation zones but that these zones have seen great changes over the last few hundred years. However, the available information suggests that just as the Riet River today flows through two distinct zones, so in the past, whatever changes may have occurred since, it nevertheless still flowed through two distinct zones and these past and present zones are more or less coincident. In order to see if the distribution of Settlement Units is related very broadly to differences in vegetation either today or in the past (the two pairs of zones being similarly distributed) the Chi-square test was used to test the hypothesis that there is no significant difference in the occurrence of Settlement Units within the vegetational areas existing today. The data are shown in the table below and were derived in the same way as for the geology:

	<u>Kalahari Thornveld</u>	<u>False Upper Karoo</u>
Per cent of total distance	44.7	55.3
Expected distribution (e)	42.0	53.0
Observed distribution (o)	9	86

$$\chi^2 = 46.4$$

On this result we must conclude that the distribution of Settlement Units is also strongly influenced by the vegetation areas, but once again the answer need not be so simple. The earlier discussion on the vegetation of the Riet River area showed that while there are differences between the Kalahari Thornveld and False Upper Karoo existing today, and that differences existed between the various vegetation types occurring in the past, these differences are not so radical as to justify such a marked difference in the distribution of Settlement Units; if the two areas were exploited well within their limits the subtle differences that do exist are unlikely to have been of significance (see Section 3). We must, therefore, conclude again that some other factors have had a more important influence on the distribution of the Settlement Units causing the marked concentration of Settlement Units in the east.

The data available on the fauna of the area are scant and not amenable to detailed analysis; what information we do have suggests that major differences are not likely to have existed along the section of the Riet River under consideration, and so we may be justified in assuming that faunal distributions are not likely to have influenced the distribution of Settlement Units very greatly.

It would therefore seem that no adequate explanation for the tendency of Settlement Units to be more concentrated in the eastern section of the Type R Settlement Area can be advanced on the basis of consideration of the natural environment, although this distribution coincides with differences in geology and vegetation. Struever has, however, made a remark which may be relevant in this situation. He says, "Often no adequate explanation for a particular episode of culture change is possible by analysing alone a series of prehistoric adaptations to the physical environment. Explanations may be in new selective pressures associated with the social environment" (Struever 1971 : 12). If there is no explanation in the natural component then we must turn to the cultural component in the external environment for possible answers.

We have already seen that the Type R Settlement Area is confined to a certain section of the Riet River. No Settlement Units have been identified either to the north or to the south of the Riet River. Maggs (1971 : 40) has remarked on the absence of Settlement Units on the Modder River but does not offer any explanation: "Considering the large number of settlements along the Riet, their absence along the Modder is surprising. The landscape is relatively flatter, but this alone would not seem to be sufficient reason." At this stage there does not seem to any demonstrable reason for the north-south limitations of Settlement Units to the Riet River. From a purely theoretical point of view it can be suggested that the Type R Settlement Pattern may have emerged on the Riet River and that in time it would have expanded to embrace the Modder River but that that expansion did not materialise. If as a way of life, the Type R Settlement Pattern did emerge on the Riet River somewhere within the Type R Settlement Area then the natural expansion of this way of life

would initially have taken place along rather than away from the Riet. This early expansion along the river may have been inhibited towards the west and this may be what is reflected in the fact that the Settlement Locales to the west were not as intensively exploited as those in the east - taking the numbers of Settlement Units per Settlement Locale as an index of the intensity of exploitation. (Fig. 6:5 shows the number of Settlement Units per Settlement Locale along the river.)

The people may have moved west rather than further east because, as we saw in Section 3, the lower Riet River was a more reliable water source than the upper Riet because of the inflow of the Modder River.

This inhibiting of expansion to the west may have been caused by the exploitation of that area by groups occupying a broadly similar ecological niche. Discussions in Sections 4 and 5 on the Prehistory and History of the area have revealed several groups which may represent cultural systems inhibiting expansion to the west but, as we have seen, there is no reason to believe that we have identified all the cultural systems that may have existed in the area in either the archaeological or historical records. It is therefore impossible in our present state of knowledge to identify any cultural system or systems which may have been in contact with the Type R Settlement Pattern and which may have inhibited expansion. To suggest, for example, that the cattle-keeping San who lived at Karupny (and apparently did not build structures that can at present be identified in the archaeological record) or the peoples represented by the pot lugs (when no lugs have been recovered from Settlement Units) were representatives of the cultural systems inhibiting expansion to the west would be to assume that we have identified all likely candidates and isolated the specific ones and this is simply not the case.

At this stage therefore it is only possible to put forward the tentative suggestion that the Settlement Units tend to be concentrated more in the east than the west because of some or other as yet unidentified cultural pressures which were inhibiting expansion and intensive exploitation in the west. The western extremity of the Type R Settlement Area is near the

Vaal and Orange Rivers and these waterways were the focus of intensive cultural activity and exploitation in the past; some of these cultural systems are reflected in the writings of the early travellers as we have already seen.

What, in conclusion, can be said about human activity within the Type R Settlement Area and to what extent is this pattern a reflection of the external environment?

The Type R Settlement Area seems to have emerged in an area that is marginal both from a climatic and a cultural point of view; it borders on the areas less liable to drought which seem themselves to have been the limits of the southerly penetration of Iron Age settlement. The question now arises as to what extent the Type R Settlement Pattern itself may be regarded as "marginal" between Iron Age and "Later Stone Age" hunter-gatherer exploitation patterns - this is something that will be explored in the following Section, when the pattern existing on individual Settlement Units is investigated.

There is clear evidence of the linear patterning of Settlement Locales along the Riet River. This water resource was probably the most important factor influencing the placing of Settlement Locales within the actual Type R Settlement Area and this "natural" pattern is clearly reflected in the Type R Settlement Pattern.

The differing numbers of Settlement Units per Settlement Locale are interpreted as being evidence of different degrees of intensity of exploitation in the various Settlement Locales. The easterly areas seem in general to have been more intensively exploited than the westerly areas and this difference in distribution coincides with variations in geological and vegetational areas. The differences in distribution may, however, be related to some other factors over and above simple geological and vegetational considerations as they seem to be far greater than the subtle geological and vegetational variations from west to east.

One of these factors is possible the existence of other cultural pressures. Other cultural systems are known to have existed in adjacent areas but not enough is understood about their nature for any specific influences to be defined.

However, in the absence of any evidence of natural factors influencing the distribution of Settlement Units within Settlement Locales some or other unknown cultural systems can, with some justification, be assumed to have influenced the distribution of the Settlement Units.

While being mindful of the gaps in our knowledge and of the various "assumed" possibilities, there does, nevertheless seem to be some evidence to support the contention that if the physical or external environment is structured then the closely linked settlement pattern does reflect that environment to a certain extent: the external environment would certainly appear to be the primary factor in the structuring of the Settlement Pattern.

SECTION 7.HUMAN ACTIVITY WITHIN A TYPE R SETTLEMENT UNIT.

"... the evidence of things not seen."

Hebrews 11 : 1.

INTRODUCTION.

Attention must now be turned to the archaeological pattern existing on individual Settlement Units. These Settlement Units, as we have seen, represent some sort of discrete socio-economic units within the larger framework of the structure of the Settlement Areas and the Type R Settlement Area itself. As such, they therefore represent the remains of a different level of human activity - activity at a specific spot rather than within a general area.

Locales?

In this Section attention will be focused upon the Settlement Unit Khartoum 1. However, as we shall see, the preservation of archaeological remains is not good in the Type R Settlement Area and so it is necessary to supplement and amplify the findings made at Khartoum 1 with further evidence obtained from two main sources. The first of these is the excavations carried out by Maggs at OFD 1 Settlement Unit A (or in the present terminology, Settlement Unit Oudefontein 12), while the second source is the field observations and collections made by the writer on other Settlement Units. (As the map in Fig. 2:3 showed, of the 95 Settlement Units located some 66 were studied in the field and of these 8 were surveyed in detail and 10 yielded additional cultural material.)

The Khartoum 1 Settlement Unit was selected for detailed investigation primarily because there appeared to be relatively good preservation of deposit but also because it presented a clear picture of many of the features noted on the Settlement Units in general. It may be regarded as a "typical" Type R Settlement Unit, so far as the concept of "typical" has any meaning in archaeology.

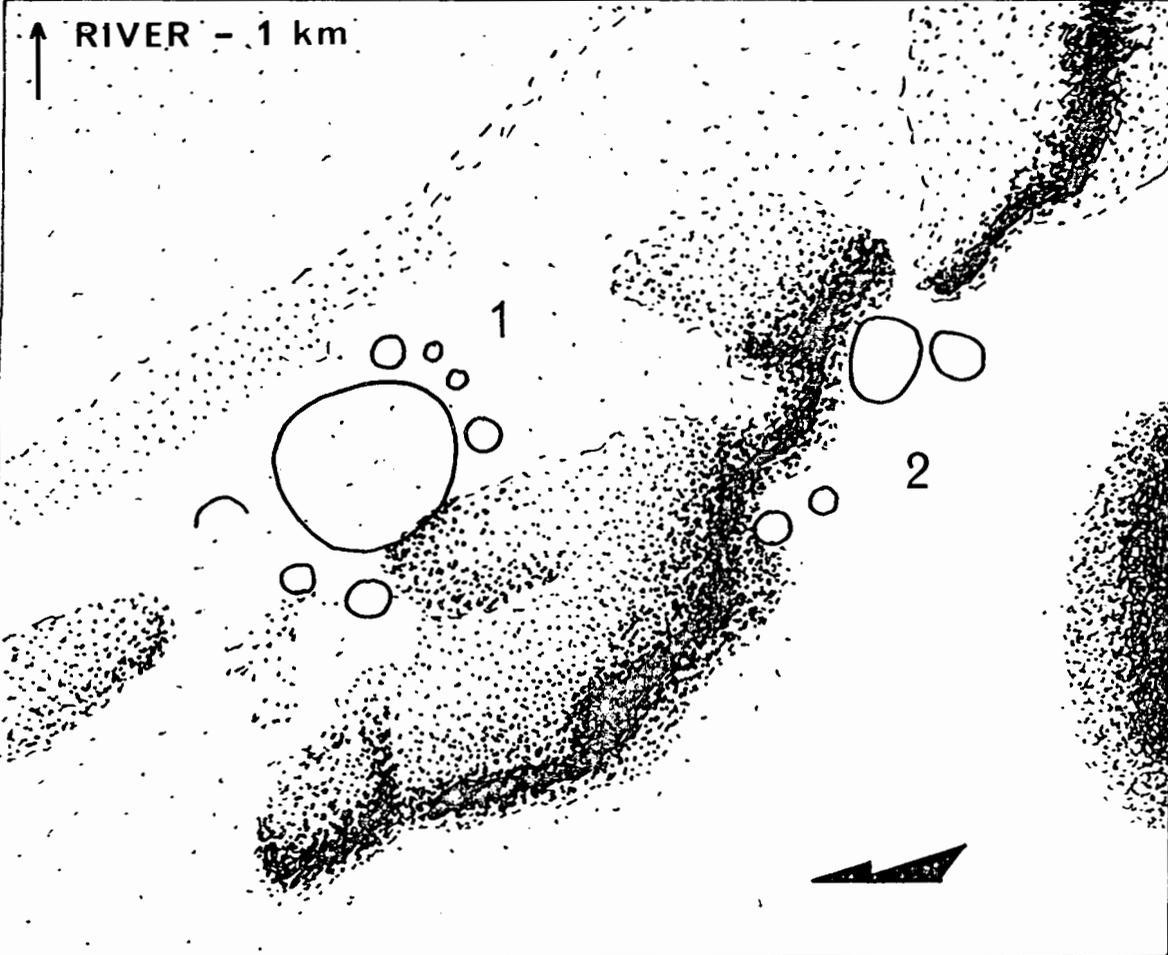
THE SITING OF KHARTOUM 1.

Khartoum 1 is situated on the farm Langhoek in the Jacobsdal district ($29^{\circ}16.3'S$ $24^{\circ}44.6'E$). The name "Khartoum"

is derived from the original farm Khartoum which was just north of Langhoek; today, however, Khartoum has been incorporated in the farm Langhoek and the original name has fallen into disuse. The name "Khartoum" has, nevertheless, been retained in the designation of the Settlement Units as all the original farm names and boundaries are shown on the 1:50,000 map series and it is upon these maps that the occurrence of Settlement Units has been plotted.

Langhoek is about 16 km south of Jacobsdal on the old Jacobsdal-Koffiefontein road and lies on the south bank of the Riet River. Khartoum 1 is situated on a dolerite ridge just to the east of the main road. A second Settlement Unit, Khartoum 2, is located just south of Khartoum 1. The sketch in Fig. 7:1, which is based upon an aerial photograph, shows Khartoum 1 and 2 and their relationship to the dolerite outcrops.

The geology of the area (Fig. 7:2) is typical of the entire Riet River area despite the change from Ecca to Dwyka in the western section. The area is a flat landscape of Ecca shales covered by red sand and river silts (along the river), punctuated by kopjes and ridges composed of Karoo Dolerite. The Settlement Units occur on a dolerite ridge which seems to be part of a relatively widespread dolerite outcrop; just south of the ridge with the Settlement Units is a low kopje which is part of the same dolerite outcrop although differential weathering has cut the kopje off from the ridge - on the surface, at least. West of the main road is another dolerite ridge, again probably related to the main outcrop. Away to the west there is a low range of dolerite kopjes while to the north is the tall Pramberg, apparently so named because of its resemblance in shape to a woman's breast (Van Vreeden 1961). Further kopjes and ridges occur to the south of the Settlement Area. The dolerite ridge on which the Settlement Units occur is the nearest ridge to the river which lies about 1 km to the east. The area between the ridge and the river is a flat shale surface covered by a thin layer of soil. Excavations just below the dolerite ridge showed the surface soil to be about 20-30 cm deep, but it probably increases in depth as the river is approached, and the terraces encountered.



KHARTOUM

RELATIONSHIP OF UNITS
TO DOLERITE OUTCROPS

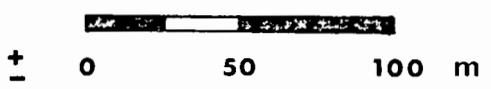


Fig 7 : 1

GEOLOGY OF KHARTOUM

1 : 20,000



dolerite



soil covered shales

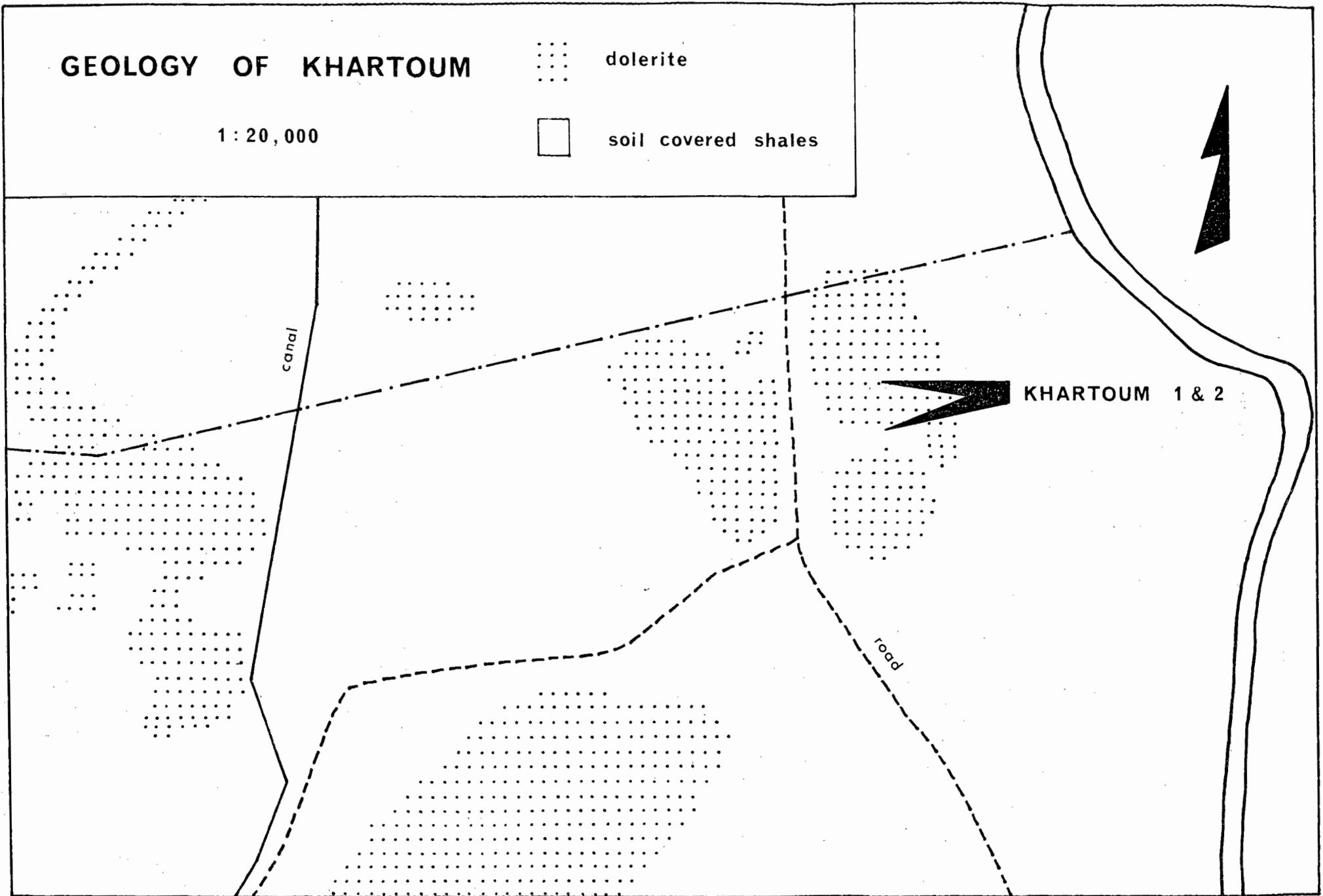


Fig 7:2

The dolerite ridge itself is a prominent feature in the landscape and can be seen from a distance. It is typical of the dolerite ridges in the area consisting of large boulders with a thin covering in places, of red sand. This red sand is probably derived from the weathering of the dolerite (Piaget 1963). The structure of the ridge, as produced by natural weathering, has very largely dictated the siting of the Settlement Units. As can be seen in Fig. 7:1 the most prominent part of the ridge runs more or less NW - SE; to the south this ridge falls away steeply to the normal ground level presenting a steep rocky face which has to be traversed with care, though not with difficulty. On the north side, however, the drop from the top of the ridge is not so steep, nor does it go down to normal ground level. There is, rather, an elevated area about 100 m across which is covered by a thin layer of red sand, which is, in turn, bounded by a further outcrop of boulders which slope down to the normal ground surface. Looking at the dolerite ridge from the north-east, therefore, it appears as a raised platform with a higher ridge running along the back. It is on this elevated "platform" that Khartoum 1 is situated. The Settlement Unit commands a good view to the north and north-east (towards the river) while being bounded to the south and west by the higher ridge.

Khartoum 2, on the other hand, is situated to the south of the high ridge. The Structures are actually built on the normal shale ground level with the steep dolerite ridge forming a natural backdrop to the north of the Settlement Unit. The low kopje is situated about 100 m to the south and provides some protection from that direction. Khartoum 2, being situated on the normal ground level, does not command the same view as does Khartoum 1 and the nearest point on the river is not visible from the Settlement Unit itself.

The plain between the dolerite ridge and the river is treeless but, following the rains of early 1972, a good growth of grass (mainly Aristida) occurred around the dolerite ridge and down as far as the erosion dongas on the river terraces. On the dolerite ridge, however, there are several shrubs and large trees.

The siting of Khartoum 1 and 2 is similar to that of all Settlement Units, although, of course, each Settlement Unit is

to a certain extent unique in itself. The Settlement Units are always, however, placed in some kind of close relationship to dolerite outcrops whether this be on top of the outcrop (as in Khartoum 1) or adjacent to the outcrop (Khartoum 2), and, as we have already seen, they are always very close to the Riet River.

THE SETTLEMENT UNITS.

We must now turn attention from the actual setting to the Settlement Units themselves.

Khartoum 1 exhibits the "classic" Type R Settlement Unit ground plan (Fig. 7:3), consisting of a centrally placed large primary enclosure, surrounded by a series of smaller primary enclosures. In this instance Structure L is the large primary enclosure while Structures A, B, G, H, J and K represent the small primary enclosures. Structure D, which is today only a seim-circle, may well have been a complete circle when it was used; although the stone circle is not complete, inspection of the deposit seems to suggest that the circle was carried on as indicated by the dotted line in the Figure. Structure C occurs a little way away on a gentle slope and there is no direct evidence to suggest that it ever formed a complete circle. Structures E and F are isolated walls and there is no evidence to show that they were ever parts of enclosures.

The large primary enclosure, Structure L, is very nearly a perfect circle some 52 m in diameter (which is somewhat larger than the average size as we shall see later). The walling, in common with most other Structures, is very much collapsed and is little more than 0.5 m in height today. The original width of the wall would have been about 1 m. The wall is built of dolerite boulders of perhaps 25-30 cm in length on average. The boulders were packed together to create the walling but being for the most part rounded, the walling could never have been as solid as it would have been had flat slabs been used. The nature of the building material is undoubtedly a factor which contributed to the present day collapsed state of the walls. An interesting feature in Structure L is the apparent determination of the builders to create as near a perfect circle as possible. The south-westerly section of the wall meets the steep edge of the main high dolerite ridge but instead of the wall running along

KHARTOUM 1

Lower Grindstones

x whole

+ frags.

(S) Soil samples outside exc.

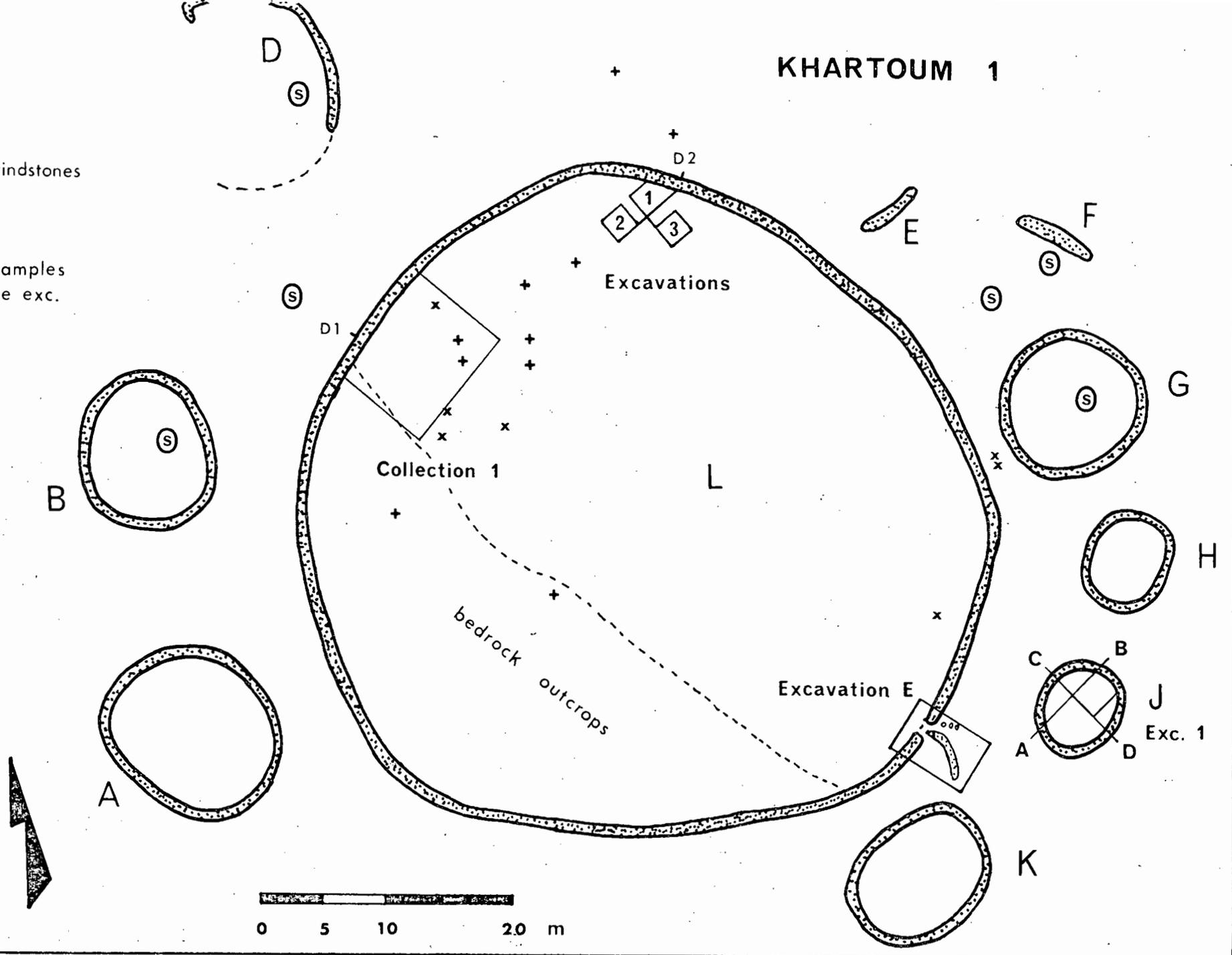


Fig 7:3

the base of this ridge, and so distorting the circle, it actually mounts the ridge and is built on the slope of the ridge for the distance required to maintain the symmetry of the circle (see Plates 3 & 4). It is, furthermore, of interest to note that the walling does not merely abutt the ridge but is actually continued over it so forming a complete primary enclosure.

Evidence of an entrance in the primary enclosure Structure L would be of importance but there is no clear indication where an entrance could have been. The most likely spot is on the south side near Structures J and K. Here there is a distinct break in the walling about 2 m wide. At right angles to this and directly in front of the opening is a trail (rather than a wall) of stones about 5 m long, as well as various isolated stones dotted about. It is not entirely clear what the purpose of this "wall" is or if the "entrance" is in fact an entrance. A possible explanation for the arrangement is that the trail of stones represents the material that had at one time filled in the entrance, and that at some stage either during the occupation or later an entrance or break was made in the enclosure. The writer is not entirely happy about the entrance because the walling at each side of the entrance does not appear to have been "finished off" and also because continuing along the entrance is a double row of stones flush with the present ground surface suggesting wall "foundations", all part of the actual enclosure wall (see Plate 5).

More or less directly opposite to this "entrance", just north of the excavations, is another "possible entrance". This one is, however, even less convincing than the first. It is an "entrance" today but it still exhibits the same continuity in the wall despite the fact that most of the stones have been removed. These entrances may well have been made relatively recently either by the farmers or by shepherds in order to facilitate the entry of stock into the large enclosures for today they provide as good, if not better, grazing than the surrounding area. This growth is, of course, caused by the relatively higher phosphate content of the soils within the enclosures (Maggs 1971; see below).

The small primary enclosures were constructed in the same way as the large primary enclosure; there does not appear to be any appreciable difference in the existing height or

thickness of the various walls. In contrast to many of the Settlement Units, all the Structures are clearly defined and recognisable. A most important factor contributing to the clarity of the Structures is the relative scarcity of general dolerite rubble. At Khartoum 1 (and more so at Khartoum 2 being situated on a shale rather than a dolerite bedrock) the immediate vicinity consists of a good soil cover. On other Settlement Units (like Pramberg 1 and 2 immediately to the north) there is so much rubble lying about that it is difficult to distinguish some of the more collapsed walling.

None of the small primary enclosures (Structures A, B, D, G, H, J and K) has a clearly defined entrance - not even anything approaching the two "possible entrances" in Structure L.

There is at present little that can be said about Structures E and F. The shallowness of the deposit in their immediate area does not seem to justify excavation. A soil sample was taken next to Structure F to see if any increase in P_2O_5 content could be noted - the result of this test will be discussed later.

Turning now to Khartoum 2, we see a slightly different picture. Khartoum 2 is not as well defined in terms of the Type R pattern as is Khartoum 1 (Fig. 7:4). The large primary enclosure is not as obvious as it is on other Settlement Units. Structure C is, however, the largest enclosure and therefore rates as the "large" enclosure. It is more or less centrally placed with Structure D being to the south and Structures A and B to the west. There do not seem to have been any more Structures in the immediate vicinity.

The construction of the walls is similar to that on Khartoum 1. None of the enclosures has any obvious entrance.

Khartoum 1 and 2 between them show all except two of the features associated with the actual layout of the Type R Settlement Unit. The exceptions are the partial surrounding walls and secondary walling. Partial surrounding walls are, as the name implies, walls that surround part of the actual Settlement Unit, but never seem to be completed in that they do not form an enclosure around the entire Settlement Unit. The best example of a surrounding wall is to be seen on Afvallingskop 6 (Plate 1), but other less well defined walls can be seen on

KHARTOUM 2

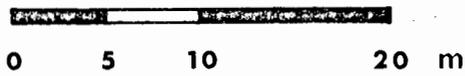
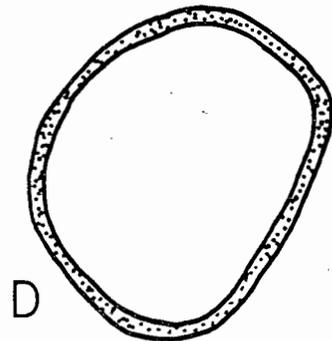
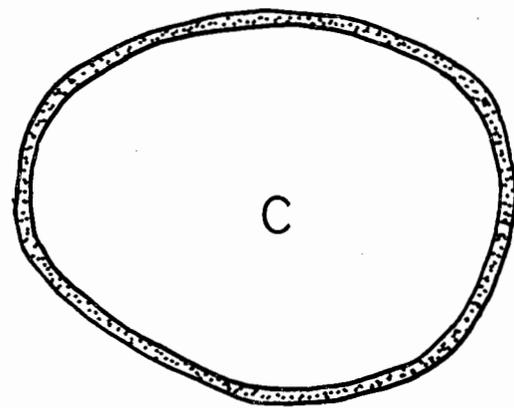
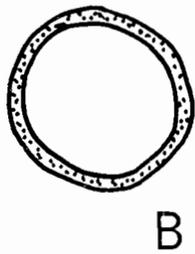
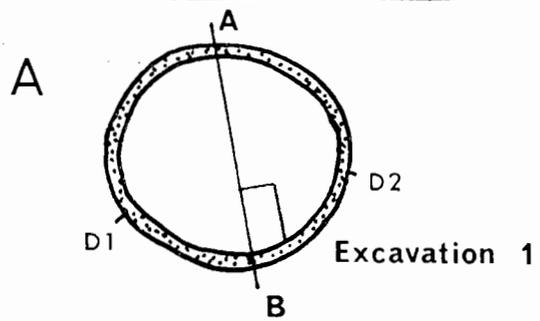


Fig 7:4

Oudefontein 4 and Wintershoek 6, among others. It is not clear what the function of these Structures was, but they were obviously not very important to the inhabitants because they occur only on a handful of Settlement Units. All of those which the writer has seen seem to be placed between the Settlement Unit and an adjacent high kopje and so one possible function may have been to stem the direct flow of rain run-off from the kopje and to divert the water away from the actual enclosures. Afvallingskop 6 is again a good example illustrating this situation (Plate 1). However, this explanation may not be the entire answer for there are other Settlement Units at the base of kopjes which do not have surrounding walls (e.g. Pramberg 3 and 4).

Secondary walling seems to have been equally unimportant to the inhabitants for like the surrounding wall, it does not occur with any great frequency nor is its occurrence consistent where it does occur. It may merely relate to individual ideosyncrasies or specific unknown circumstances on some Settlement Units. There is certainly no evidence at the moment to give a more concrete explanation.

The most important Structures on a Type R Settlement Unit, therefore, seem to be the primary enclosures which are rated either as "large" or "small". Clearly terms such as "large" and "small" without definition are relatively meaningless and so in order to see the range of sizes of enclosures and to try and give some meaning to the terms "large" and "small", the diameters of all primary enclosures observed on 18 Settlement Units were measured. A total of 105 enclosures was measured and the results are shown in a histogram in Fig. 7:5.

The histogram shows a large number of enclosures from 4-8 m in diameter and then another large group 20-24 m in diameter tailing off to 50-odd m in diameter. The important thing in this histogram is the bimodality rather than the actual height of the bars. The reason for this is that the histogram shows actual numbers of enclosures and not proportions and with our sample of 18 Settlement Units or 105 enclosures, clearly, by definition, the relative numbers of "large" and "small" enclosures should be 18:87. In physical number, therefore, the "small" enclosures should far outweigh the "large" enclosures.

However, if there is any validity or absolute definition for the terms "large" and "small", the bimodality of the histogram should coincide with the relative proportions of "large" and "small" on the basis of 18:87. A simple way of testing this coincidence is to work along from the "large" end of the histogram and count the 18 "large" enclosures and see if they form a distinct group (or "mode") on the histogram. When we do this, however, we find that working from the 1 enclosure in the 50-52 m group, the 18th large enclosure lies (theoretically) within the 20-22 m group which is almost the peak of the "large" mode. We must therefore conclude that there is no definite line between "large" and "small" enclosures and that the largest "small" enclosures may overlap with the smallest "large" enclosures. The terms "large" and "small" only have validity with reference to individual Settlement Units where the "large" enclosure can be isolated with reference to the relative sizes of all the enclosures; the terms are therefore relative and not absolute terms. They, nevertheless, do have some validity in defining the structure of individual Settlement Units.

EXCAVATIONS ON KHARTOUM 1 AND 2.

The field study of Settlement Units as series or groups of Structures within a given external environment must, naturally, raise several questions. Perhaps the most important of these are, first, the nature of the cultural material associated with the Settlement Units and the extent to which it reflects the external environment either through exploitation or contact, and second, the possible functions of the various Structures, again within the context of their external environment.

A series of small scale excavations was carried out on Khartoum 1 and 2 in an effort to throw some light on these problems. A complete and full answer can only really be expected through the total excavation of several Settlement Units but such large scale investigations were beyond the scope of a project of the size of that being described here. The results achieved in the small scale excavations do, nevertheless, throw some light on human activity on the Settlement Units.

KHARTOUM 1, STRUCTURE L, EXCAVATIONS 1 - 3.

Structure L on Khartoum 1 is, as we have seen, the large enclosure and a series of three excavations was carried out on the north-east side of the enclosure.

The "platform" on which Khartoum 1 is situated is not absolutely level but slopes very slightly away from the high dolomite ridge down to the north-east. The result of this is that most of the deposit on the south-west (or higher) half of Structure L has been washed away and bedrock exposed. The north-east half, on the other hand, being on the down slope has a good accumulation of deposit which, upon inspection, was found to be banked up against the walling. It is for this reason that these excavations in Structure L were undertaken on the north-east side of the enclosure.

Excavations 1-3 consist of a series of 4 square metre trenches (Fig. 7:6). Excavation 1 was extended by about 1.5 square metres to expose the wall of Structure L.

Excavation 1 (Plate 6) was laid out with the north corner abutting the wall; the east end of the grid was then extended to include about 2 m of the walling. Excavation was to proceed in 12 cm spits in the absence of any stratigraphic indications of changes in the deposit. At about 12-14 cm, however, a hard layer was encountered and it was decided to remove the first spit down to that level.

Prior to the commencement of excavation, the grid area was cleared of grass and a few fragments of ostrich egg-shell were recovered. The clearing of the grass disturbed the very surface of the deposit which proved to be loose red sand. As this surface sand was removed during excavation the soil became more compacted but was essentially similar to the surface deposit. The whole area to the level of the hard layer consisted of compacted red sand. Cultural and faunal remains were recovered over the whole area; ostrich egg-shell fragments were particularly numerous. The very hard nature of the deposit made the excavation of the relatively fragile faunal remains rather difficult.

As the deposit overlying the hard layer was removed it became apparent that the hard layer may represent some type of floor. Several bone fragments were recovered from the surface

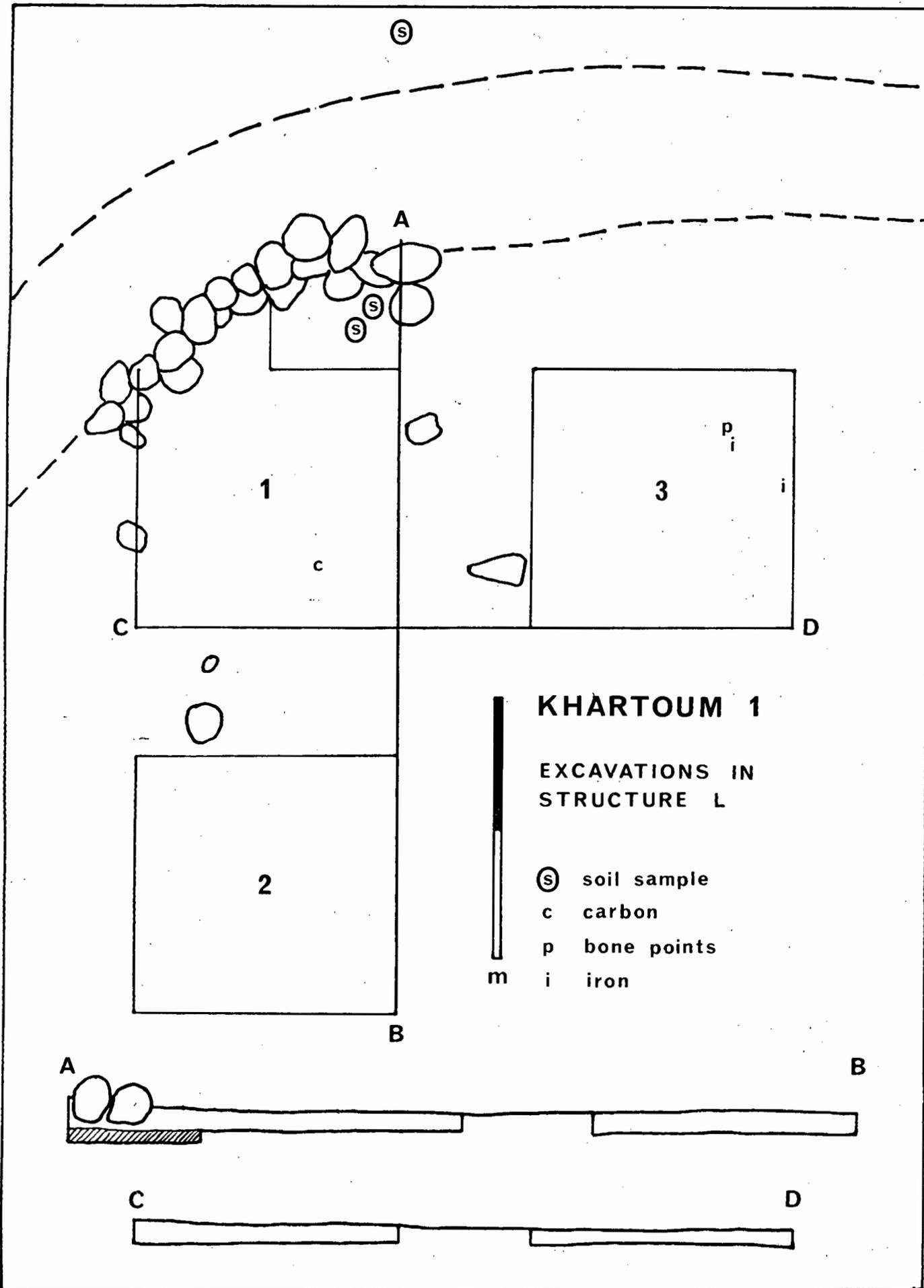


Fig 7:6

of the hard layer and these seemed to have been crushed or pressed into the surface of the "floor" - the impression was of bones having been trampled into the hard surface.

The impression of the hard layer as being a floor was strengthened and, indeed, confirmed when the base of the wall was exposed. The wall was found to have been built onto the hard level. This hard level was therefore interpreted as the original floor or level on which Structure L was constructed.

In order to confirm this interpretation still further, a square metre adjacent to the wall was excavated to a depth of 10 cm into the floor. This hard layer proved to be very hard indeed and could only be broken loose with difficulty with geological picks. The deposit was very compacted and each little sod had to be crushed individually before sieving could take place. This deposit proved to be sterile. Soil samples were taken from the surface of the floor and from within the deposit below the floor level.

Apart from the cultural and faunal remains recovered throughout the deposit overlying the floor, tiny bits of charcoal were found in certain areas within the deposit. The charcoal was too diffused to suggest a hearth but a sample was, nevertheless, submitted for C14 dating (see Appendix 6).

Excavation 2 was located 1 m west of Excavation 1, and further into the enclosure (Plate 7). This excavation yielded a similar sequence to the first: the hard floor layer was located 12-14 cm below the surface. The deposit was equally hard and the same difficulty was experienced in excavating the fragile faunal remains.

Excavation 3 was placed 1 m south of Excavation 1 and was lined up with the west section of that excavation. In this case the excavation was not extended to expose the base of the wall. This excavation also produced a similar situation to Excavation 1.

In none of these excavations was actual bedrock exposed but judging by the level of the bedrock in nearby areas it could not have been more than a few cm below the level reached in the deepest part of Excavation 1, at the base of the wall.

KHARTOUM 1, STRUCTURE L, EXCAVATION E.

Excavation E was the exposure of the "possible entrance" referred to earlier (Plate 5).

KHARTOUM 1, STRUCTURE L, COLLECTION 1.

Collection 1 consisted of the systematic collection of the sample of "Later Stone Age" artefacts described in Section 4. The collection took place within a grid of 80 square metres at the north end of Structure L (Fig. 7:3).

Several lower grindstones were located within the grid and it was decided to relate them to other lower grindstones occurring on the Settlement Unit and so the precise positions of all located grindstones were plotted on the ground plan (Fig. 7:3).

KHARTOUM 1, STRUCTURE J, EXCAVATION 1.

It was also decided to examine one of the small enclosures in some detail and Structure J was selected for this purpose. Structure J is one of the four enclosures located to the south of the large enclosure.

A base line (C-D on Fig. 7:7) was laid out cutting the Structure in half from NW to SE. The intention was to excavate half of the deposit occurring within the Structure. Initially, the centre 2 m of the base line were taken as the western limit of the excavation and the area from that base line east to the wall of the Structure was marked out for excavation.

Excavation once again proceeded in 12 cm spits. The deposit was loose at the surface (from the clearing of grass) but became more compacted 3-4 cm below the surface. The deposit in this spit, and throughout the excavation, was reddish brown sand with no significant changes in colour or texture, excepting for the looser surface material.

The bottom of the second spit revealed the base of the wall. There was, however, no change in texture in the deposit which might have suggested the existence of a floor similar to that located in Structure L. In view of this, and despite having located the base of the wall, it was decided to continue the excavation to bedrock.

Bedrock was located 30-35 cm below ground surface. It was composed of a flattish floor of weathered crumbly dolerite.

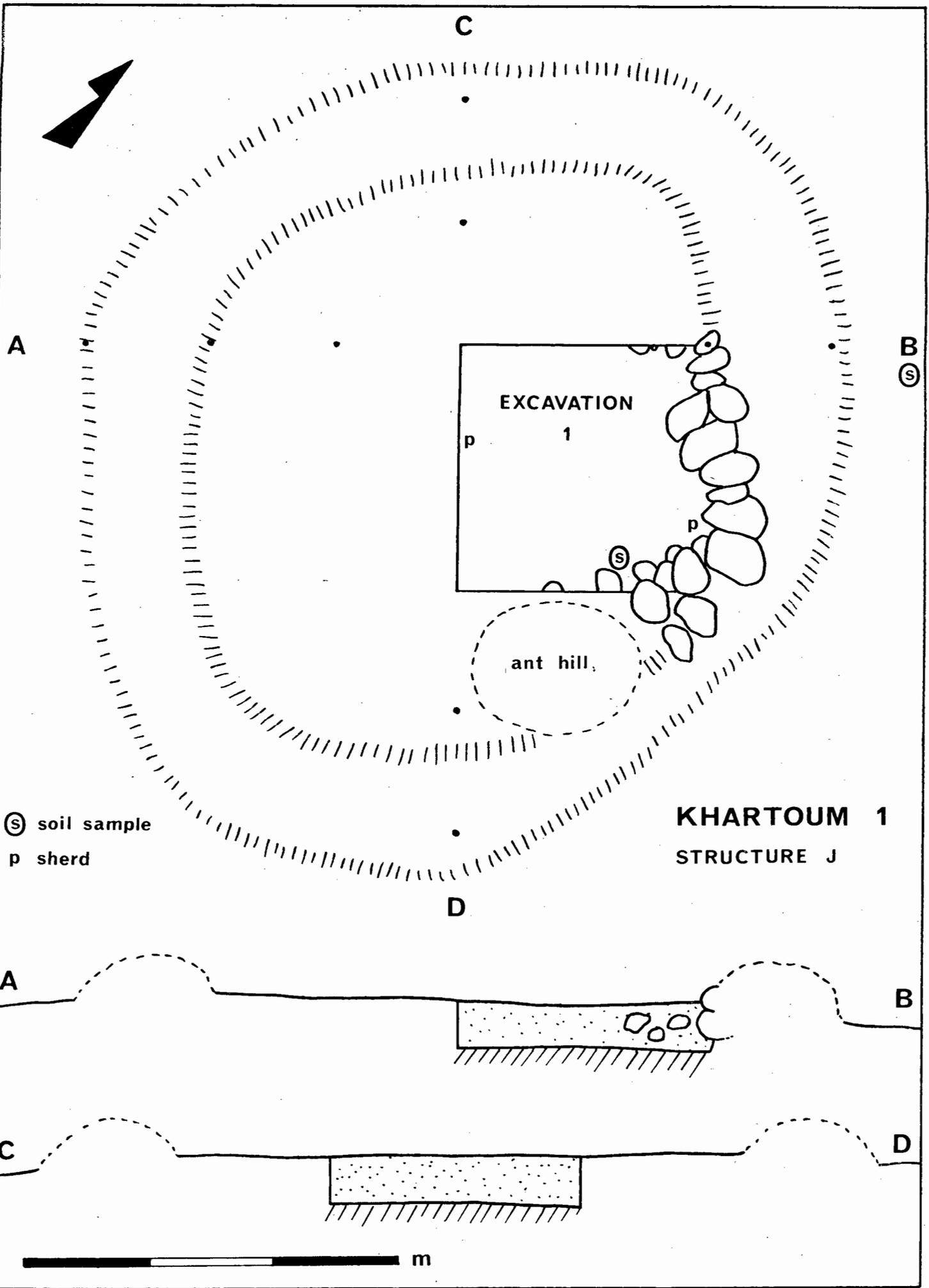


FIG 7:7

The section along the wall clearly showed that the wall had been built on a level about 8-10 cm above bedrock, suggesting that at the time of construction the immediate area had consisted of a flat surface produced by the dolerite "platform" overlain by a thin covering of surface soil. Whatever activities were carried out within the Structure, they were not such as to have produced the same consolidation of the surface soil seen in Structure L, nor did they result in the distribution of any recognisable remains on that surface.

The excavation was sterile except for two isolated potsherds. Both sherds occurred within spit 2 (12-24 cm below the surface) but could well have been derived as they did not come from precisely the same level and were not found at the same level as the base of the wall.

In view of the sterility of this excavation it was decided not to extend excavations to remove half of the deposit in Structure J as was originally planned (Plate 8).

KHARTOUM 2, STRUCTURE A, EXCAVATION 1.

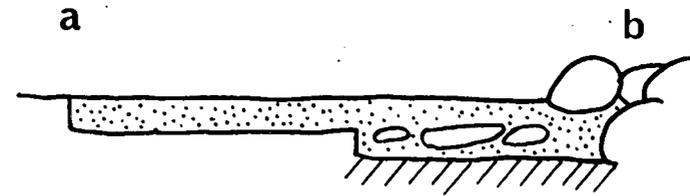
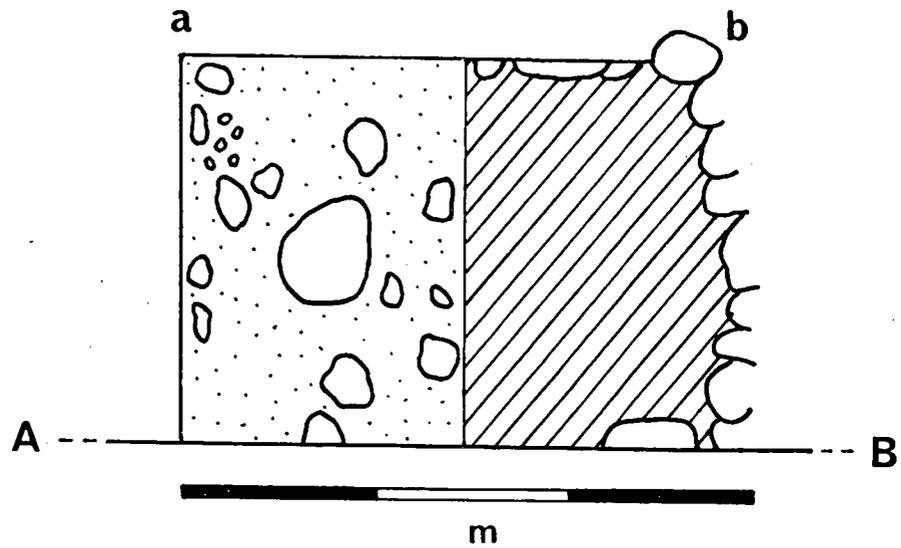
Following the results of the investigations of the small enclosure Structure J on Khartoum 1, it was decided to excavate one of the small enclosures on Khartoum 2. Structure A was selected for investigation. This Structure is located close to the base of the dolerite ridge, and on a slight slope, so that there had been deposition in the enclosure up against the lower wall rather than erosion, which is such a feature of Type R Settlement Units.

An area of 6 square metres was marked off on the down-slope side of the Structure (see fig. 7:4 for the precise position of the excavation and Fig. 7:8 for detail). The excavation proceeded in 15 cm spits. The first spit was removed from the entire area and proved to be completely sterile. The deposit consisted of a brownish soil which, apart from the top few cm which were loose, was compacted but not as hard as the deposit in Structure L of Khartoum 1.

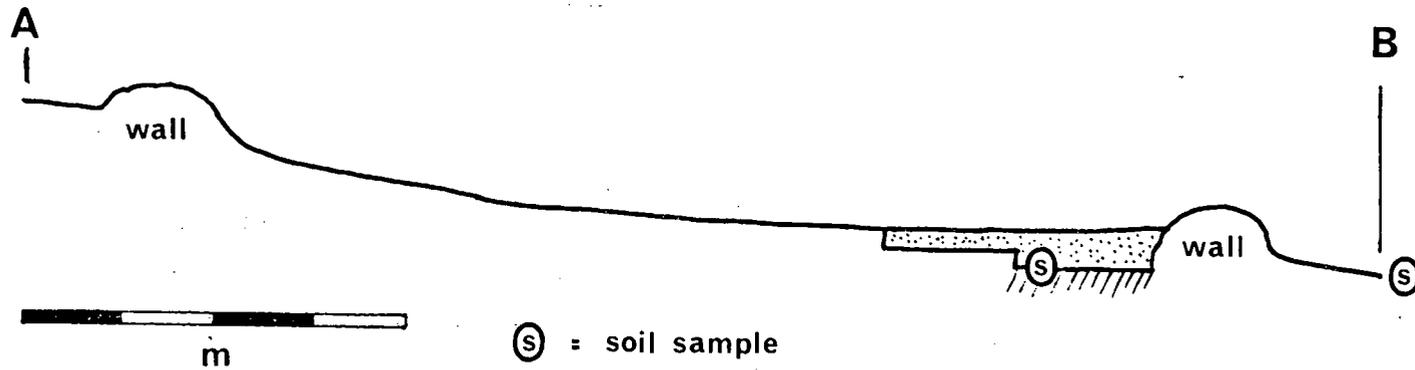
A second 15 cm spit was excavated from the 1.5 m area nearest to the wall and at the base of this spit bedrock was exposed. The bedrock was very friable shale which flaked away as it was

KHARTOUM 2

EXCAVATION 1



- brown soil
- stones
- //// bedrock



Ⓢ = soil sample

FIG 7 : 8

brushed. The base of the wall was also exposed in this spit and it was clear that the wall had been built on a surface only 3-4 cm above bedrock. In view of the slope on which the Structure had been built, this was not a surprising discovery because prior to the construction of the wall (which held back about 30 cm of deposit) the surface soil could not have been very thick on account of the rain water run-off down the slope which would have washed most of it away.

The second spit was also sterile and in view of the fact that any materials which may have been in the enclosure would almost certainly have been accumulated within the 30 cm of deposit downslope banked against the wall, it was decided not to proceed any further with the excavation. The upper half of the excavation was therefore not taken any lower than the first spit level (Plates 9 & 10).

THE FINDS.

The Khartoum 1 finds to be described here were all derived either from the excavations in Structure L or from surface collecting; the excavation in Structure J produced only 2 body sherds while the excavation in Khartoum 2, Structure A was sterile. The sample of finds from Khartoum 1 is small but interesting and can be complimented by consideration of surface finds from several other Settlement Units as well as from the excavations undertaken by Maggs (1971) at OFD 1.

1. POTTERY.

Form. The excavations in Structure L only produced some 78 sherds of which 10 were rim sherds; despite much time spent, it was not possible to reconstruct any pots to the extent of being able to define shape and size although several of the rim pieces fitted together (Fig. 7:9). Several other Settlement Units have, however, provided evidence on the shapes and sizes of pots, among these being those on the farm Pramberg only 5 km to the north of Khartoum. The pottery from these other Settlement Units is illustrated in Fig. 7:10-13.

The evidence available is somewhat fragmentary and so a detailed analysis of shapes and sizes is not possible; one pot and two bowls can, however be reconstructed sufficiently for the

KHARTOUM 1

STRUCTURE L EXCAVATIONS

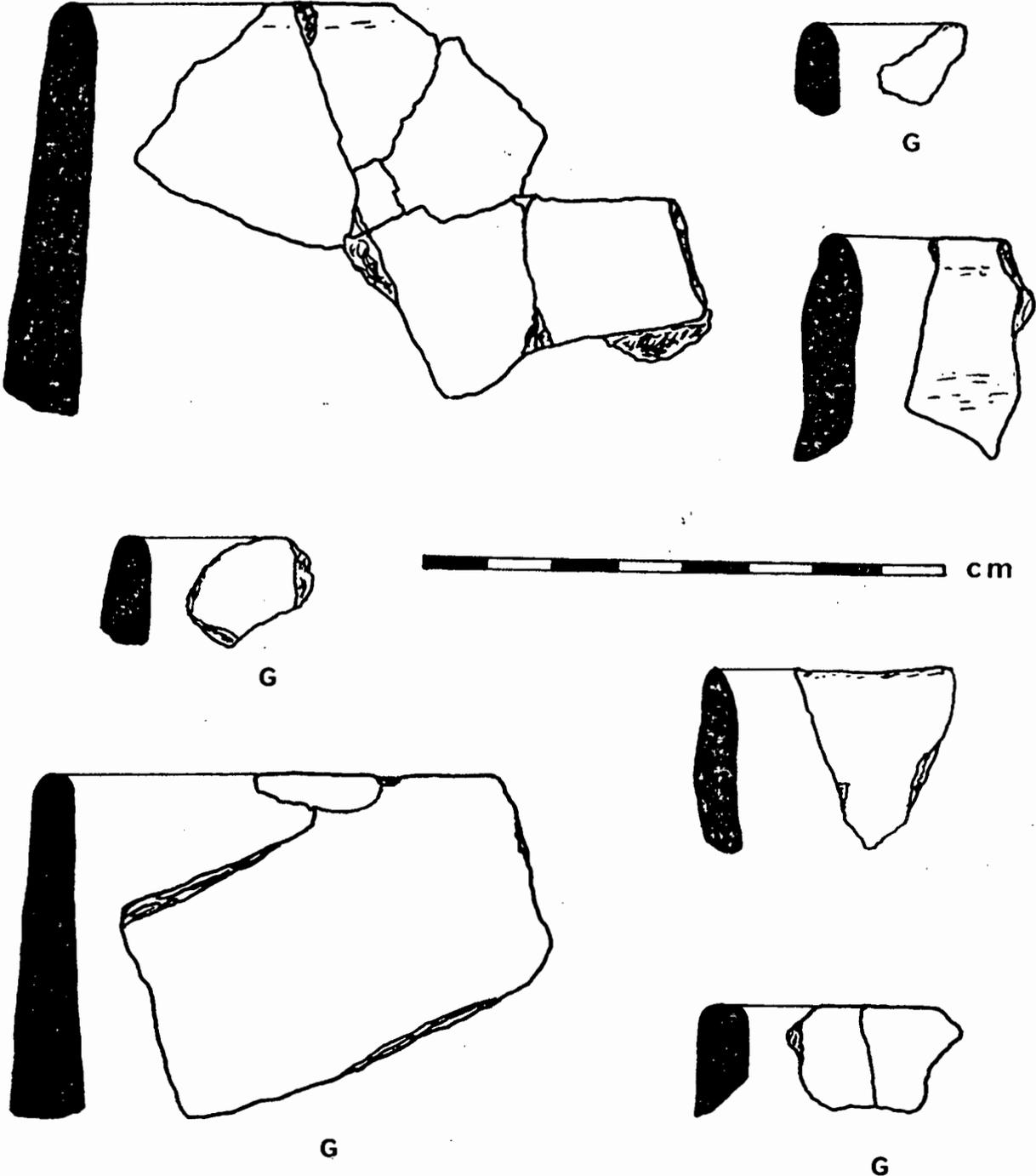


FIG 7:9

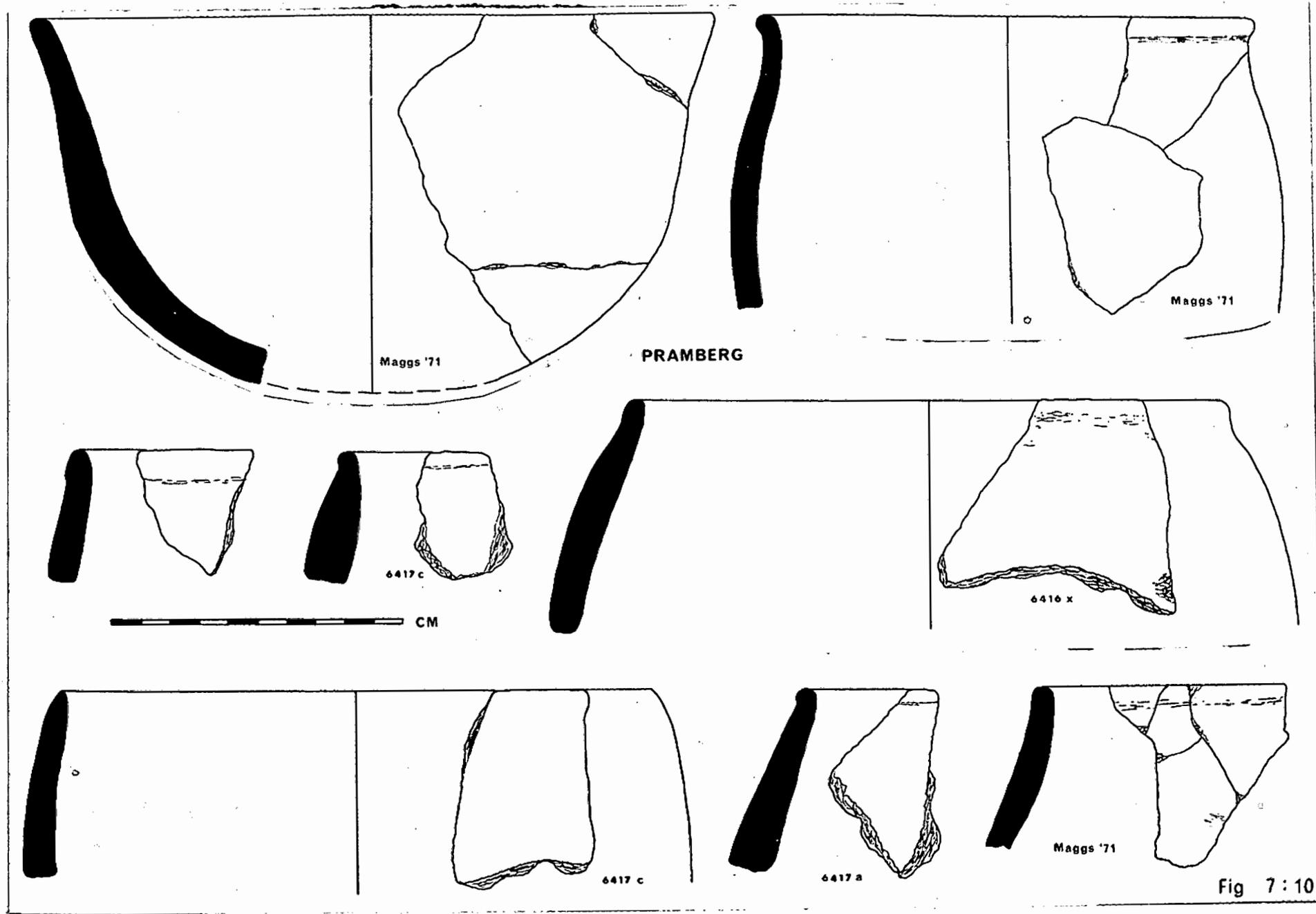


Fig 7:10

WELTEVREDE 6243

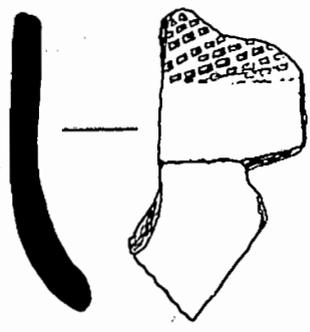
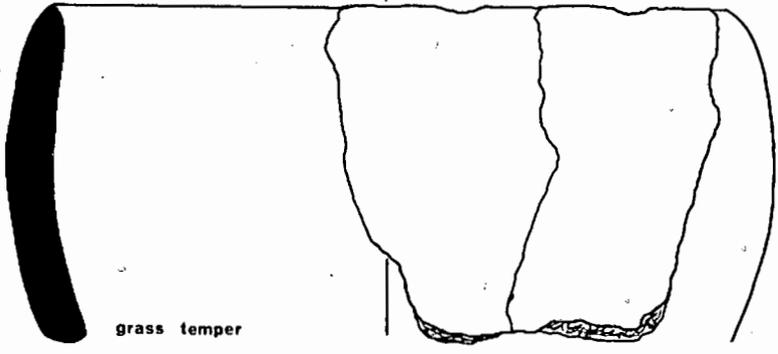
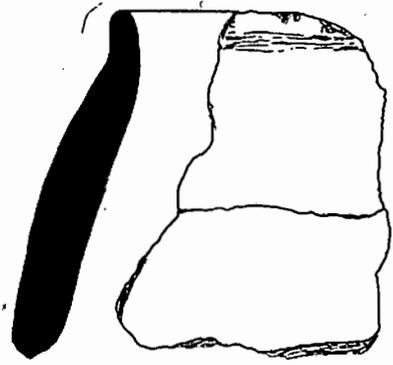
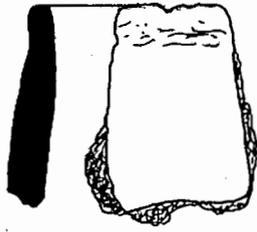
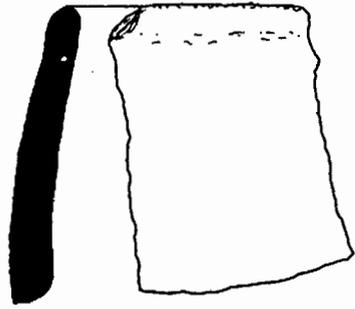
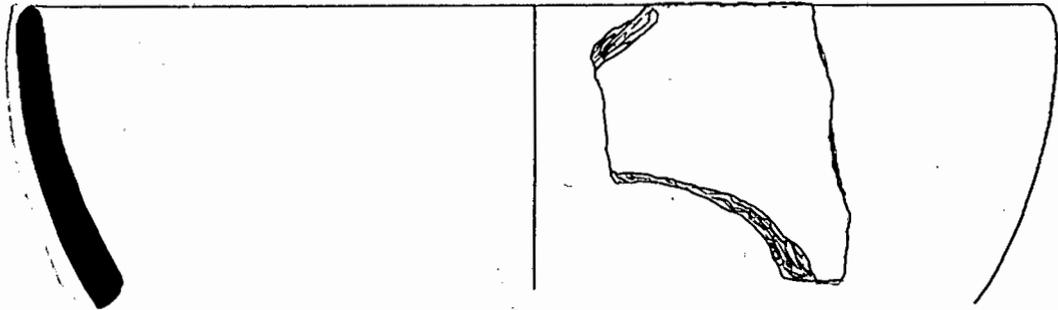
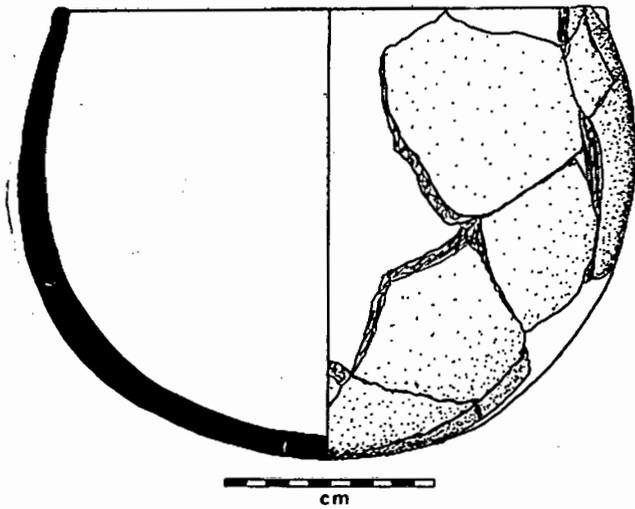


Fig 7:11

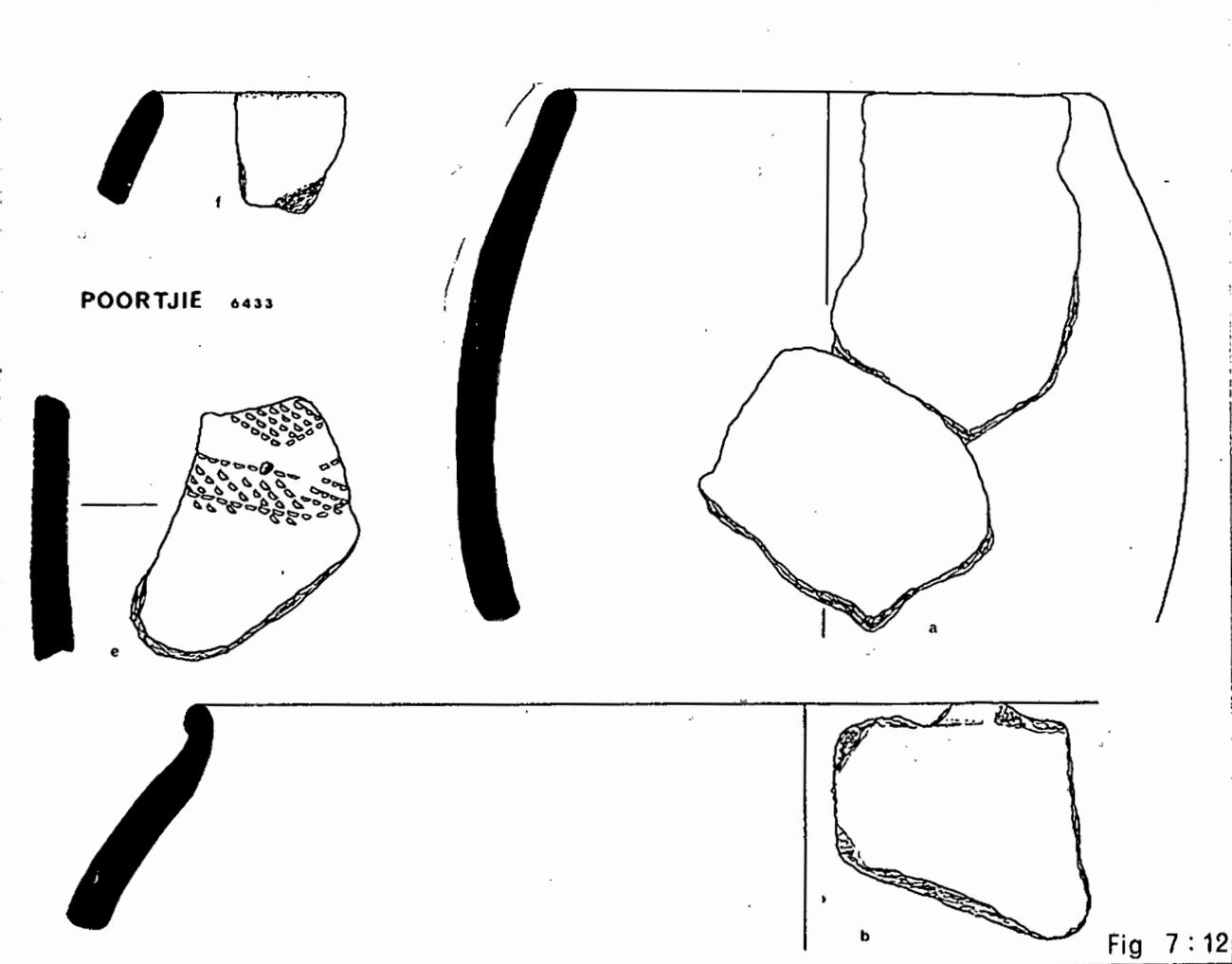
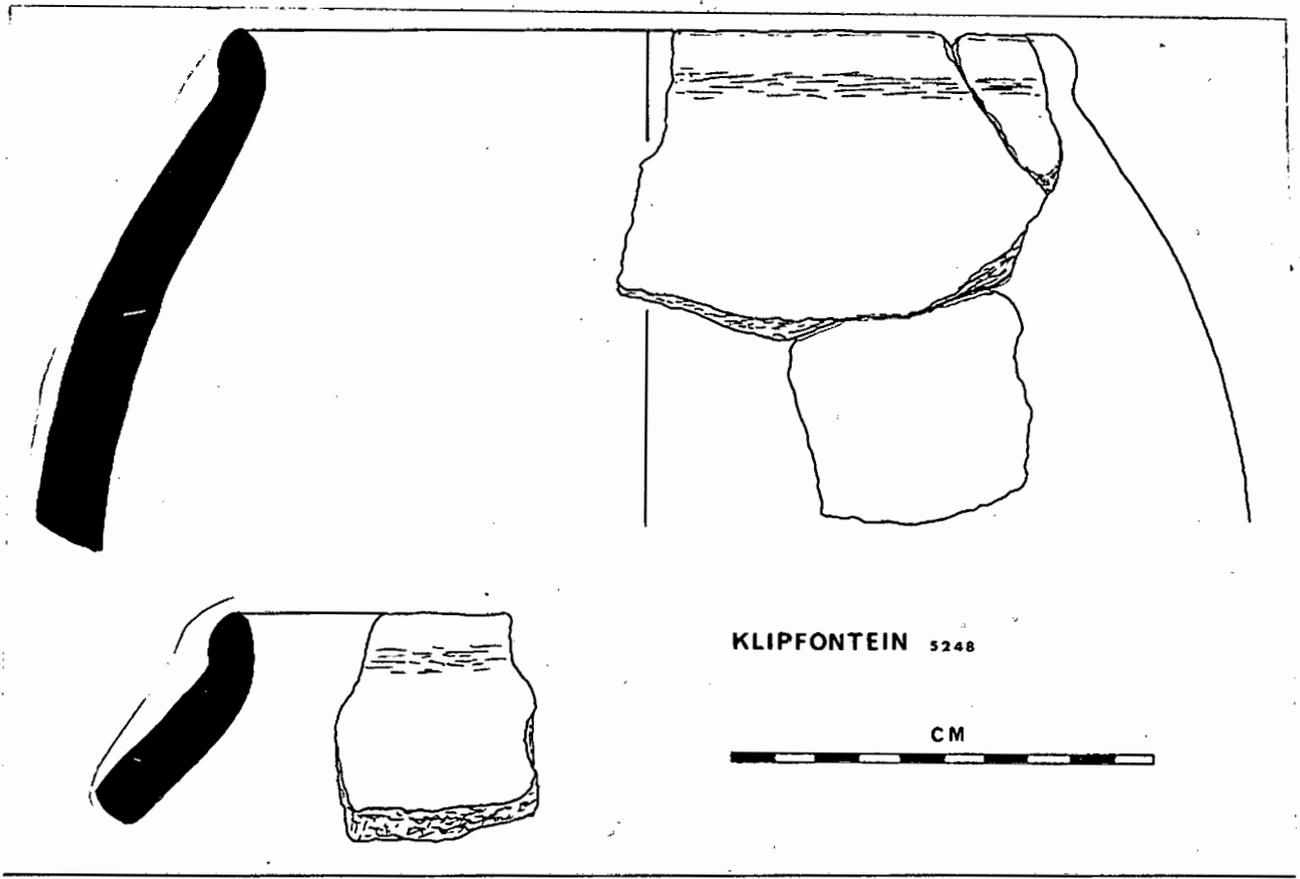
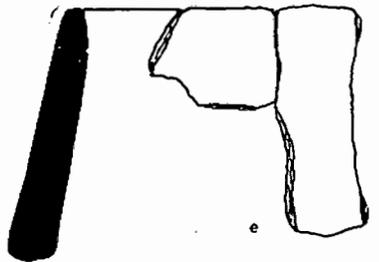
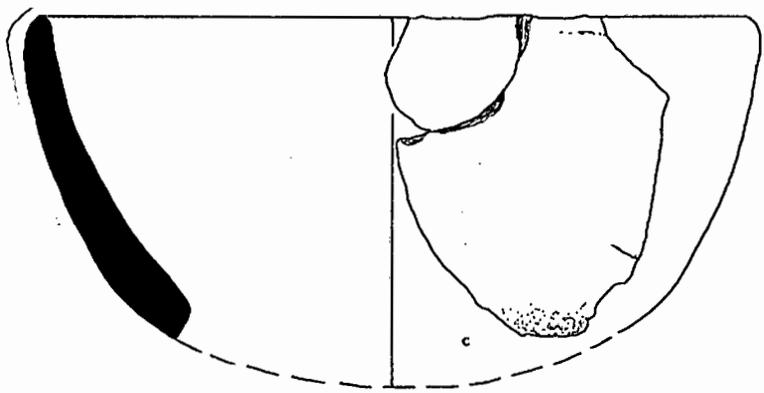
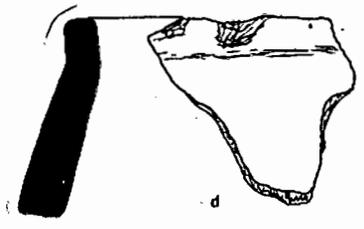
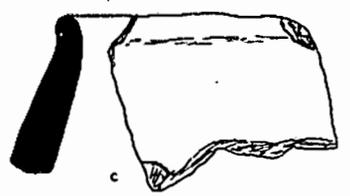
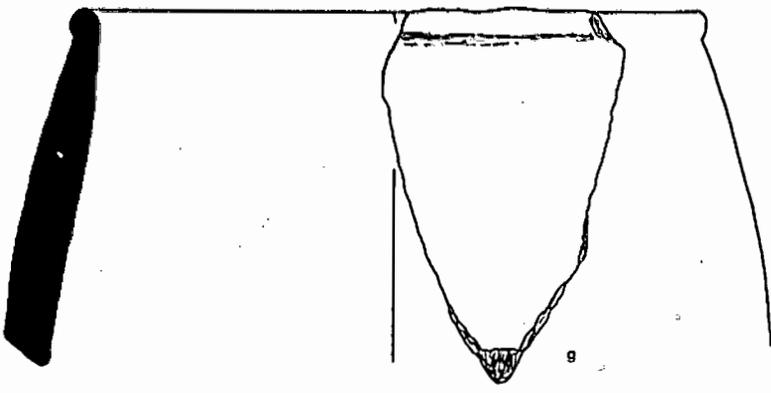
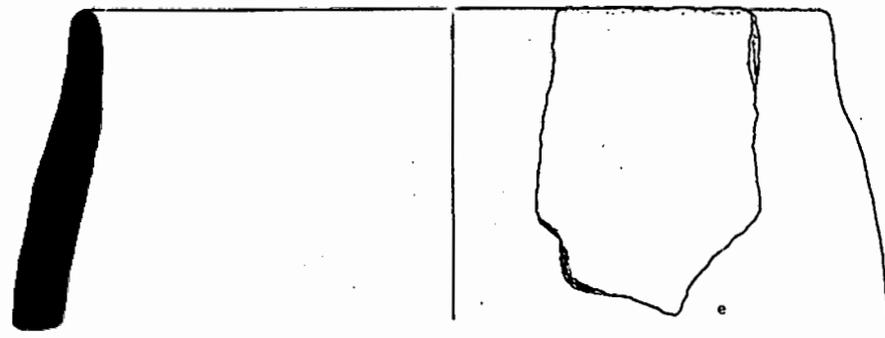


Fig 7 : 12.

MIERKRAAL 6415

CM



GOEDE HOOP 6419

CM

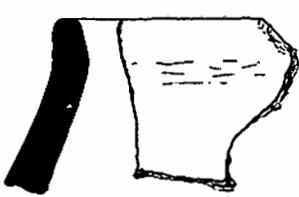
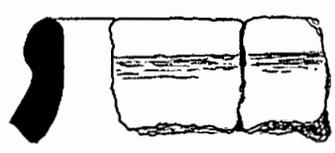
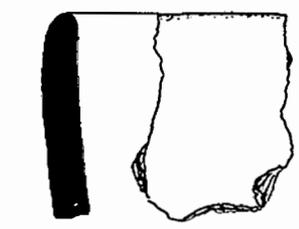


Fig 7:13

shape and size to be defined in detail. The pot is a large specimen with a rim diameter of 26 cm and a height of 22 cm (Fig. 7:11). The bowls are from Pramberg and Mierkraal and measure 23 cm x 13 cm and 17 cm x 9 cm respectively (Fig. 7:10 and 13).

Some 12 other pots can be reconstructed enough for estimates to be made of their rim diameters. These pots have, for convenience, been divided into 2 classes: "Pots" and "bowls", - on the basis of the fragmentary evidence available a more detailed breakdown does not seem justified. "Pots" are those vessels that have the sides curving inwards, i.e. the rim diameter is less than the maximum diameter of the pot. "Bowls", on the other hand, are those vessels which have the rim diameter as their maximum dimension; the sides can vary from almost vertical to very widely flared.

Of the total 15 vessels that can have their rim diameters reconstructed, only 4 can be rated as "bowls". These "bowls" range in rim diameter from 16 to 24 cm while the "pots" have a much wider range from 13 to 36 cm. (It is of some interest to note that Maggs (1971 : 51) found a similar size range in his sample from OFD 1.) The sample of vessels is too small for any definite conclusions to be drawn, but "pots" seem to outnumber "bowls" by almost 4:1 - "bowls" were also relatively rare in Maggs' (1971) analysis.

Recently David (1972) made an important contribution to the problem of understanding pottery remains in the archaeological record. During the course of his study of a Fulani village, David collected data on the life span of different types of pots made for different purposes. His data are summarised in the following table: (From David 1972 : 141)

<u>TYPE OF POT</u>	<u>APPROX CAPACITY (litres)</u>	<u>MEDIAN AGE (yrs)</u>
Bowls	1 - 2	2.7
Small cooking	3 - 5	2.7
Medium cooking	7 -10	2.5
Cooking/storage	15 -20	10.2
Storage	40 -60	12.5
Other	---	4.2

These results seem to show that there is a relationship between the life span of a pot and its function. The life span

of a pot is, of course, going to affect its representation in the archaeological record; pots that are broken more often are likely to be represented by more abundant remains. But another factor which would affect the proportions of remains is the relative proportions or frequencies of the different types of pots that are made, and so David (1972 : 141) concludes that, "The representation of pots ... in the archaeological record is largely a function of their frequency relative to other pots at any given time, their life span, and the duration of the level in which the assemblage is found." The last point is of particular importance from a methodological point of view and David makes an interesting observation. Apart from recording the life span of the various types of pots, David also recorded their relative frequencies. In order to simulate an archaeological situation he projected the theoretical frequencies of pots that would be preserved in the archaeological record after 100 years, by using the following formula:

$$N_{100} = N_1 + \frac{N_1}{2} \left(\frac{100}{\text{median}} \right)$$

where N is the relative frequency of a particular pot type.

The use of this formula in projecting the frequency of pots preserved in the archaeological record through time into the future shows that, "relative type frequencies of pots in use or in the archaeological record will diverge progressively from those of the original sample even without the intervention of culture change" (David 1972 : 141). David shows that the pottery frequencies existing now and after 100 years at the Fulani village would be so different that a comparison of the two samples by a Chi-square test would show that "there is less than 1 chance in 1000 that the 2 samples are drawn from the same population" (David 1972 : 142).

These facts raise the whole question of the significance of pottery assemblages, first, as direct reflections of pottery making habits and, second, as indicators of cultural associations between two sites. In view of these problems it is clearly quite impossible to draw any concrete conclusions regarding the pottery making habits of the Type R people on the basis of

+ between
prehistoric
+ historic
situations

form; the proportions of "bowls" to "pots" recorded may be a function of the relative frequencies used, their life span, the length of time represented by the deposit, or of all three in combination. On the basis of the length of life of most pottery types the relative scarcity of sherds on some Settlement Units may well be a function of the short duration of occupation compared to Iron Age sites where pottery is relatively plentiful (personal observation).

Several bases of pots could be reconstructed and all of these were rounded; there is no evidence to suggest that any of the bases were flattened or pointed.

A sample of sherds was collected from the site on Tafelberg. They were not associated with a Settlement Unit but a visual inspection suggests that they are not significantly different from the material found on Settlement Units. The most interesting pieces have been illustrated in Fig. 7:14.

Rims. The rim fragments available for study consist of 10 excavated from Structure L and some 33 from other assemblages; clearly a sample too small for detailed analysis. Maggs (1971 : 52), on the basis of his large OFD 1 sample, has suggested that rims tend generally to be rounded, with a few flattened on their upper surfaces. He also refers to some that are "rolled over but not to the extent of being significantly thickened." Of the OFD 1 sample about 1 in 6 rims were found to be accentuated by a projecting step or ridge a few mm below the lip and Maggs suggested that this may be a distinctive feature of the Type R pottery. The sample collected in the course of this project exhibits most of the rim features described by Maggs but the occurrence of accentuated rims is not such as would be expected if this were a "distinctive feature" of the pottery.

Many of the rim sherds recovered show an unevenness in finish which is noticeable even on these small fragments and this may be evidence that rims were not made to a distinctive or consistent shape; even and well made rim sherds constitute a very small proportion of the total sample.

Decoration. Of the several hundred sherds collected from Settlement Units, only 3 were found to have been decorated and

TAFELBERG

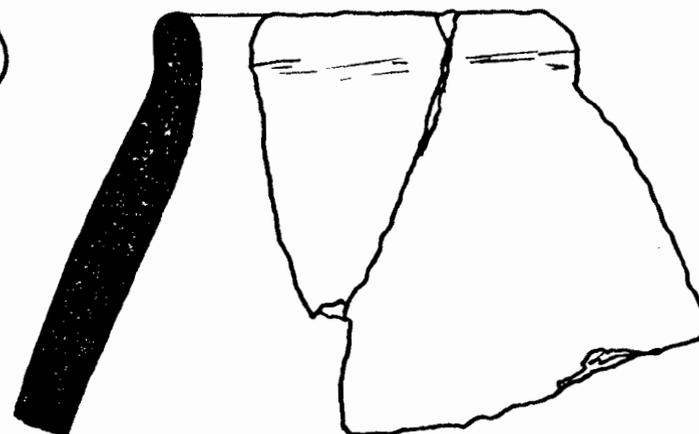
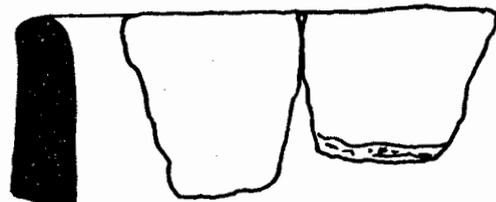
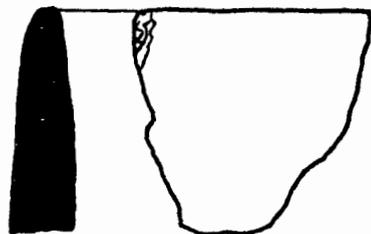
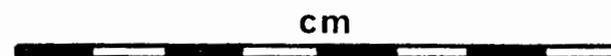
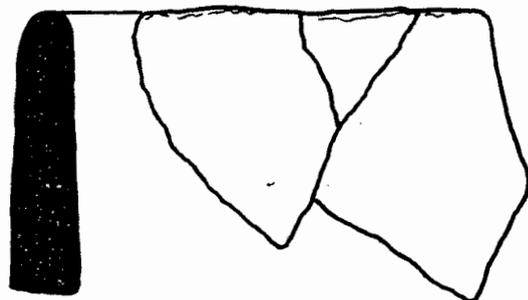
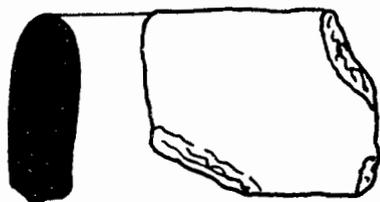
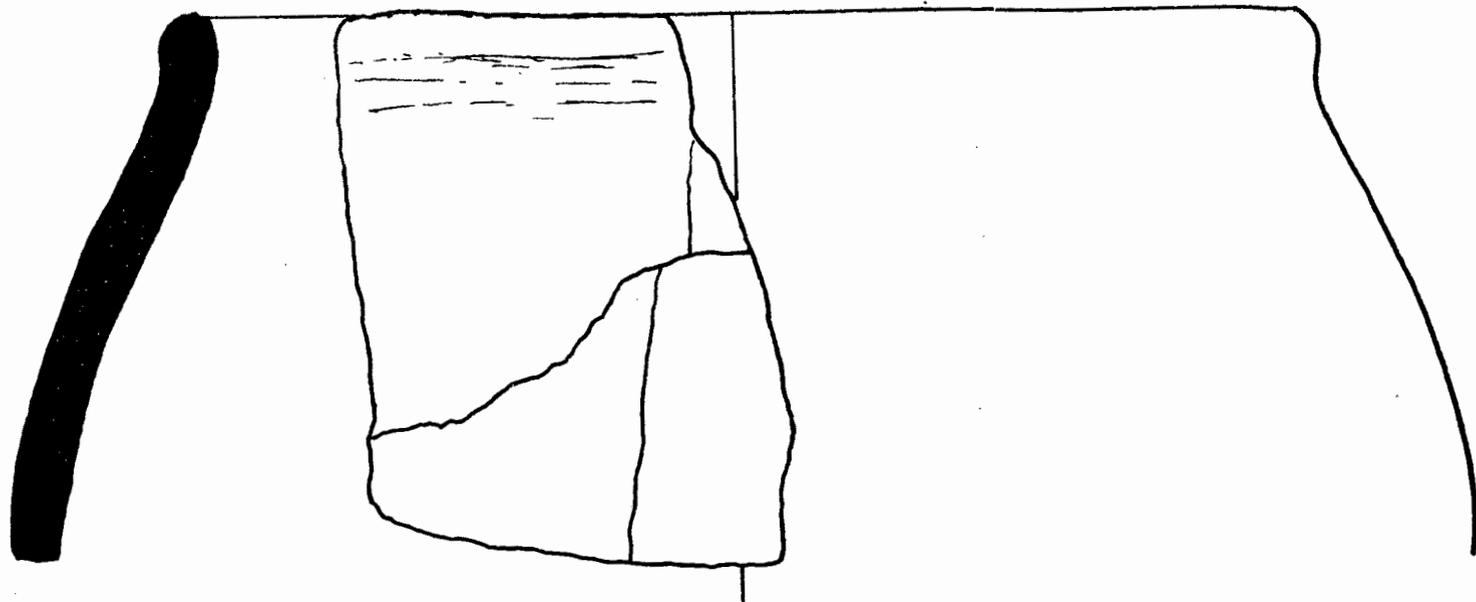


FIG 7:14

none of these were from Khartoum 1. This lack of decoration is accentuated even more when we consider Maggs' sample of 991 from OFD 1 alone which produced only another 4 decorated sherds. As Maggs (1971 : 52) has pointed out, this lack of decoration is something of a diagnostic feature in itself for most Iron Age and even "Later Stone Age" pottery is decorated in a distinctive way.

Maggs described the decorated sherds from OFD 1 as follows: "One has a herringbone motif in shallow grooves on a rounded rim, the others have one or more rows of small triangular or "D"-shaped impressions. The impressions seem to have been made by a comb rather than a stylus, but they differ from the normal comb-stamping of the Orange Free State, which shows square or rectangular impressions."

In this project decorated sherds were recovered from Weltevreden 1 (Fig. 7:11) and the Poortjie Settlement Locale (Fig. 7:12). One of the Weltevreden specimens is a rim sherd. The decoration consists of triangular comb-stamping running diagonally just below the rim; below this is a horizontal line followed by a blank area 1 cm across, with the same pattern repeated in reverse below. The second Weltevreden sherd again shows diagonal comb-stamping, but this time the impressions are rectangular in shape. The specimen from Poortjie is also comb-stamped but in this case the impressions are "D"-shaped. The sherd is too small to tell, but the impression is that the comb-stamping itself may have followed a zig-zag pattern. The non-stamped areas of the sherd seem to have a red ochre burnish but it is very indistinct.

It is not clear whether or not these decorated sherds are intrusive in the assemblages but the character of the pottery, apart from the decoration, is not noticeably distinct from all the other Type R pottery. The fact that Maggs recovered triangular or "D"-shaped comb-stamped pottery from his excavations would seem to suggest that rare decorated pottery is in true association with Type R pottery assemblages.

Temper. Maggs (1971 : 52) has shown that the tempering of Type R pottery consists mainly of grit and has suggested that the rare grass tempered sherds which he found belonged to the "Later Stone Age". All the pottery collected from Settlement

Comments?

Units by the writer had similar grit tempering (excepting for two sherds from Weltevreden 1 - see Fig 7:11). The excavations in Khartoum 1, Structure L, however, revealed a large number of grass tempered sherds (42 out of 78). Apart from the grass tempering there was little to distinguish the two groups of pottery and there was no significant difference in thickness distributions. The two groups are regarded as being associated on the basis of observations made during excavations and have therefore been combined as one sample of pottery from Khartoum 1. It must be concluded that grass tempered pottery cannot automatically be dismissed as "Later Stone Age". The Type R people may well have made or obtained and used some grass tempered pottery.

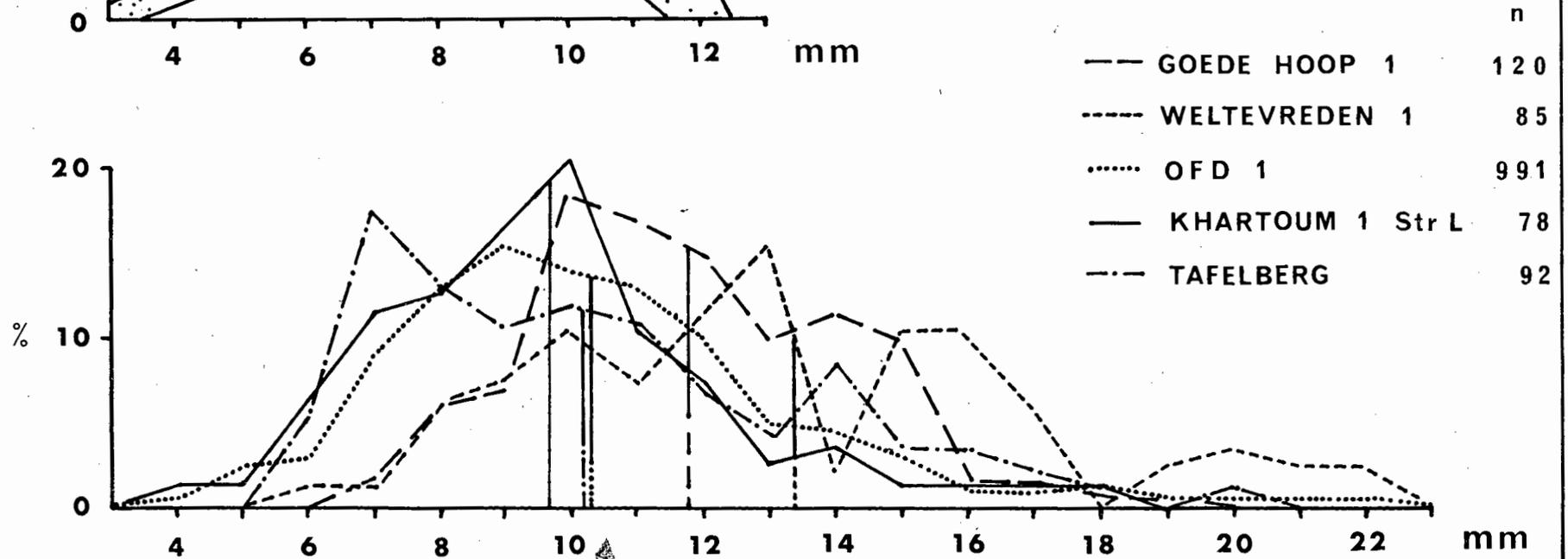
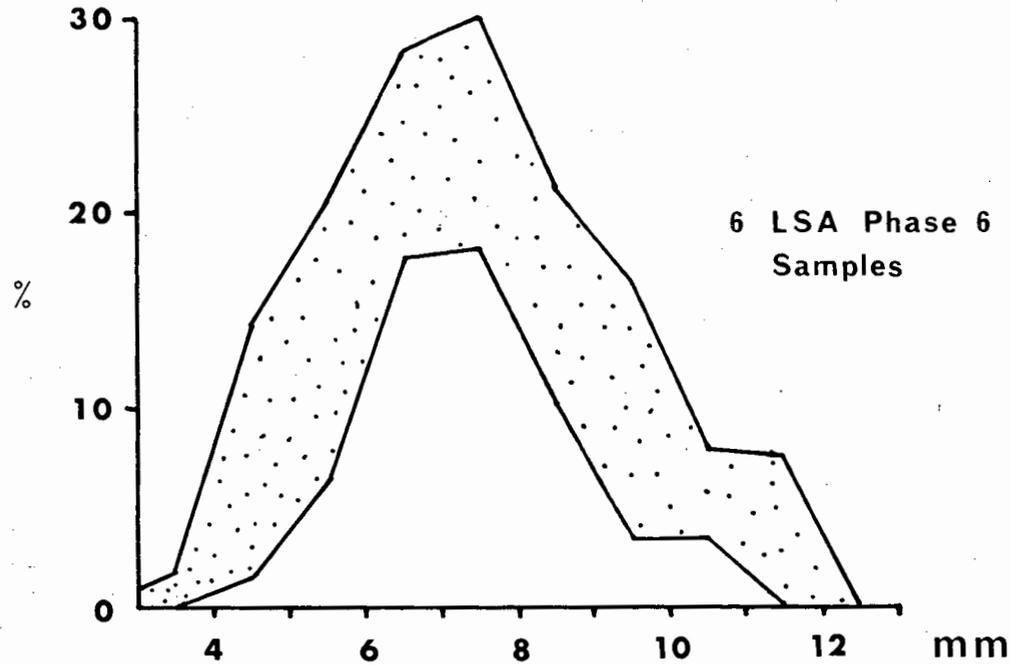
The colour of the pottery is predominantly buff, varying to a reddish brown or grey. Some sherds (including some from Khartoum 1) seem to have been blackened on the outside by fire.

A characteristic of the Type R pottery seems to be its thickness. The **thickness** distribution and the mean thickness for 5 samples are shown in Fig. 7:15. The mean thickness ranges from 9.7 mm to 13.3 mm. The thickness distribution of Type R pottery contrasts in remarkable fashion with that of 6 samples of "Later Stone Age" Phase 6 pottery from the Orange River (Fig. 7:15) where the mean thickness is about 7 mm. "Later Stone Age" pottery from the Riet River may, however, be slightly thicker than that from the Orange River because the sherds found in association with the Khartoum "Later Stone Age" Phase 6 are slightly thicker; but the sample is really too small for a valid assessment to be made (Fig. 7:16).

A mineralogical analysis was undertaken on a series of potsherds from various Settlement Units in order to see if this could throw any light on the origins of the materials from which the pots were made. The analysis showed that the materials are most likely to have been derived from the Riet environment and that there is no reason to suppose that the pots were brought from any great distance. Full details of this analysis are recorded in Appendix 3.

Maggs (1971 : 52) has already drawn attention to the fact that Type R pottery is distinct from any other known from this area. This fact can be reiterated here; the Type R pottery is

POTTERY THICKNESS

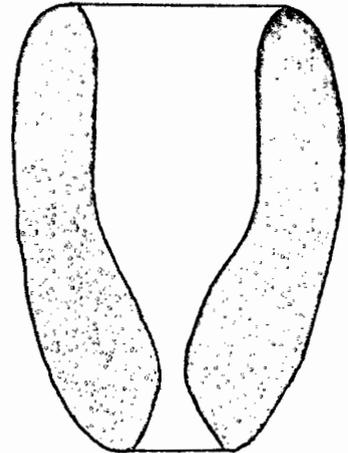
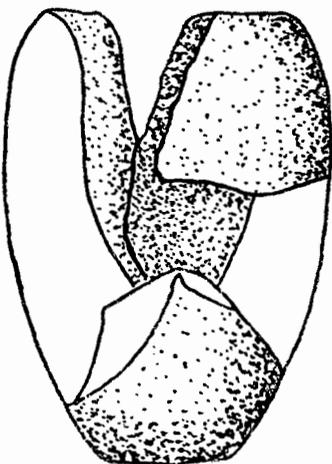
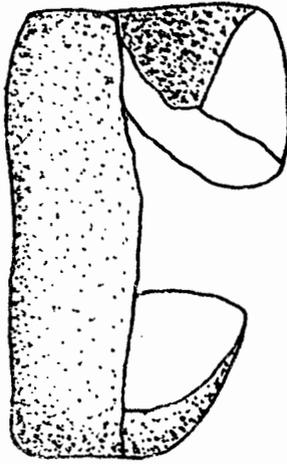


The lower half is extremely cluttered!

FIG 7 : 15

FIGURE 7:16

1. Stone pipe reconstructed out of the four fragments recovered.
2. Fragment of a grooved stone recovered with the L.S.A. artefacts.
- 3-5. Rimsherds recovered with the L.S.A. artefacts.



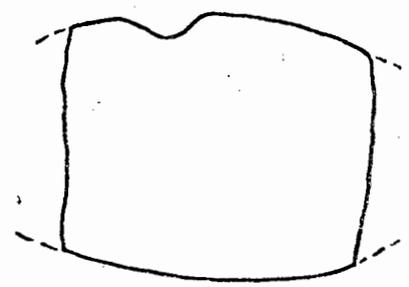
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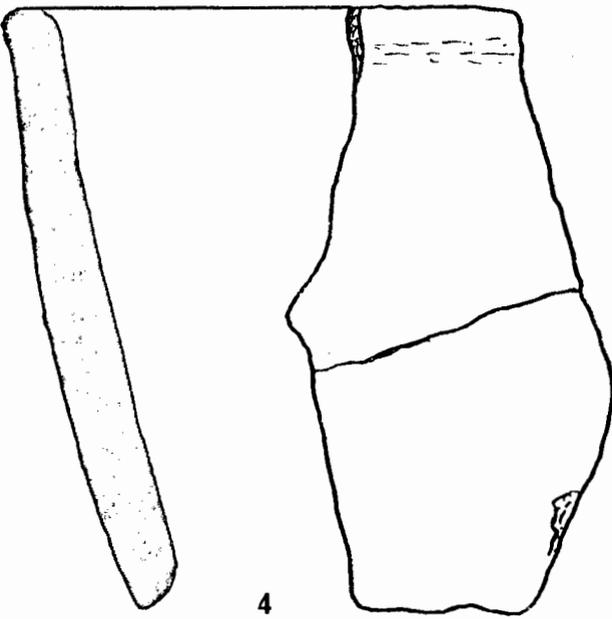
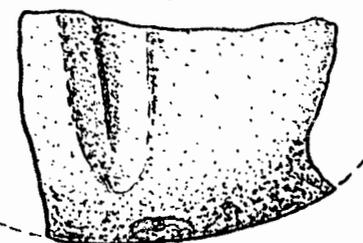
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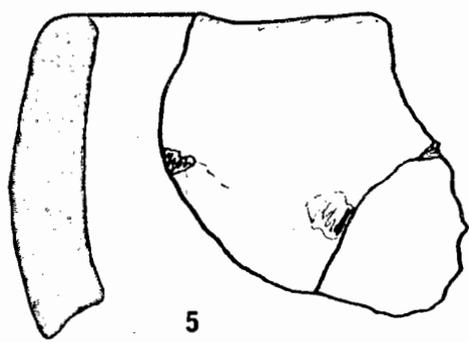
cm



2



4



5

clearly distinct from the highly decorated "Later Stone Age" pottery described by Sampson (1967b) - similar sherds have been found near OFD 1 (Maggs 1971 : 53) and on Khartoum 1 (unillustrated) - and the total absence of lugs shows that the isolated lugs found near Koffiefontein (see Section 4) are probably unrelated. Orange Free State Iron Age pottery is distinct from the Type R material (Maggs 1971 : 53) and so is pottery today associated with the Tswana and Sotho peoples (Lawton 1967). The Type R pottery seems to be as distinct as the other cultural features and Structures with which it is associated.

2. METAL WORK.

A total of 3 metal objects was recovered from Khartoum 1; all were found in Structure L, Excavation 3 (see Fig. 7:6 for the precise locations).

The largest and most spectacular piece can best be described as a "spear-head" (Fig. 7:17 No. 1). The spear-head is 144 mm in length. The front two-thirds of the spear is round in section but the rear end is square, tapering to a point at the very end. The mid-point of the round section is 8.5 mm in diameter while the mid-point of the square section is 5.0 mm. The spear-head is very heavily corroded but the shape and size can still be clearly distinguished. According to Maggs (pers. comm.) similar specimens, but with a flat blade-like point, have been recovered from Iron Age sites to the north. He also remarks, "If the end is not broken off then I suppose it could be a rod-like spear-head without a blade, but this type seems rarer in the ethnographic record." The end of the spear-head is rounded off and, despite the corrosion, seems to be undamaged. The specimen must therefore be complete and represent a round rod-like spear-head (Plate 11).

The second metal object is a thin rod-like fragment (Fig. 7:17, No. 2). It is 31 mm long and 3.5 mm thick at the mid point. Not much can be said about it other than mentioning the possibility of it being part of the tang of a spear- or arrow-head.

The third specimen is a flat piece of metal (Fig. 7:17, No.3). It is 36 mm long by 16 mm wide and 3.5 mm thick. The edges are more or less parallel; in cross-section one face is flat while

FIGURE 7:17

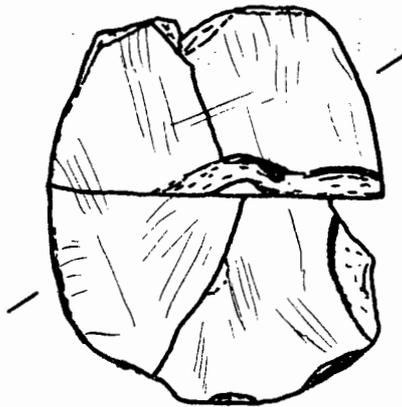
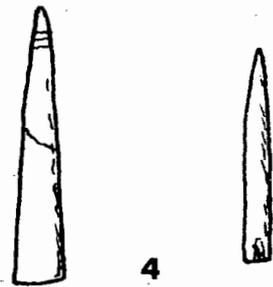
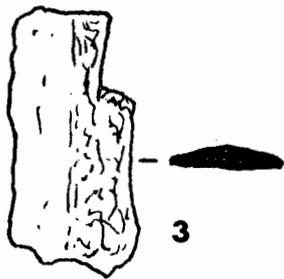
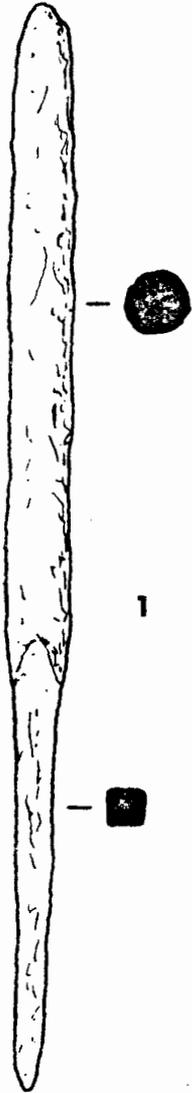
- 1a. Bone fragment with incised line.
1. Iron spear-head.
2. Iron fragment.
3. Iron fragment - possibly part of
the blade of a knife or spear.
4. Three bone points.
5. Two fragments of bored ostrich
egg-shell.
6. Striated shale slab reconstructed
from four joining fragments and
four other fragments.

KHARTOUM 1

STRUCTURE L EXCAVATIONS



cm



6



FIG 7 : 17

the other has a ridge in the middle. This fragment may well be part of a knife or spear blade, in view of the central ridge. Iron work is as yet unknown at any of the other Settlement Units (except for "a small, shapeless piece of highly corroded iron" which "could well be of modern origin" from OFD 1 - Maggs 1971 : 55), but three copper objects were recovered by Maggs on OFD 1: a bead was recovered in an excavation while a bangle and part of a band were found on the surface.

The rarity of any kind of metal objects on Type R Settlement Units would suggest that they were not common artefacts to the people concerned and that they may have been obtained from other groups - probably Iron Age peoples to the north.

3. BONE OBJECTS.

Three formal bone artefacts were obtained from Khartoum 1. These consist of three bone point fragments (Fig. 7:17, No. 4; Plate 11). The largest of these is perhaps the most interesting; it is 37 mm in length and its maximum thickness (at the base) is 7 mm. It has been well rounded and smoothed but "facets" created during shaping are clearly visible in the right light. About 4 mm above the tip of the point is an incised spiral line which circles the point three times. The incision is not very deep but is clearly visible on the otherwise smooth surface of the point. The spiral seems to have been deliberately applied rather than being due to wear from some "drilling" activity. It is not clear if the point is complete or not; the base is flat and at right angles to the length of the point and although showing no tooling, does not appear to have been broken naturally, or subsequently to its incorporation in the deposit...

The second and third points, on the other hand, both seem to be fragments of longer points. The second specimen is 28 mm in length and 4 mm in maximum thickness. The "facets" created during manufacture are more pronounced on this specimen than on the first and several show striations from grinding or rubbing. There is no sign of any decoration.

The third point is clearly only the tip of a much longer artefact; the break at the base is jagged and runs more or less diagonally across the specimen. The fragment is 17.5 mm long

*rarity
compared
with OFS
Iron Age sites*

and 4.5 mm in thickness. It has been carefully smoothed but some tooling marks are visible.

It is not possible to say if these objects were worked with stone or iron tools but an object with a very sharp edge was clearly needed to cut the spiral into the largest specimen.

A fourth bone object was also recovered. This consists of a fragment of bone some 23 mm in length with a very fine incision or rather series of incisions running at right angles to the length (Fig. 7:17, No. 1a). The incision appears as a relatively wide cut but closer examination shows that this cut has been created by a series of very fine incisions all made in more or less the same place. The blade of the cutting instrument was clearly very sharp indeed - it is doubtful if the incisions could have been made with a stone artefact. In view of the fact that the fragment recovered is only a small portion of the original bone it is not possible to guess at the purpose of the incisions.

Maggs (1971 : 55) reported the discovery at OFD 1, of a natural bone splinter which had become polished at the tip through use. Nothing comparable has been found at Khartoum 1 but one of the functions of the bone points may have been to do the job done by the natural bone splinter. Maggs also recorded several pieces of bone which showed chop-marks; similar chopped and cut pieces were recovered from Khartoum 1 (Appendix 4).

4. OSTRICH EGG-SHELL.

A large number of ostrich egg-shell fragments was recovered from Khartoum 1 Structure L - the excavations yielded 1,068 fragments ranging in size from about 40 mm to 4 mm in length. It is not clear why there should be this large concentration of ostrich egg-shell fragments in Structure L (when none of the other excavations produced any) and although one of the activities would undoubtedly have been bead-making, only one complete bead and three broken fragments of semi-bored pieces of shell were recovered (Fig. 7:17, No. 5). One possible explanation for the ostrich egg-shells is that they represent smashed ostrich egg-shell containers. The fragments from Structure L are generally rather small but the writer recovered several large fragments of ostrich egg-shell which were eroding out from the base of the wall of the

large enclosure on Waterval West 3. None of the pieces appeared to preserve traces of the container hole but they seemed to be too large to be simple raw material for the manufacture of beads (unless, of course, the ultimate purpose had been to fragment them still further). However, the idea of ostrich egg-shell containers is strengthened when we consider the decorated fragments found by Maggs (1971 : 55) on OFD 1, which he considered to be from ostrich egg-shell containers.

Maggs (1971 : 55) recovered only four ostrich egg-shell beads from OFD 1, although he found many more fragments of ostrich egg-shell (82 from Trench 3 alone).

There is little reason to doubt that ostrich egg-shell beads were made and used by the inhabitants of the Type R Settlement Units.

Another use to which ostrich egg-shell was put, was the manufacture of pendants. An ostrich egg-shell pendant was recovered from Weltevreden 1 (Fig. 7:20). The pendant is more or less oval in shape, 25 mm in length and 19 mm wide. A hole 2 mm in diameter was drilled through from the back 3 mm down from the top of the pendant. The pendant is decorated (on the outer side of the shell) by a line running the full length of the object; this line is cut by a series of shorter lines about 3 mm long which run at right angles to it the full length of the pendant. Being a surface find, there is no direct evidence to prove the association of this pendant with the Settlement Unit, but it does provide some evidence of another use to which ostrich egg-shell could have been put.

5. STONE WORK.

Fragments of only one stone object (apart from "Later Stone Age" artefacts) were recovered from the excavations at Khartoum 1; several other objects of considerable interest were, however, found on the surface of both Khartoum 1 and other Settlement Units.

The excavated fragments consist of 8 flat pieces of shale; four of these can be joined together (Fig. 7:17, No. 6; Plate 12). The four fragments together form a more or less oval shale slab some 55 x 53 mm and 3 mm thick; the thickness is very uniform giving the impression that it may have been worked to this

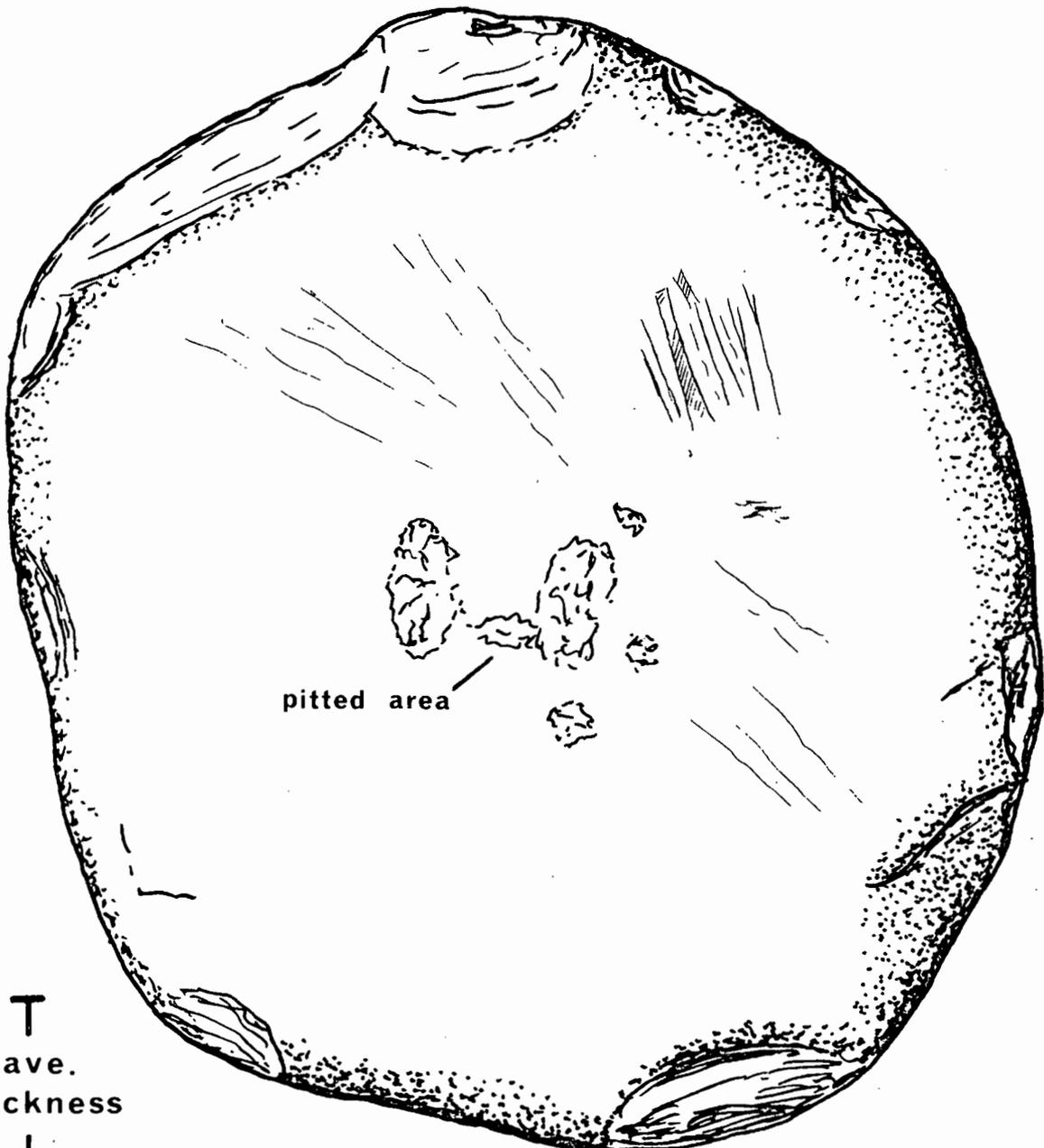
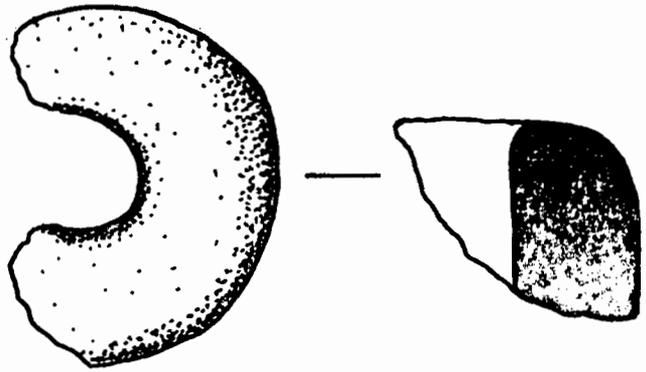
thickness. This impression is strengthened by the existence of literally hundreds of fine striations which run in all directions over both surfaces of the slab. All edges of the slab appear to have been snapped off, with the exception of the north-east edge in the sketch, which has been carefully ground down from both sides to form a sharp edge. On the basis of thickness and the existence of the striations, the other four separate fragments all seem to belong to the original object of which the large reconstructed piece may be the major portion; one of the separate fragments has a sharpened edge exactly similar to that on the main piece. If the four separate fragments are considered, as well as the fact that they cannot be joined directly to the main piece and that therefore several more pieces must be missing, then the original size of the shale slab must have been at least twice that of the reconstructed piece.

Maggs (1971 : Plate VII B) also recovered a striated shale slab from OFD 1 but this specimen was about twice the size of the reconstructed piece from Khartoum, and about 10 mm thick; the shape and edges were irregular with no signs of modification or rounding (Maggs, pers. comm.).

It is not clear what the purpose of either of these slabs was.

A large shale slab was recovered from the surface of Khartoum 1, Structure L (Fig. 7:18). It is 168 x 157 mm and about 25 mm in average thickness; it has two more or less flat surfaces and the edges have been weathered round. It was collected originally because one surface showed signs of pitting in the centre suggesting that it had been used for some or other activity involving delicate hammering. However, when the slab was studied in detail in the laboratory several faint striations were noted on the same surface, as well as a series of very distinct fine incisions. These incisions consist mainly of more or less parallel lines but in at least two cases two adjacent parallel lines have been joined by cross-hatching. The workmanship is extremely delicate and can really only be appreciated under a lens. The incisions could only have been made with a very sharp instrument. Despite careful study, similar incisions could not be found anywhere else on the slab; why they should be confined to the particular area that they are, is unknown, and

KHARTOUM 1
SURFACE



T
ave.
thickness
T

FIG 7 : 18

again there is no obvious reason for them (Plate 13).

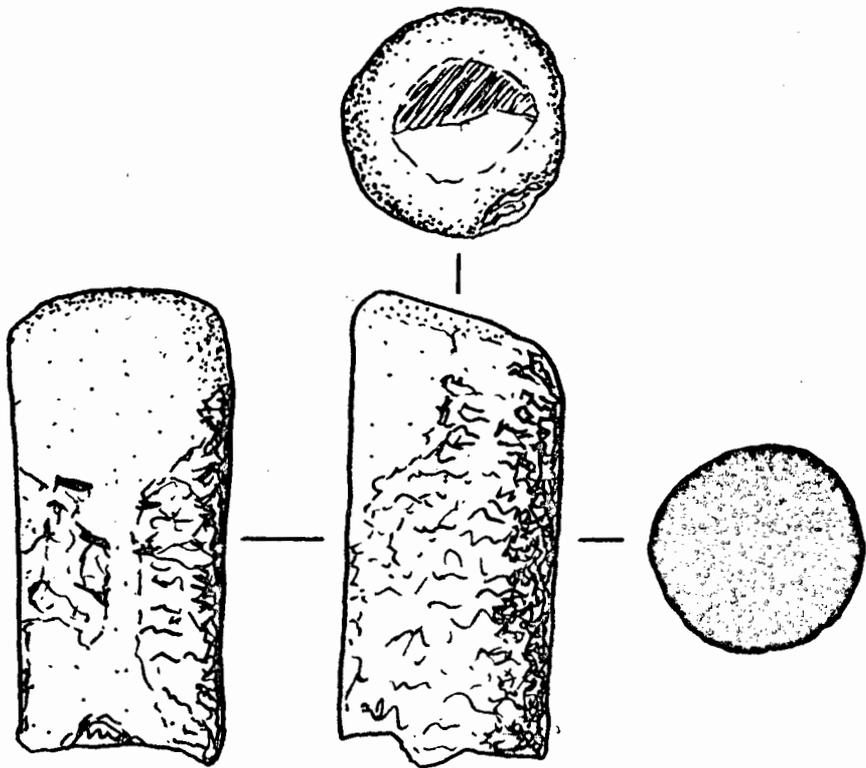
There is no direct proof of an association with the Settlement Unit as the slab is a surface find, but in view of the very fine incisions it is possibly more likely to have been made by people with access to sharp metal tools than by pure stone users.

A second surface find in Structure L was a beautifully made stone pipe which was recovered in four joining fragments (Fig. 7:16, No. 1). The length of the pipe is 58 mm and its maximum diameter 44 mm; the diameter of the top of the hole is 26 mm and the bottom 15 mm while the narrow "waist" about three-quarter way down is \pm 6 mm. The pipe is perfectly symmetrical except for one side which is flat and unpolished; the impression is that the stone from which it was made was just too small on that side for the pipe to be completely round. The rounded areas were carefully polished to a very smooth finish. The pipe is quite unlike anything described by Walton (1953), but is similar in shape to several described by Baard (1967), notably some from the Bloemfontein and Bethlehem areas.

A fragment of what appears to be a second pipe was found on the surface just north-east of Structure C on Khartoum 1 (Fig. 7:18). It is, however, much larger than the first, being about 53 mm in diameter (on the basis of the top which is the only part surviving) while the hole is 16 mm in diameter. The specimen could be part of a bored stone rather than a pipe but the hole runs straight through the stone rather than presenting an hour glass shape which is so common in many bored stones. The outer sides of the "pipe" are also straight suggesting that it was elongated rather than round in cross section.

A curious cylindrical stone was also found on the surface in Structure L (Fig. 17:19). It is 61 mm long and 28 mm in diameter. It is almost perfectly round in section; one end has been snapped off but was later battered in some places while the other end has been rounded off, although it is not symmetrical. The sides seem to have been ground smooth but it was later hammered over most of the outer surface with the result that there is rough pitting over most of the surface. No explanation for this object can be advanced.

Upper and lower grindstones abound on Khartoum 1 and all



KHARTOUM 1
SURFACE



FIG 7 : 19

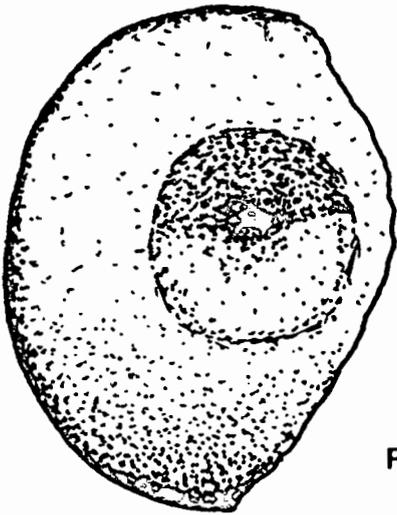
the other Settlements Units studied. No attempt has been made to accumulate detailed data on the occurrence of grindstones but the distribution of lower grindstones on Khartoum 1 has been plotted on the ground plan (Fig. 7:3). Upper grindstones range from single faceted to multi-faceted specimens; most lower grindstones have only one working surface and few of these have been ground to any great depth, the grinding surface appears as a slightly polished indentation. A notable feature on the lower grindstones is the great proportion of them that is broken. It would be difficult to say which grindstones were used by the inhabitants of the Settlement Units and which by the "Later Stone Age" peoples who made the Phase 6 artefacts, but the number and occurrence of grindstones on Settlement Units suggests that at least some of them were used by the Type R inhabitants.

Another remarkable feature is the occurrence of bored stones (or fragments thereof) on Settlement Units. Again it is impossible to say who used them and they are generally associated with the "Later Stone Age" (although some Iron Age peoples also used them - Fagan 1962) but bored stones have been found on the following Settlement Units: Mierkraal 1, Poortjie 3 (Fig. 7:20), Oudefontein 6 and Tafelberg (2 specimens).

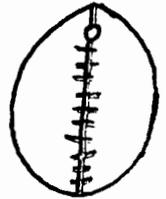
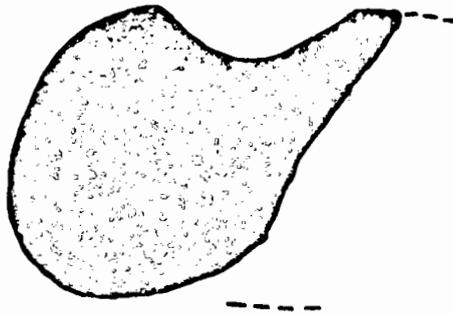
Several grooved stones have also been found on Settlement Units and these may well be associated in view of the occurrence of ostrich egg-shell beads. The grooved stones have both "V" and round grooves (Fig. 7:20).

The excavations on Khartoum 1 yielded a few "Later Stone Age" artefacts. They were never common and seemed to be at random in the deposit. It is important to note that the vast majority of them were undiagnostic flakes and that they were heavily weathered. From the point of view of etat physique they are comparable with the weathered (and undescribed) series collected in Structure L Collection 1 along with the Khartoum "Later Stone Age" Phase 6 surface material described in Section 4. As we have already seen, the Phase 6 material is unweathered and so on the basis of etat physique and on stratigraphic evidence the "Later Stone Age" Phase 6 in the Riet River Valley must post-date, in part if not entirely, the occupation of the Khartoum 1 Settlement Unit. This sequence has support in historical

SURFACE FINDS

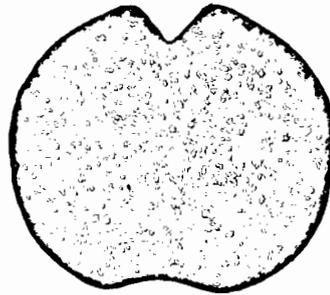
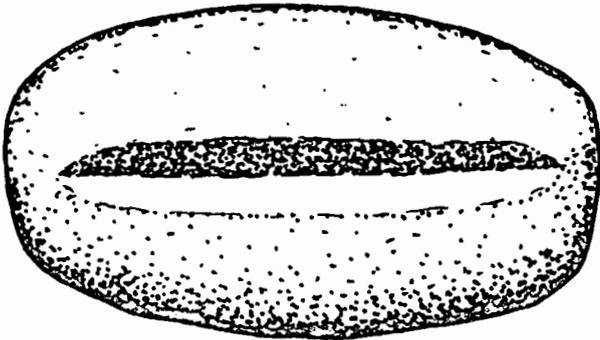


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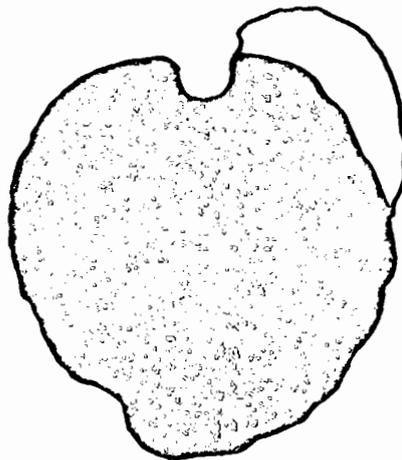
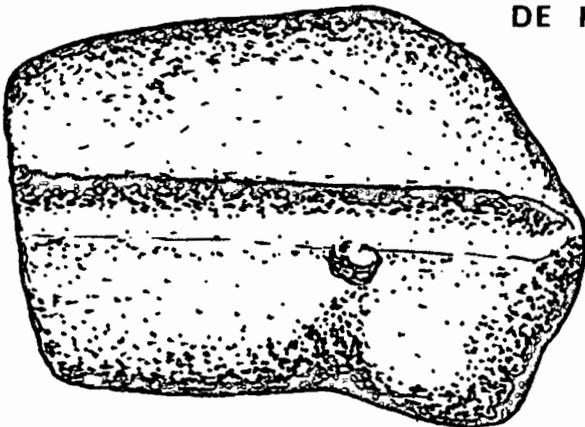


WELTEVREDE

WATERVAL WEST



DE KIEL



documents for as we saw in Section 5, Andrew Smith met San hunter-gatherers along the Riet River after the Settlement Units had apparently been abandoned.

6. COLOURING MATTER.

Excavations in Khartoum 1, Structure L yielded a total of 41 fragments of red ochre weighing some 88 grams altogether. Ochre was certainly ground by the inhabitants of the Settlement Units for traces of ochre have been found on some grindstones collected by the writer and by Maggs (1971 : 55). The ground ochre powder was probably used for burnishing pottery and as a cosmetic (Maggs 1971 : 55). Extensive use of ochre was made in many of the burials along the Riet River as we shall see in the next Section.

Specularite was also recovered from OFD 1 (Maggs 1971 : 55).

7. FAUNAL REMAINS.

The excavations in Khartoum 1, Structure L, produced a total of 2121 bone remains excluding ostrich egg-shell fragments (Appendix 4). As mentioned in the descriptions of the actual excavations, the bones were in a poor state of preservation and the hard nature of the deposit, which made excavation difficult, added further to the problem of recovering all the faunal remains in relatively good condition.

The bones were recovered throughout the deposit, but a large percentage of them were located in a very fragmentary state on the surface of the hard floor layer, giving the impression of having been "tramped" on the floor.

Mrs. Elizabeth Voigt of the Transvaal Museum undertook an analysis of the faunal remains from Khartoum 1 and her report is appended as Appendix 4. The full economic implications of the faunal remains will be discussed in Section 9 but at this point we may note that there is little question that the faunal remains represent human foodwaste; there is no evidence of domestic animal remains at Khartoum 1 (although they constituted a high proportion of the faunal remains at OFD 1 - Maggs 1971 : 55), but the people were clearly capable of hunting buck larger and smaller than springbok and supplemented this meat supply by collecting, at least, tortoises and molluscs. It is perhaps

of interest to note that small animals are not well represented in the faunal assemblage.

The fact that the faunal remains represent foodwaste is demonstrated by the high proportion of bone flakes and the high degree of fragmentation - both features associated with human foodwaste (Appendix 4). In addition to this a number of bones have been burnt (possibly as a result of cooking), while two bones were apparently cut by metal tools (Appendix 4).

The faunal remains, in terms of types represented, compare well with Maggs' findings at OFD 1, but this site produced a larger range of animals. Maggs (1971 : 62) found evidence of cattle and sheep/goat as well as a larger range of smaller animals.

8. FLORAL REMAINS.

No direct evidence of floral remains was recovered from Khartoum 1. This was also the case at OFD 1 but here Maggs was able to infer that the row of post-holes probably at one time supported wooden posts so this does provide some indirect evidence of the use of floral materials.

Enough charcoal for C14 dating was recovered from Structure L and this provides evidence of the use of floral remains as fuel for fires. The charcoal fragments were far too small for any identification to be attempted.

THE FUNCTIONS OF THE STRUCTURES.

One of the purposes of the excavations on Khartoum 1 was to throw some light on the function of the various structures on a Settlement Unit, and so we must now consider what the results of the excavations tell us.

During the excavations soil samples were collected from those levels thought to have been associated with the occupation of the Settlement Unit; the hard floor layer in Structure L and the levels on which the base of the walling in the excavated Structures was built. As a control, samples were collected from unexcavated Structures and the open ground surrounding the Settlement Unit. These soil samples were then tested for the percentage P_2O_5 in them in the hope that differences in the P_2O_5 level would give some clue as to the different activities carried on in the various Structures. Full details on the samples and the analysis are

plant?
vegetable?
wooden?

given in Appendix 5. We may summarise the result by saying that there was not a great variation in P_2O_5 level from sample to sample but where differences did exist, the higher values were usually from within Structures or from occupation levels. Maggs (1971 : 61) found a similar situation on OFD 1 but the samples from within the enclosures showed a very much higher level of P_2O_5 than did any of those from Khartoum 1. It is impossible at the moment to say whether or not this is a reflection of different geographical conditions or differences in the intensity of exploitation of the respective Settlement Units; it is most likely, however, to be the former because there is no other evidence to suggest a significant time difference in the occupation of the two Settlement Units.

The relatively higher levels of P_2O_5 within the Structures suggest that the areas in the enclosures were subjected to more intensive habitation than the areas outside. A soil sample from next to the wall Structure F did not show a higher P_2O_5 level than the surrounding area and so there is no evidence from this point of view to show a great concentration of activity adjacent to this Structure.

Two of the small enclosures were excavated (one each from Khartoum 1 and 2) but neither excavation produced any evidence to show what activities might have been carried out in the enclosures. Apart from the virtual absence of cultural material it was not possible even to identify the floor on which the occupation would have taken place; its position could only be established on the basis of the level on which the wall appeared to have been built. Maggs (1971 : 49) excavated one of the small enclosures on OFD 1, and he too, was unable to find any occupation floor; he did, however, find many sherds and some bone and tentatively suggested that, "the material suggests that domestic activity connected with food took place in the enclosure." There is no evidence to support such an interpretation for the two Khartoum enclosures; on the contrary, the very absence of cultural material would suggest that whatever activities were carried out, they were not such as to produce much debitage. The fact that small enclosures on some Settlement Units have produced some cultural remains while those on others have been virtually sterile shows that the

enclosures may have been used for a variety of activities and that any one specific function cannot be determined or laid down to explain their existence. The wide range in diameters of these enclosures seem to support this view.

The large central enclosure, however, presents a different picture; both on Khartoum 1 and OFD 1 it produced most of the cultural material. From the range of materials found in the large enclosure, there seems to be little reason to doubt that it represented a focus of attention to the inhabitants: the existence of pottery fragments, tools, ornaments and food remains, as well as a concentration of lower grindstones testify to a large range of activities having been carried out within the enclosure. Maggs (1971 : 48) found a series of post-holes running within the large enclosure of OFD 1 and suggests that, "On present evidence the holes seem to have held uprights to form a wall." Although the entire large enclosure on Khartoum 1 was not excavated it does seem highly unlikely that a similar line of post-holes should exist - the soil overlying bedrock when the Structures were built was not deep enough to allow the digging of holes to support uprights. If the purpose of the OFD 1 post-holes was to form some type of screen then a comparable structure on Khartoum 1 would probably have had to have been propped up rather than planted in the ground. However, the possibility of the existence of some type of "partition" in the large enclosure would seem to provide further evidence to suggest that the enclosure formed a focal point in the lives of the inhabitants. The central position of the large enclosure, of course, also supports this idea. Maggs (1971 : 42) remarked about the large enclosures that, "It is difficult to think of any purpose for them other than livestock pens." This may well have been one of their functions but clearly they were used for a variety of other activities as well.

Recently David (1971) drew attention to the multitude of problems involved in trying to reconstruct the social and domestic activities undertaken in a settlement in terms of archaeological remains. He tested several of the approaches in current use in archaeology and found them generally to be of limited value and concluded that, "The difficulties are obvious

enough and ... sufficient to dissuade the most sanguine archaeologist from common-sensical reconstructions of social organisation. But the balance must not be allowed to swing so far as to inhibit all attempts at inference. Rigorous methods to test propositions about prehistoric social life exist ... though it should not be forgotten that such methods cannot prove an hypothesis, but only fail to reject it. The most urgent requirement at present is for detailed case studies that mediate between the ethnographers' structural models and the technologists' model of structures."

In the absence of well-tested hypotheses and in view of the obvious complexity of the social patterns which must have underlain the occupation of the Settlement Units it seems safest to leave speculation on the social patterns prevailing on one of these Settlement Units and turn rather to the picture that can be reconstructed concerning the relationship of this social structure (whatever it may be) and its external environment in terms of the material manifestations of the Settlement Pattern.

THE POPULATION OF A SETTLEMENT UNIT.

Several methods have been suggested for estimating the population of prehistoric settlements. These range from methods based upon probable death rates (Howells 1960) to the relationship between floor area and population (Naroll 1962; Isaac 1969). The methods based upon death rate depend upon information on a probable death rate, the recovery of all the burials associated with a settlement and the duration of occupation of the site - information which is not available for any of the Settlement Units. The floor area methods depend upon a detailed definition of the occupation area - something which, as David (1971) has demonstrated, is not easy to achieve - but as we have seen there is not enough evidence available on the actual areas occupied by man and those occupied by stock on Settlement Units to justify any attempt at using these methods.

In the absence of either good evidence or a fairly reliable method of estimating the occupation area of non-cave sites, no attempt can be made to estimate the population of a Settlement Unit. Moreover, the great variation in size of the various

Structures, and therefore the Settlement Units themselves, would argue against a meaningful "average population estimate" being arrived at. There may well have been seasonal fluctuations in population along the lines of those described by Lee (1965) for the !Kung, among other peoples.

CONCLUSION: THE SETTLEMENT UNIT WITHIN ITS EXTERNAL ENVIRONMENT.

In the previous section we examined the relationship of the Settlement Units to their external environment; the way in which they are structured within the Settlement Area. We must now turn to the relationship of a single Settlement Unit to its external environment and examine the extent to which its internal structure is patterned upon that external environment.

We have already seen how the siting of Khartoum 1 (our example of a Settlement Unit) is dictated by the availability of water and building materials, in line with all the other Settlement Units, and so represents a location from which the external environment was exploited.

With the establishment of a permanent settlement (so far as it contrasts with a non-permanent hunter-gatherer "stop") a constant water supply is clearly a priority. This need is, however, something more than the existence of a river a kilometer away: there must be some provision for a water supply within the Settlement Unit. This need was probably fulfilled by the use, certainly, of pots and possibly, of ostrich egg-shell containers. The availability of large reliable water containers must have gone hand in hand with the establishment of permanent stone-built Settlement Units. We saw in Section 4 that pottery appeared in the "Later Stone Age" probably around 1200 and a knowledge of pottery making was probably a prerequisite for the establishment of permanent Settlement Units.

A constant food supply would also have been a necessity and this, too, is reflected in the remains on the Settlement Units. Maggs (1971 : 56) suggests that the faunal remains from OFD 1 can be divided into four groups in terms of human activity and these are a good reflection of the environmental situation: The inhabitants clearly kept or had access to cattle and sheep and/or goats and their remains are reflected in the faunal assemblages. The existence of various Structures in the

Settlement Units which could be interpreted as kraals are a further reflection of the herding of stock. Wild animals such as springbok and others (which, as we saw in Section 3, were probably common at that time) were hunted as a meat supply. Smaller animals such as tortoises were collected in the veld as an additional food supply; ostrich eggs, in addition to the use of the shells, would have been a good supply of food. The riverine fauna, in the form of fish, frogs and mussels, was also exploited. No evidence of plant or vegetable remains was found but we may assume that the ~~floral~~^{plant} resources of the area were also exploited.

The existence of bone points, incised bone and ostrich egg-shell objects testifies to the further use of some of the "food waste products".

The rare metal objects, as well as the red ochre, are evidence of contact, through trade, with peoples living other ways of life. The nearest known source of specularite is in the Postmasburg area about 200 km to the west, and the occurrence of this mineral on Settlement Units is evidence of contact with peoples to the west - groups which may well have inhibited expansion in that direction as we suggested in Section 6. The metal objects - iron and copper - are likely to have been obtained from Iron Age peoples to the north. The existence of these objects of trade on Settlement Units may therefore be interpreted as a reflection of the cultural environment with which the Type R Settlement Pattern came into contact.

These few examples have been given to show the extent to which the external environment is reflected in the remains found on individual Settlement Units. It is not proposed to pursue this line any further here for it will be fully explored in Section 9 when we attempt to synthesize all the evidence available on the Type R Settlement Units and Settlement Locales and to interpret the Settlement Pattern in terms of the external environment of the area.

SECTION 8.THE BURIALS AS PART OF THE TYPE R SETTLEMENT PATTERN.

"... and learned the secrets of the grave..."

Walter Pater.

INTRODUCTION.

The existence of prehistoric burials along the Riet River seems to have been recognised a long time ago. If not the first, then some of the earliest recorded excavations of a few of these burials were by William Fowler in 1922 (Humphreys 1970). From that time onwards Fowler excavated at least 57 of the Riet River burials. The remains from these 57 burials are preserved in the McGregor Museum, Kimberley, and were only published by the writer in 1970 (Humphreys 1970), although in 1941 Broom (1941) referred to three of the skulls excavated by Fowler in a paper on "Bushmen, Koranas and Hottentots".

The earliest published reference to the Riet River burials appears in Goodwin and Van Riet Lowe (1929). There is no actual discussion on the burials but some eight farms on which they occur are indicated on the map in Plate XXXVII. In 1931 however, Van Riet Lowe (1931) wrote his paper on "Early Graves in the Riet River Valley" which, as the title indicates, referred specifically to the burials occurring along the Riet. In this paper Van Riet Lowe records how, in about 1923, he discovered "what appeared to be artificial mounds of rough mountain boulders - mounds of such size and shape that one could not help suspecting that one was in the presence of graves" (Van Riet Lowe 1931 : 431). It was only in 1929 that the opportunity to investigate these burials arose, and two of them were excavated. The burials were located on the farm Blaauwehuwel near Koffiefontein - one of the farms shown on the map published in 1929. Van Riet Lowe described the burials in detail (as we shall see later) and made some tentative suggestions as to their cultural associations. The burials occurred in an area strewn with Smithfield artefacts but Van Riet Lowe did not regard this as being evidence of an association between the burials

and the cultural material; he remarked, "My unwillingness, however, to see in this first grave excavated any connection with the site above (i.e. the Smithfield occurrence) was mainly because Smithfield man in this area is not known to have buried his dead with ceremony, and because the skeletal material was definitely not of "Bush" type" (Van Riet Lowe 1931 : 432). With regard to burial with "ceremony" in the "Later Stone Age", Van Riet Lowe remarks elsewhere that "... all the skeletons so far found suggest rather a haphazard shoving away of the body into any convenient crevice or cavity either in rock or in the ground and there covering it slightly with earth" (Goodwin and Van Riet Lowe 1929 : 171).

The second of the two Blaauwheuwel burials yielded a copper bracelet which "definitely places the owner out of the Stone Age but leaves one rather in the dark as to his cultural horizon" (Van Riet Lowe 1931 : 433). In looking for a clue as to the cultural associations of the burials Van Riet Lowe turned to the "circular stone enclosures" or, in our terminology, the Type R Settlement Units, as we have already seen in Section I, and remarked, "No graves have yet been found in or in the immediate vicinity of the kraals. They are invariably some little distance away and occasionally quite isolated. My own opinion, entirely tentative of course, is that it is extremely probable that the skeletal material before us belongs to the race of men that built these kraals and that the sites of the graves are the cemeteries established by the builders, probably of Hottentot origin" (Van Riet Lowe 1931 : 434). Van Riet Lowe, therefore, saw a possible direct association between the burials along the Riet River and the Type R Settlement Units.

During this time, and right through to 1946, Fowler was carrying on his excavations of burials in the Koffiefontein area and it is likely that he would have excavated at most if not all of the sites recorded on the map published by Van Riet Lowe in 1929. There is no precise information on the localities of the burials excavated by Fowler but what evidence we do have suggests that Fowler did investigate the sites recorded by Van Riet Lowe (Humphreys 1970). We know, in addition, that Fowler and Van Riet Lowe worked in collaboration - Van Riet Lowe (1931 : 432),

refers to "... the generous assistance of my friend Mr. W. Fowler of Koffiefontein ..." - and this provides further evidence to suggest that Fowler investigated the sites recorded by Van Riet Lowe.

As already mentioned, Broom (1941) studied and published three of the skulls excavated by Fowler and he regarded them as representing "Korana" types. In his paper on the Fowler burials, the writer cautioned against unreservedly accepting the identifications of skeletal material made over 30 years ago and said that these early identifications should not be allowed to prejudge the cultural status of the burials (Humphreys 1970 : 108 - this paper has been included as Appendix 1). The writer was on the basis of the Fowler burial evidence, unable to accept the direct association between the burials and the Type R Settlement Units suggested by Van Riet Lowe and remarked, "It is tempting to suggest, with Van Riet Lowe, an association between the settlements and the burials but, despite this apparent close coincidence (between the distribution of burials and Type R Settlement Units), present evidence does not permit this idea to be put forward as any more than a tentative possibility ... If an association exists between the stone settlements and all or some of the burials, it may become clear when the skeletal material is examined and other well-documented graves related to the Fowler collection. But such an association, if it exists, will probably only be demonstrated by a completely new examination of graves in the area, with the Fowler graves eventually being related to these rather than providing the key to the problem themselves" (Humphreys 1970 : 114).

New evidence on burials from the Koffiefontein area investigated by Fowler was forthcoming in 1970 when Humphreys and Maggs (1970) published two burials excavated on the farm Oudefontein (designated OFD 1 Burials 1 and 2). These burials will be discussed in detail later but at this stage it must be noted that Maggs (1971 : 57) was prepared to accept an association between these and other burials and the Type R Settlement Units. He says, "In the opinion of the writer the present evidence justifies a provisional association between the Type R Settlements and the better-documented graves which are known to have

the characteristics described above" (i.e. in OFD 1 Burials 1 and 2) (Maggs 1971 : 57). Maggs does, however, make the following qualification: "... as Humphreys (1970) has shown, many of the Fowler graves have so little information recorded on them that no association whatever is possible."

All the burials so far mentioned are from the eastern section of the Riet River - burials have also, however, been recorded from the western area. Perhaps the earliest reference to a burial from the western reaches of the Riet River was made by Battiss (1948 : 58) when he remarked, "... when we arrived at Driekopseiland 3 inches (of rain) had fallen in two days and the river banks were deeply eroded. Above the engraving sites I found a skull in a donga which I took to Dr. Broom. He reported as follows: "A fine human skull from the Douglas district. It is apparently that of a Korana with a considerable admixture of Bush blood"." A recent letter from Battiss to the writer confirmed that the skull had come from a burial but that the rest of the skeleton had not been salvaged (Battiss pers. comm.).

A second burial was excavated at Driekopseiland by Mason in 1954. Mason (1954) noted that, "The grave pit had been dug into a floor bearing a rich Smithfield B site. This floor is also the present ground surface, so there need be no association between the Smithfield B industry and the burial... It is therefore not possible to date the burial precisely."

According to Rightmire (pers comm.) a third burial was excavated at Driekopseiland "about ten years ago" but has never been published.

In 1967 the writer excavated a burial on the farm Weltevreden and published it in the paper on the Fowler burials (Humphreys 1970). The writer then grouped the Weltevreden and Driekopseiland burials with those recovered in the eastern area of the Riet River, regarding them all as being part of a common burial tradition, although not necessarily associated with the Type R Settlement Units.

In 1970 the writer posed the following problem with regard to the Riet River burials: "These burials, and any other that may be investigated to obtain additional evidence, must be related to the prehistoric sequence at large with prime attention

going to their possible relationship to the R-type settlements" (Humphreys 1970 : 114).

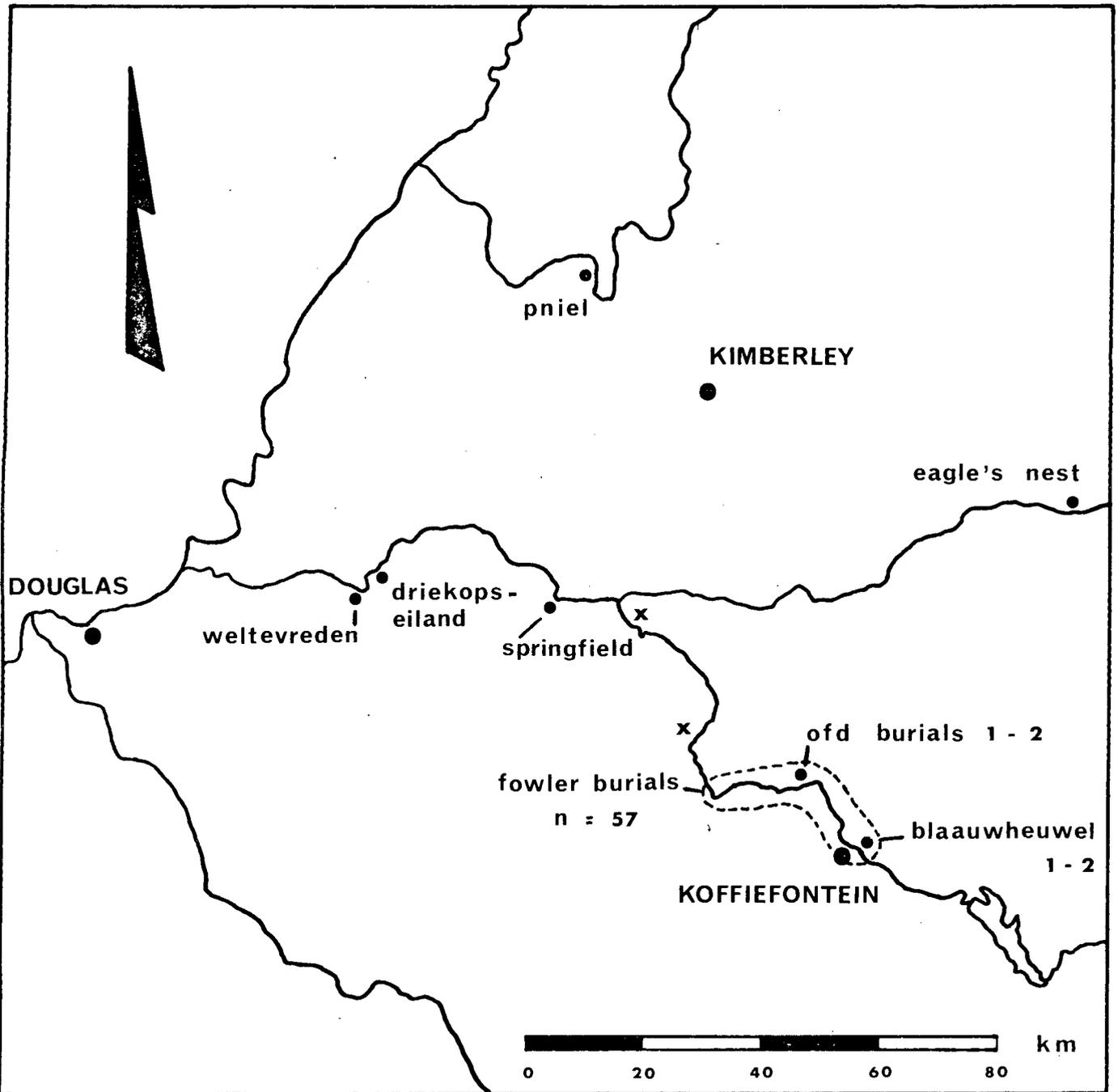
The purpose of this Section is to investigate whether or not any relationship does exist between all or some of the Riet River burials and the Type R Settlement Pattern.

DISTRIBUTION OF BURIALS.

The distribution of known burial sites along the Riet River is shown on the map in Fig. 8:1.

By far the largest sample of burials was excavated by Fowler. The precise distribution of these burials is unknown but as pointed out elsewhere (Humphreys 1970 : 106) the vague information that is available suggests that the area investigated by Fowler stretches some 5 km upstream from Koffiefontein and about 20 km downstream. The appropriate area has been ringed on the map in Fig. 8:1.

Many of the Fowler burials have either yielded grave goods or are recorded as having been found "inside stone circles." It would clearly be of great importance to locate the precise sites where these burials were excavated and some attempt has accordingly been made to determine at least the farm on which the sites are likely to have been located. Below is a list of the Fowler burials which have yielded information of "cultural" significance and the possible localities at which they were situated. The localities have been determined in the following way: It was assumed that the old Jacobsdal-Koffiefontein road would have been the main route along which Fowler would have orientated himself. This old road follows a completely different route to the existing road and so reference to the latter would clearly have been invalid. Having taken the old road as a base line, the distances from Koffiefontein mentioned in the brief information existing on the burials were measured off on a map, and the probable farms on which the burials were located were taken as those farms lying at the various distances from Koffiefontein. Thus, for example, if the available information is "7 miles north-west of Koffiefontein", 7 miles was measured off more or less along the old road (which runs in a north-westerly direction to Jacobsdal) and the farm nearest to the river at that distance was regarded as being the site of the burial. All burials were assumed to have been on the south



DISTRIBUTION OF EXCAVATED BURIALS

(each burial may be associated with further unexcavated graves)

x unexcavated sites

FIG 8 : 1

bank of the river (the same as Koffiefontein) unless the north bank was specifically mentioned in the available information.

The list below is taken from the complete list given in Humphreys (1970 and Appendix 1) and reference should be made to the latter for the full information on each burial. Localities quoted in inverted commas are the actual ones mentioned in the records on the respective burials.

POSSIBLE LOCALITIES OF BURIALS WITH CULTURAL REMAINS

Skeleton No. 192	"Koffiefontein" - no more detail available
Skeleton No. 194	"Koppieskraal" (Oudefontein)
Skeleton No. 195	Afvallingskop
Skeleton No. 203	Just east of Koffiefontein village
Skeleton No. 211	De Kiel Oost
Skeleton No. 217	Afvallingskop
Skeleton No. 223	Afvallingskop
Skeleton No. 225	Afvallingskop
Skeleton No. 228	Oudefontein
Skeleton No. 229	"N W of Koffiefontein"
Skeleton No. 234	"Koffiefontein"
Skeleton No. 235	Blaauwheuwel
Skeleton No. 239	"Koffiefontein"
Skeleton No. 245	"near Koffiefontein"
Skeleton No. 246	Just east of Koffiefontein village
Skeleton No. 249	Wagenmakers Drift
Skeleton No. 252	Wintershoek
Skeleton No. 254	Afvallingskop
Skeleton No. 272	Just east of Koffiefontein village
Skeleton No. 277	"Weltevrede" Koffiefontein (opposite to Poortjie)

The method used for locating these burial sites is rather crude and so this list must clearly be regarded with some reservation but it does give an idea of the possible location of the sites. We have already suggested the possibility of Fowler excavating on some of the sites recorded by Van Riet Lowe in 1929 and so reference to Van Riet Lowe's list of sites may provide some sort of control for assessing the accuracy of the locations suggested for the Fowler burials.

Van Riet Lowe's map of 1929 shows sites on the following farms:

Tweerivier (now under extensive irrigation - refer 1:50,000 map 2924 BA).

Pramberg,
De Aar,
Blaauwbanksdrift,
De Kiel Oost,
Koppieskraal (now Oudefontein),
Wagenmakers Drift,
Blaauwheuwel.

Of these sites all but Tweerivier and Pramberg fall within the area investigated by Fowler. (These latter two sites are not recorded as having been excavated and are indicated on the map in Fig. 8:1 by the symbol X). A comparison between these remaining six sites and the possible localities of the Fowler burials shows that De Kiel Oost, Koppieskraal (Oudefontein), Wagenmakers Drift and Blaauwheuwel at least, have produced burials found by Fowler to include cultural remains. It is possible that the other two sites were also investigated by Fowler for no attempt has been made to determine the precise localities of the 37 burials which did not yield cultural remains.

There does seem some justification in assuming a coincidence between the sites recorded by Van Riet Lowe in 1929 and some of those excavated by Fowler. The list of possible Fowler localities seems to suggest that Fowler himself found and excavated many more sites than the eight mentioned by Van Riet Lowe.

Apart from the "Fowler burial area" several other Riet River burials have been included on the map in Fig. 8:1. All of these represent well-documented excavations which have provided valuable information on the nature of the burials, in contrast to the scant information and skeletal remains available for the Fowler burials. Working from west to east along the river the sites indicated are as follows, with the excavators and references:

Weltevreden	A.J.B. Humphreys	Humphreys (1970)
Driekopseiland	R.J. Mason	Mason (1954)
Springfield	J.H. Power	Tobias (1953)
OFD 1 Burial 1	A.J.B. Humphreys & T.M.O'C Maggs	Humphreys & Maggs (1970)
OFD 1 Burial 2	T.M.O'C Maggs	Humphreys & Maggs (1970)
Blaauwheuwel B1	C. van Riet Lowe	Van Riet Lowe (1931)
Blaauwheuwel B2	C. van Riet Lowe	Van Riet Lowe (1931)

In addition to these Riet River burials two other well-documented burials have been included for comparison:

Pniel	A.J.B. Humphreys	Humphreys (1970)
Eagle's Nest	C. van Riet Lowe	Van Riet Lowe (1926)

The entire Riet River area has not been searched systematically for burial sites and so it cannot be pretended that all existing sites have been located. However, a sample of 64 excavated burials and a further two known localities at which

burials occur, does seem to be large enough to allow some conclusions to be drawn regarding the distribution of burials along the Riet River. The sample is clearly biased in favour of the Koffiefontein area in which Fowler worked, but it is interesting to note, in passing, that this is also the area in which most Settlement Units occur, and that all of the Fowler burials with cultural remains occur near to Settlement Locales.

EXCAVATED SITES.

In order to study the nature of the burials themselves, rather than simply their distribution, it is necessary to consider all the well-documented burials from the area. The most important reason for this is to see whether or not there are grounds for regarding all the burials located as being representative of the same burial tradition.

The well-documented burials have been listed above, with the relevant references. While the original references provide the most detailed data, it is, nevertheless, necessary to outline here very briefly the results of each excavation.

Weltevreden. This burial was excavated by the writer in 1967 at the base of the kopje on which Weltevreden 1 is located. Plans and sections of the burial are illustrated in Humphreys (1970 : 112 and Appendix 1). The burial was identified by a cairn of stones on the surface; excavation revealed a second layer of stones about 42 cm below the present ground surface and below these was a single large stone which had apparently been laid upon the body. The skeleton was flexed and placed on its left side, facing east. Associated grave goods were confined to five isolated ostrich egg-shell beads. An interesting feature on the skull was a very localised red smear (about 20 x 20 mm) on the right upper part of the frontal bone. This may have represented some very localised ochre daubing.

Driekopseiland. Mason (1954) describes the burial as follows: "A small pile of stones, including an ochre-encrusted lower grindstone, marked the grave. The skeleton lay three feet below this. Soft sand filled the grave which was dug into hard soil. Charcoal fragments were scattered through the grave filling from surface to a depth of two feet. The adult

skeleton was contracted to a flexed position and faced south." The body was laid on its side (Mason pers. comm.; Clark 1959 : 249). "An inverted half of an ostrich egg-shell lay beneath the arms, coated internally with specularite and externally with red-ochre. A small, bipolar grindstone, dimple-scarred on one side, and the skull of a reedbuck minus the mandible lay a few inches away. The grave floor beneath the right arm and upper grindstone was coated with red ochre, which also stained the ulna of the right arm. Two pieces of red ochre were found in the grave filling to a few inches above the arm bones, close to three ostrich egg-shell beads."

Springfield. The Springfield burial seems to have been excavated by J.H. Power in November 1950. The skeleton was given to Tobias for description and he describes the actual burial (following Power) as follows: "The farm where the skeleton was found is now known as Springfield, formerly Valschfontein, nine miles below Richie ... The grave was about five feet deep and was in red Kalahari sand. The skeleton was stretched out in a full length position and resting on the right side. Some glass beads of more or less modern type were found with the skeleton but nothing else" (Tobias 1953 : 261).

OFD 1, Burial 1. This burial from the farm Oudefontein was excavated by the writer in collaboration with Maggs and published in Humphreys and Maggs (1970). The burial was one of 15 stone mounds in close proximity (and several more further away.) Excavation of the burial revealed more stones (in addition to the surface cairn) from 0.5 m to 1.0 m below the surface. Below these stones the top of the skull and many ostrich egg-shell beads were located; the infill stones seemed to have been piled upon the body. The outline of the grave was clearly located; at the very bottom of the shaft the skeleton was found to be in a semi-circular recess below the bottom of the shaft leaving the other half of the bottom of the shaft as a kind of step from which the recess was probably dug. (See Humphreys and Maggs 1970 : 118 for detailed section). The skeleton was flexed and lying more or less on its left side; the skeleton was actually slightly twisted so the burial posture was not a "classic" flexed position.

Grave goods included a copper pendant (on which was preserved some specularite matted hair) with a bit of string, as well as a very elaborate ostrich egg-shell bead headband. Many of the beads had traces of red ochre on them:

OFD 1, Burial 2. A second burial on Oudefontein was excavated by Maggs (Humphreys and Maggs 1970). "Here again, below the stone mound, further stones were found which rested on the skeleton. The gap between the upper and lower stones however, is less pronounced, although it is still present, and the grave is not so deep, the maximum depth being about 1 m Burial 2 is also a flexed burial ..." (Humphreys and Maggs 1970 : 120). There were no grave goods.

Blaauwheuwel B1. Van Riet Lowe (1931 : 431) describes the first burial from Blaauwheuwel as follows: "The skeleton ... was found flexed, on its right side, head pointing east, with the whole in a remarkably good state of preservation. With it, in the grave, was found a small collection of ring-shaped ostrich egg-shell beads. The form of the grave is a cylindrical cavity about four and a half feet deep, and four feet in diameter. Over the skeleton are successively about eighteen inches of earth, a layer of boulders, a nine inch earth fill, then another layer of boulders with an earth fill over to natural ground level; over which was finally erected the small dome-shaped mound of rough mountain stones."

Blaauwheuwel B2. In the second burial "an exactly similar state of affairs was found ... but with the skeleton was recovered a copper bracelet ..." (Van Riet Lowe 1931 : 433).

The two burial sites away from the Riet River which are being considered for comparison are as follows:

Pniel. This burial was excavated by the writer on the Pniel Estates near the Vaal River. The skeleton was exposed in the bottom of a water canal which obliterated all surface and infill details with the result that it was only possible to recover the skeletal remains and associated grave goods. The skeleton was flexed but placed upright in a sitting position rather than on

its side. The grave goods included six fragments of a small black pot; one fragment of a second pot; one unretouched flake; one upper grindstone with traces of red ochre on one of its two grinding surfaces; three pieces of corroded "wire" and one antelope tooth. It was difficult to be sure if everything was in true association because of the disturbed nature of the site and the fact that two air-gun pellets were also recovered.

Eagle's Nest. This burial was discovered by Van Riet Lowe (1926) during the course of bridge constructions. The skeleton was in a flexed sitting position. Van Riet Lowe did not regard it as a conventional burial - he remarked, "... although this ... position is suggestive of primitive burial, yet the whole was just sufficiently and naturally asymmetric to lead me to believe that this was no ordinary burial. The entire skeleton was leaning over to one side - a sick or wounded fugitive leaning against the wall of the donga - the right foot about eight inches in front of the left, the hands about the knees and the head resting against the hands. Ostrich egg-shell beads, with conical perforations, fell away from a rotted thread that once circled the neck. I imagine that it was found in this position and merely left as it was, while a slight covering of earth was thrown over it ..." (Van Riet Lowe 1926 : 890). Despite these reservations expressed by Van Riet Lowe, it is interesting to note that the flexed sitting position was similar to that found in the Pniel burial. Other associated materials were several flakes and chips "while immediately in front of and level with the feet, but slightly to one side, was a typical U-bottomed earthen pot about $4\frac{3}{4}$ inches high and 4 inches in greatest diameter" (Van Riet Lowe 1926 : 889). It seems strange, if the individual died where he was buried and simply covered over, that he should have had a pot with him. The fact that a pot was also found at Pniel seems to suggest that this type of burial followed a set pattern and that the Eagle's Nest example was of a similar type.

BURIAL METHODS.

When we consider the nine well-documented burials described above from the point of view of the way in which the body was placed in the grave, it is clear that we have three distinct types.

The first is where the body was flexed and then placed either on its right or left side (Weltevreden, Driekopseiland, OFD 1 Burials 1 and 2, and Blaauwheuvel B1 and B2); the second is where the body was flexed but placed upright in a sitting position (Pniel and Eagle's Nest) and the third where the body was extended and laid on its side (Springfield).

The well-documented evidence shows that the first and third of these types occurs along the Riet River while the second occurs away to the north.

The third type - the extended burial - is clearly very different from all the other burials and is probably related to a different cultural tradition. It has, however, been included here because of its possible historical associations. The extended or Springfield skeleton was recovered on what used to be called Valschfontein. This Valschfontein (or False Fonteyn) is the spot at which Andrew Smith stopped on 3rd January 1835 - he says "About $\frac{1}{2}$ past one started and travelled parallel with the river to False Fonteyn where we found a party of Bastards living who belonged to Waterboer" (Refer Section 5). Waterboer was a Griqua captain who had his headquarters at Griquatown. Griqua influence was widespread in that area and also in the Campbell district. About 10 years ago Prof. P.V. Tobias excavated a number of Griqua burials at Campbell and all these burials proved to be of the extended type (personal observation; Tobias pers. comm.) The fact that the Springfield burial was also extended would suggest that the person concerned was buried according to the traditions of "Waterboer's people" or the Griquas. Tobias's (1953) diagnosis of the Springfield skeleton as a "hybrid" would tend to add weight to the idea that it was related to the Griqua group for they are regarded as being of "mixed Hottentot extraction" (Tobias 1970).

In view of this evidence it would seem that the Springfield burial is related to the occupation of False Fonteyn by the "party of Bastards" seen by Smith in 1835. There is no other obvious archaeological evidence of that occupation, but the area has by no means been subjected to a thorough search, and such evidence may well exist.

The existence of the extended burial on the Riet River,

apparently related to Griqua or Bastard activities, is interesting not only in itself but also in that it tends to emphasize the distinctiveness of the flexed burials that occur in the area and suggests that the flexed burials are not associated with the post-Difaqane Griqua activities.

Turning now to the flexed burials themselves we see that those placed on their side occur along the Riet River while those sitting upright occur away from the Riet. It is, of course, quite impossible on the basis of eight burials, to assume that this coincidence has any real meaning. There is no reason whatever to assume that all flexed burials along the Riet River were placed on their sides. Unfortunately the large sample of 57 Fowler burials can help little in this regard; as pointed out elsewhere (Humphreys 1970 : 111-2) the fact that Fowler recorded that some of his burials were "crouched" or "hunched" does not show whether these were "crouched" or "hunched" lying on their sides or sitting upright.

In the absence of any further evidence we must assume that the Fowler burials, and therefore the Riet River burials in general may well include examples similar to those from Pniel and Eagle's Nest where the skeletons were found in an upright position. A detailed study of the physical characteristics of the skeletons may throw some light on this problem but even such a study would probably be limited by the lack of sufficiently extensive material.

The evidence from the well-documented Riet River burials, however, suggests that they at least are part of a distinct burial tradition (Maggs 1971 : 56). In all cases the burials were recognised by a cairn of stones on the surface; below this the grave shaft (where detected) was carefully dug and stones were placed within the shaft as part of the grave infill. The body itself was flexed, placed on its side (there does not seem to have been a consistency in orientation - cf. the well-documented examples and the Fowler burials where the information is available) and in many cases grave goods were placed in the grave or ornaments left on the body.

The information available on the Fowler burials suggests that some of his examples followed a similar pattern (Humphreys : 110-1).

GRAVE GOODS.

The occurrence and number of grave goods in each burial seems to vary from nothing to the elaborate range of objects found at Driekopseiland (Mason 1954) and OFD 1 Burial 1 (Humphreys and Maggs 1970). The placing of grave goods seems to be a fluctuating variable within the burial tradition which otherwise follows a fairly regular pattern. The amount of grave goods may well throw some light on the cultural associations of the burials and so let us consider the grave goods in more detail.

The well-documented burials from the Riet River have yielded the following grave goods:

Weltevreden	-	5 ostrich egg-shell beads red ochre?
Driekopseiland	-	half ostrich egg-shell with specularite and red ochre. grindstone skull of reedbuck red ochre 3 ostrich egg-shell beads
OFD 1, Burial 1	-	copper pendant specularite red ochre ostrich egg-shell head band.
OFD 1, Burial 2	-	-
Blaauwheuwel B 1	-	ostrich egg-shell beads
Blaauwheuwel B 2	-	copper bracelet.

The writer has described the grave goods from the Fowler burials in detail elsewhere (Humphreys 1970) - the burials which have yielded grave goods and other cultural information (like the fact that they were recovered from within "stone circles") have been recorded above under Distribution. In very brief terms we may summarise the Fowler grave goods as follows: Ostrich egg-shell beads are relatively common; two pots were recovered but these are unlike anything that has yet been described for the area (Maggs 1971 : 52). Two rim sherds from a large pot were also recovered - these are not entirely unlike the pottery associated with Type R Settlement Units but the evidence is too meagre to allow a definite association to be made. A grindstone with traces of red ochre on it was discovered, as well as a fragment of a bored stone. Perhaps the most spectacular remains were

two copper cone-shaped ear-rings(?) and several marine shells, one (at least) of which was used as a pendant.

As the writer pointed out in his description of the Fowler grave goods, none of these objects is sufficiently characteristic of any particular cultural tradition to permit a direct association to be established. The same conclusion would seem to be true of the well-documented burials - the most widespread occurrences in both the well-documented burials and the Fowler burials are the ostrich egg-shell beads and the red ochre, either of which could have been used by various different groups.

SKELETAL REMAINS.

Very little information is as yet available on the nature of the skeletal remains recovered from the Riet River burials. The only skeletons to have been examined in detail to date are the two from Blaauwheuwel which were described by Wells and Gear in 1931. The first skeleton to be excavated from Blaauwheuwel (designated B 1 by Wells and Gear, 1931) displayed "a remarkably even blending of Bantu and Bushman characters ... It may, perhaps, be most accurately diagnosed as a Bushman with a very strong Bantu admixture and also showing a very primitive (pre-Bushman) strain" (Wells and Gear 1931 : 438). The second skeleton (B 2) which was associated with the copper bracelet, was diagnosed as follows: "on the whole the closest affinities point to the Bantu, particularly in regard to the skeleton apart from the skull. In the skull there are again definite Bantu characters, but in association are some very primitive features ... There is also some slight evidence of pre-Bush or Boskopoid affinities demonstrated in the skull" (Wells and Gear 1931 : 442).

(It should be noted that the term "Bantu" as used here is no longer regarded as having any validity other than as a linguistic term; recently Tobias (1971) and Wilson and Thompson (1969) have shown that the term "Bantu" is meaningless in both a physical and a cultural sense. The correct physical term is "Negro".)

Wells and Gear conclude in general terms that, "The skeletal characters are in keeping with the suggestions of Mr. van Riet Lowe concerning the cultural horizon of these graves" (1931 : 443).

This statement is, however, rather odd in view of the fact that Van Riet Lowe (1931 : 434) expressed the opinion that the graves and kraals were of "Hottentot" origin. Nevertheless the analysis seems to indicate clearly that people of some "mixed" type are involved; this, at any rate, is the assumption built upon by later workers. Walton (1956), for example, draws attention to the "Bush-Bantu" admixtures and because of this evidence of mixing ascribes the Type R Settlement Units to the Gyzikoa (Tlhaping-Nama peoples) as we saw in Section 1. De Jager (1963) also quotes Wells and Gears' identifications and, drawing attention to an apparently similar burial from Ferrara near Senekal, suggests that the burials represent a general method used by the earliest immigrants to the Orange Free State ("Die begraafwyse ... was egter ook n algemene wyse van begrawing onder die vroegste intrekkers in die Vrystaat" 1963 : 108) Hitzeroth (1972 : 72) in a recent synthesis on the physical anthropology of the indigenous peoples of South Africa quotes Wells and Gear's identifications but then, for some unknown reason, completely misrepresents Van Riet Lowe's (1931) views by claiming that Van Riet Lowe had associated the burials with a phase of the Smithfield culture ("Van Riet Lowe (1931) maak melding van twee vondse van Blaauwheuwel (Rietrivier) wat hy as Hottentotte beskryf en met n Smithfieldkultuurfase assosieer.")

Dart (1952), on the other hand, considers the Blaauwheuwel skeletons to represent "Hottentots". In his paper on "A Hottentot from Hong Kong", Dart attempts to "demonstrate that Boskop (Hottentot) types as well as Bush (Pygmy) types had been dispersed from Africa eastwards as far as China at some time in the prehistoric past of this continent" (Dart 1952 : 117). Dart includes the Blaauwheuwel skulls among his comparative examples of "Hottentot" skulls in this paper, and seems to dismiss the findings of Wells and Gear (1931) on the skulls. He says, "... Wells and Gear (1931) reported upon these two male Hottentot skeletons. Despite the Boskop and Bush characteristics they found in B1 and the Boskopoid (and even Rhodesioid, as they expressed it) features they discovered in B2, they were cautiously inclined to attribute the unexpected (i.e. non-Boskop and non Bush features) in the skulls to Negro influence resulting

from Bantu admixture (Dart 1952 : 120). During the two decades that have elapsed since Wells and Gear (1931) described the two Blaauwheuwel Hottentots, our understanding of the Boskop type and its continent-wide distribution in Africa has been expanded ... We have also learned that the proportion of Boskopoid individuals amongst the purest living Bushmen in the southernmost part of the Kalahari is equivalent to that of Bush Types. The facial features of those purest Bushmen are singularly lacking in Negro features but Armenoid, Mediterranean and Mongoloid features are common. Hence amongst them physical admixture between Armenoid, Brown and Mongolian folk on the one side and the Bush-Hottentot peoples on the other side must have occurred quite extensively before the Negro element, in the form of the Bantu-speaking peoples, descended upon South Africa. So it is precarious to attribute to Negro (Bantu) influence physical features which may happen to be foreign to the Bush and Boskop types, but which could have been derived from the Armenoid or Mongol, or other races of mankind" (Dart 1952 : 122).

None of the other well-documented skeletons have been described in detail. Prof. L.H. Wells has, however, undertaken to describe the two burials from OFD 1, but no report has yet been forthcoming. Mason (1954) expressed the hope that Prof. P.V. Tobias would describe the Driekopseiland skeleton, but the study has not been undertaken.

The skull from the Weltevreden burial was given a brief examination by Tobias in 1968, but he was unwilling to go further than describing it as a "hybrid" (Tobias pers. comm.).

Most of the Fowler skulls were identified by Broom who pronounced the majority of them to be "Korana" or "Korana-Bush" hybrids of various sorts (McGregor Museum Accessions Catalogue; Humphreys 1970). He published three of the skulls (Skeletons No. 229, 236, 250) calling them "fairly pure Korana" (Broom 1941) and used them as part of the basis for his identification of the "Korana" physical type.

It does seem clear in view of the variety of identifications that very little is to be gained at this stage in trying to assess the physical status of the skeletons for they are currently ascribed to what can best be called a series of ill-defined

groupings. Answers on the physical status of the Riet River burials will only be forthcoming when a new and thorough analysis is undertaken.

DATING.

Absolute dates are available for three of the Riet River burials; these are the two from Oudefontein - OFD 1 Burial 1 and 2 - and the one from Weltevreden.

The two OFD 1 dates were published in 1971 by Maggs (1971 : 56) and are as follows:

Burial 1	Pta 247	110	\pm	50 B.P.	(A.D. 1840)
Burial 2	Pta 248	380	\pm	50 B.P.	(A.D. 1570)

Dr. J.C. Vogel of the National Physical Research Laboratory in Pretoria, who processed the dates, commented as follows: "From the C14 calibration curve the most probable historic dates derived from these measurements are:

Burial 1	either A.D. 1845 or A.D. 1690.
Burial 2	either A.D. 1590 or A.D. 1475."

Maggs (1971 : 56) seemed inclined to accept the later of the probable historic dates for he remarks: "From the historical evidence it seems that the occupation of Type R sites had ceased by 1835, therefore Burial 1 probably dates to a little earlier than the 1840 of the conventional C14 date ... The OFD 1 burial ground may have been in use for about three centuries up to this time ..." Implicit in these remarks is the view that the Settlement Units and the burials are associated; Maggs (1971 : 57) goes on to confirm this belief later, as we have already seen.

In order to obtain a date from the western area of the Riet to compare with these dates, a bone sample from Weltevreden was submitted to Vogel for C14 dating. The following result was obtained:

Weltevreden	Pta 681	3360	\pm	60 B.P.
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In view of the two OFD 1 dates and the suggestions of an association between the burials and the Settlement Units this was a somewhat surprising result.

As we have seen, from a typological point of view these burials are similar and the implication was that they were closely related in time. The Weltevreden date however indicates that this burial tradition has a long history in the area of at least 3,000 years. Clearly the dating of Burials 1 and 2 from OFD 1 cannot now be taken as supporting the idea of an association between the burials and the Settlement Units as assumed by Maggs. There seems to be some coincidence between the dating of some of the burials and the period during which the Settlement Units were occupied, but the burial tradition has a much longer history than the Type R Settlement Pattern showing that the tradition may be associated partially (or completely) with other cultural systems which would have emerged and existed before the development of the Type R Settlement Pattern.

The main questions raised by the dating of these three burials are as follows:

- (1) Are there any grounds for regarding some of the burials as being associated with the Settlement Units or is their apparent concentration in the riet River Valley and partial contemporaneity a coincidence?
- (2) If there are grounds for associating some of the burials with the Type R Settlement Pattern, what are the cultural implications of the long history of the burial tradition?

THE RELATIONSHIP BETWEEN THE BURIALS AND SETTLEMENT UNITS.

In attempting to answer these two questions raised by the dating of the burials we must use the existing evidence on the burial tradition. Clearly the skeletal evidence is of no use in this regard. As we have seen many of the skeletons have been attributed to a variety of ill-defined groupings and no attempt has been made to define their relationship to each other. However, even if such information were available it is unlikely to be of much use for there is no evidence on the physical characteristics of the people who built the Settlement Units and so nothing to which even a well defined series of skeletons could be related. Some of the Fowler burials were found within some of the Structures (Appendix 1) but despite Maggs (1971 : 56) regarding this as

evidence of an association, the relationship between burial and Structure would have to be examined in detail before any definite conclusions could be drawn.

If we disregard the ambiguous skeletal evidence we are left with "distribution" and "grave goods" as the main lines of evidence from which to draw conclusions on the possibilities of an association.

In a time range of some 3000 years simple correlations between the distribution of burials and Settlement Units are likely to be dangerous. A burial and a Settlement Unit may occur close together today, but this need not be evidence of an association. A case in point is the Weltevreden burial which was located at the foot of the kopje on which Settlement Unit Weltevreden 1 is situated - clearly there can be no suggestion of an association between the two.

However, if we consider the distribution of "burial grounds" some interesting points emerge. Four burials have been excavated from two well-established burial grounds. These are the Blaauwheuwel burials which are two of 12 grouped graves (Van Riet Lowe 1931 : 431) and the OFD 1 burials which are two of 15 graves (Appendix 2). Of these four burials, three can be demonstrated to be recent - one yielded a copper object, one copper and a date, and the third a date - and so they relate roughly to the period during which the Settlement Units were occupied. As Maggs (1971 : 56) has pointed out, "The grouping of a dozen or more graves together, as is the case on at least two of the burial grounds, is more likely to be the work of relatively settled pastoralists than of roving hunter-gatherers." The fact that burials occur in such large groups is strongly indicative of an occupation of a small area of long enough duration for several people to have died. It is, therefore, possible that the burial grounds with "recent" burials are associated with the Settlement Locales near which they are located.

The associated grave goods are, as we have seen, not particularly diagnostic. However, the fact that a similar range of objects to those found associated with the Settlement Units has been found in burials may be suggestive. Examples of parallels between burial objects and material from Settlement

Units include red ochre, metal objects and ostrich egg-shell beads. All of these show that the peoples associated with the burials and the Settlement Units were, at least, making use of similar materials and objects even if they were not distinctive of either group.

We may therefore conclude that there is some circumstantial evidence to suggest an association between some of the burials and Settlement Units. The combination of close proximity, similar time span and similar though non-distinctive cultural objects would seem to justify a provisional association between the Settlement Units and those burials which have these attributes.

If there is the possibility of an association between some of the burials and the Type R Settlement Pattern, what are the implications of the long history of this burial tradition? The Weltevreden burial with its date of 3360 \pm 60 B.P. must clearly be related to the "Later Stone Age" occupation of the Riet River Valley because, as we saw in Section 4, Iron Age influences were not felt until very much later. The fact that a similar burial method was practiced over this long period of time may imply a continuity of occupation by a similar group of people (although the skeletal evidence will be needed to demonstrate this). If this is the case then we have the situation where a "Later Stone Age" group through time comes into contact with metal producing peoples and is associated with stone-built Structures - if the association between the Settlement Units and burials is valid.

The implications of the long burial tradition are therefore that it represents a fairly constant feature within a cultural system that was changing through time as a result of contact with other peoples. The burial evidence is rather limited at this stage and so before putting this hypothesis forward it is necessary to examine other aspects of the Type R Settlement Pattern to see if there is any further evidence which would tend to support such an idea.

SECTION 9.INTERPRETATION OF THE TYPE R SETTLEMENT PATTERN.

" 'Tis not a lip, or eye, we beauty call,
But the joint force and full result of all."

Alexander Pope.

INTRODUCTION: FACTORS DETERMINING THE PLACING OF SETTLEMENT UNITS.

In the preceeding 8 Sections we have examined various aspects of the Type R Settlement Pattern and its external environment. We have examined the history of the recognition and investigation of the Riet settlements over the years and defined the state of knowledge existing before the commencement of this project; we have also examined the natural history - existing both now and in the recent past - of the Riet River area in which these Settlement Units are located. We have reviewed the existing knowledge of the prehistory of the area as well as all the published historical accounts of the inhabitants and geography of the Riet River Valley. Through the use of aerial photographs we have been able to locate most, if not all, of the presently existing Settlement Units and consequently to define their distribution; this distribution has been examined in detail in order to detect any underlying location strategy which may have existed. Excavations on two of the Settlement Units, as well as the utilisation of existing information, have thrown some light on the nature of the occupation of the Settlement Units.

Having presented all these various data, it now remains to synthesise and integrate them in order to see what they can tell us of the way of life of the people who left in the archaeological record what we have called the Type R Settlement Pattern.

In Section 6 we established that the Type R Settlement Area occurs along the Riet River; it assumes a linear form along the river suggesting that its orientation was dictated by the necessity of a reliable water supply. The availability of water would have been of primary importance to the inhabitants of the

Settlement Units and was, therefore, a major factor in the siting of the Settlement Units. A second important factor was apparently the availability of building materials - in this case dolerite boulders - and Settlement Units are consequently always situated close to or on top of dolerite outcrops.

It seems clear that these two factors - water and building resources - were the primary determinants of the placing of Settlement Units. However, as we have seen, Settlement Units do not always occur in isolation, some Settlement Locales seem to have been exploited again and again. The available evidence would seem to suggest that this intensive exploitation of some Settlement Locales, as witnessed by the occurrence of several Settlement Units, took place through time rather than contemporaneously - i.e. the various Settlement Units were occupied consecutively rather than simultaneously. It is not entirely clear at this stage why some Settlement Locales were more favoured than others but this is one of the questions to which an answer may emerge when all the various types of evidence are synthesised.

UTILISATION OF RESOURCES.

Derricourt (1972 : 23) has suggested that, "The influences on settlement patterns for human groups ... will come from all the necessities of that group, and not merely the necessities of food; rather than a concept "all you need in two hours' walk", a settlement will, in fact, tend to be placed at a distance from all its vital resources proportionate to the importance or frequency of use of those resources ..." We have already seen that the Settlement Area has been determined by the siting of water and building resources and it is, therefore, now necessary to look at the other resources that were exploited by the inhabitants of the Settlement Units to see what these can tell us of the Type R Settlement Pattern. The utilisation of resources is going to be controlled by the location of the Settlement Units while at the same time that location itself is going to be influenced in no small measure by the siting of the necessary resources, as Derricourt suggests.

The various resources (apart from water and building material) can conveniently be divided into two groups:

Those exploited from a dietary point of view and those used in the manufacture of some or other artefacts:

A. DIET.

The primary concern of any human group is the acquisition of something to eat. The nature of the food supply and its abundance is controlled not only by the available resources but also by the technical ability to exploit them efficiently. A study of the dietary remains found on Settlement Units is therefore likely to throw considerable light on the resources available to the inhabitants and also their ability to exploit them.

FAUNA. As we saw in Section 3, the Riet River was probably very rich in fauna in late prehistoric times; in addition to the animals listed by Bigalke and Bateman (1962) there were also likely to have been rabbits, rodents, viverrids and other animals of similar size. Potentially, therefore, the Riet River provided a very good opportunity for faunal exploitation.

Two faunal assemblages from Type R Settlement Units are available for study: those from Khartoum 1 (Appendix 4) and OFD 1 (Maggs 1971). The list of fauna represented in these assemblages is given below together with their presence at or absence from the two Settlement Units: (The figures quoted represent the minimum number individuals present.)

	<u>OFD 1</u>	<u>Khartoum 1</u>
☞ Cattle	4	-
☞ Wildebeest/hartebeest	1	1
☞ Bovid (medium)	1	1
☞ Sheep/goat	3	-
☞ Springbok	3	3
☞ Antelope (small)	1	2
Unidentified bovid	-	3
Non-bovid	-	1
Rock rabbit	1	-
Viverrid (medium)	1	-
Viverrid (small)	2	-
Rodent (small)	2	-
Elephant shrew	1	-
Bird (medium)	1	-
Ostrich egg	several	many
Lizard	2	-
Frog	1	-
Fish	1	-
Fresh-water mussel	6	1

Maggs (1971 : 56) divided the fauna from OFD 1 up into 4 groups in terms of human activity:

- 1) herding of cattle and small stock,
- 2) hunting of springbok and larger and smaller antelope,
- 3) collecting of tortoises and ostrich egg-shell, and
- 4) exploitation of the riverine fauna in the form of frogs, fish and fresh-water mussels.

These four categories seem to provide a useful analysis of the faunal exploitation habits of the Type R peoples and so we may consider them with reference to Khartoum 1. Clearly the most important group missing from Khartoum 1 is the "domesticated" group; there was no direct evidence of domestic animals at Khartoum 1 although the highly fragmentary nature of the faunal remains may well disguise their presence - Voigt did remark that some of the teeth had been compared with comparative goat and sheep material, but were most similar to a comparative springbok dental series.

The second group - hunting of antelope - is well represented at Khartoum 1. It is interesting to note that all antelope hunted coincide with those recorded by Bigalke and Bateman (1962); the species most represented is the springbok which Bigalke and Bateman found to be the most common antelope (see Section 3).

There is clear evidence of the exploitation of tortoises and ostrich egg-shells at Khartoum 1; the large quantities of the latter have been remarked upon elsewhere. The rodent-viverrid group is not represented at Khartoum 1, although there is indirect evidence of their existence (even if not their exploitation) in the fact that one of the bones recovered had been heavily gnawed by a rodent (Appendix 4); despite the lack of direct evidence it does seem likely that these animals were exploited by the inhabitants. It is also possible, of course, that their presence at OFD 1 is overemphasised by the fact that these burrowing animals may have died in the deposit after the abandonment of the Settlement Unit.

Khartoum 1 provides some evidence of the exploitation of the riverine fauna in the single mollusc recovered; Maggs (1971 : 56) found more extensive evidence of the use of river foods and there is no reason to doubt that these exploitation

patterns were broadly similar on the two Settlement Units. The writer has noted the occurrence of fresh-water mussels as far away as Driekopseiland and so their distribution does not seem to have been confined to any particular section of the Riet River.

Maggs (1971 : 56) suggested, on the basis of his OFD 1 evidence, that, "The herding of cattle and small stock must have been one of the main activities of the settlement and it seems to have supplied the majority of the protein food." The structure and nature of the Settlement Units seems to support the first part of Maggs' contention, but the lack of domestic faunal remains at Khartoum would suggest that he has overemphasised the importance of domestic stock in the diet of the inhabitants; had Khartoum 1 been excavated before or instead of OFD 1 there would only have been indirect evidence of access to domestic stock in the stone Structures. It is also possible to argue against Maggs' emphasis on domestic stock as the major source of protein from a purely theoretical point of view. It is well-known that in many African societies the possession of domestic stock is a symbol of wealth (Wilson and Thompson 1969) and so it would be somewhat anomalous to find a group in a relatively poor economic state relying on domestic stock as their main source of protein.

It would seem therefore that we do have direct evidence of domestic stock on Type R Settlement Units and that the inhabitants did sometimes slaughter these animals, but to regard their proportion of occurrence in the two assemblages as being a reflection of their part in the diet of the people would seem to be an over-exaggeration; clearly, by the same token, the lack of rodents-viverrids at Khartoum 1 cannot be regarded as evidence that they were not exploited on that Settlement Unit. On the other hand, the occurrence of springbok and other antelope at both Settlement Units may be a reflection not only of their abundance in the area, but also of some aspects of the hunting habits of the people.

Voigt (Appendix 4) found that "at least two of the seven identified bovid individuals were juveniles," and remarks elsewhere that three very fragmentary metapodials could either have come from a bovid smaller than a springbok or from a juvenile of the springbok-hartebeest sized category. We thus

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have clear evidence of the exploitation of juvenile as well as adult animals at Khartoum 1. At OFD 1 Maggs (1971 : 55) says, "Detailed work on the age of the animals has not been undertaken, but it is very noticeable that the majority of the bovids, both domestic and wild, were juveniles." According to Liversidge (pers. comm.) springbok do not seem to have a definite lambing season but all other bovids do. Although nothing concrete can be inferred from the springbok juveniles, the existence of other bovid juveniles at both Khartoum 1 and OFD 1 would tend to suggest that at whatever seasons the Settlement Units may have been occupied, there is at least a broad coincidence between the occupations of Khartoum 1 and OFD 1. In the absence of more detail on ages and larger samples it is not possible to say more; certainly a detailed isolation of season, like that achieved by Parkington and Poggenpoel (1971) is not possible.

How do the Type R faunal remains compare with those from other cultural systems? Voigt (Appendix 4) has drawn attention to the fact that, as food-waste, these faunal remains (at least those from Khartoum 1) have distinct parallels in other assemblages far removed in time and space. There seems no doubt, in the present state of knowledge, that the Khartoum 1 faunal assemblage (and therefore probably the one from OFD 1) represents the remains of human exploitation and so we must turn our attention to comparing what the various peoples exploited.

In a recent paper, Welbourne (1971) attempted a synthesis of the existing information on Transvaal Iron Age faunal exploitation patterns. (Nothing similar exists for the Orange Free State). Welbourne derived several economic hypotheses from his data, the most important of which are "types of economy" (which refer only to animal foods). According to the percentage occurrence of domestic animals Welbourne has isolated the following economies: "Essentially Hunting Economy", "Largely Pastoral Economy" and "Essentially Pastoral Economy". The criterion isolating these types is the percentage of domestic animal remains in the following proportions: 20% domestic, 50-75% domestic and 90% domestic respectively. It is clearly impossible, on the basis of the Type R evidence available, to define the percentage of domestic remains present in a meaningful way, but it does

seem highly probable that the Type R Settlement Pattern would fall into the "Essentially Hunting Economy" category; domestic stock probably have constituted only a small percentage of their protein food.

It is interesting to note the assignation of Transvaal Iron Age sites to these three types. Welbourne based his analysis upon eight sites and of these two rated as having an "Essentially Hunting Economy". Of the eight sites, however, these two were cave sites whereas all the others consisted of stone ruins. Welbourne does not seem to comment on this, but it does appear, on the basis of the evidence available, that the sites with least evidence of domestic animals are not stone settlements and that there is a correlation between stone ruins and a relatively high level of domestic animals. This situation may well be a reflection of the relatively greater stability of groups with many domestic animals (hence the building of stone structures) as against people with less dependence on or access to those animals and a higher dependence upon hunting who tended to inhabit caves (among other sites) rather than building elaborate stone structures. Welbourne does draw attention to the much longer list of wild animals hunted in "Essentially Hunting Economies" as opposed to those hunted in an "Essentially Pastoral Economy"; not only is there apparently a decrease in the dependence upon wild animals but the range hunted also becomes narrower.

The evidence available to Welbourne is, admittedly, very limited, but there does seem to be some hint of a correlation between domestic animals and stone settlement building. If there is any validity in this idea then we may see in the Type R Settlement Units a link between the exploitation of domestic animals and the construction of stone Structures.

Welbourne (1971) lists the faunal remains from all his Iron Age sites, but does not give relative proportions; the Iron Age people hunted a much wider range of animals than did the Type R people (on the basis of existing evidence) although the composition in terms of Maggs' four categories, mentioned above, would appear to be broadly similar. Naturally enough the Transvaal has a different faunal population to the Riet River area and so it is not possible to go any further than this.

There is unfortunately little evidence on faunal exploitation in the "Later Stone Age" of the Middle Orange River Area. The evidence available, such as it is, is summarised below; only Phase 6 material has been considered for it is most likely to embrace the time span of the Type R Settlement Pattern, but the information for the other Phases is as scant as it is for Phase 6. All information is from Sampson (1967 a, b, c, d,; 1970).

Glen Elliot - no detailed analysis but "The present analysis does suggest that Levels I-II (Phase 6) have a high proportion of large vertebrates."

Zaayfontein - only small amounts of faunal remains survived in the deposit; the bulk of the diagnostic fragments belong to small animals.

Ventershoek - no detail but the following comment is made: "Preliminary examination of the associated faunal remains from Ventershoek shows that the range of the diet is identical to that from the well-preserved Phase 6 sample at Glen Elliot shelter. The proportions of bones are also roughly similar, but it appears that the occupants of Ventershoek ate more fish and frog than the Phase 6 hunter-gatherer groups in the Orange River Scheme area. The latter appear to have eaten more ostrich egg and mollusc."

Holmsgrove - no detail.

From this information it is clear that few comparisons can be made between the Type R and "Later Stone Age" contexts. It is also clear that the relatively wide range of habitats and the more mobile economy of the hunter-gatherers is going to lead to a series of assemblages that relate to different seasons and exploitation patterns and these will have to be understood before any meaningful comparisons can be made on a more general level. Perhaps the most interesting single fact about these sites is that there does not seem to be any evidence for the exploitation of domestic animals.

In conclusion, therefore, we can say that the faunal remains from Type R Settlement Units show that the inhabitants had access to domestic animals; apart from these, they seem to have relied very heavily on the rich animal population of the area.

Their hunting techniques must have been relatively good for they were capable of hunting animals larger than the springbok. They also exploited the riverine fauna of the Riet and collected "slow" animals like tortoises. The relatively short list of animals hunted may reflect the inadequacies of the available samples or it may represent a stage of relative equilibrium in hunting techniques along the lines of that suggested by Welbourne (1971 : 81) for some of his Transvaal Iron Age sites. A final point of importance is the apparent emphasis on "large" animals in the Type R faunal assemblages. Sampson (1967 c : 140) refers to the high proportion of "large vertebrates" in Phase 6 (see "Glen Elliot" above) and Deacon (1972 : 36) says of the "interior" of South Africa, "Certainly there is no apparent pattern of small antelope hunting that might be comparable to that suggested for the Wilton in the eastern Cape". This emphasis on "large" animals in the late phases of the "Later Stone Age" may well have some parallels in the Type R hunting patterns.

FLORA.

No floral remains have yet been recovered on any Type R Settlement Units (apart from charcoal). Conditions in the interior of South Africa are such that floral remains will probably never be found. Sampson (1967 a, b, c, d; 1970), for example, found no floral remains in any of his excavations along the Orange River while plant remains are extremely rare on Iron Age sites (Welbourne 1971). This absence of floral remains is probably due to their rapid breakdown in the sharply seasonal climates and alkaline soils of the interior.

On the basis of evidence from other areas, as well as historical records, we may, however, surmise that vegetable foods played a considerable part in the diet of the inhabitants. Lee (1968 : 344) made a very pertinent remark when he noted that, "We were impressed that the !Kung have a very substantial subsistence base largely made up of vegetable foods and small mammals, but that there would be almost a total loss of this evidence to the archaeologist," and that with the exception of the Eskimos, virtually all the societies in the world ethnographic sample of food-gathering societies have a subsistence base

primarily of vegetable foods and/or marine resources (Murdock 1967). Clearly, from what we have already seen, the Type R inhabitants were not pure hunter-gatherers, having had domestic stock of their own, but vegetable foods would nevertheless still have constituted a significant part of their diet. The total absence of any evidence of this food in the archaeological record must in no way be allowed to obscure this important aspect of their feeding habits. Lucas (1971) has shown that there are some 31 different species of edible plants which could have been exploited by Iron Age man in the Melville Koppies environment. A similar analysis to that undertaken by Lucas has not been attempted for the Riet River environment, but there is no reason to believe that a broadly similar number of species (albeit different in some cases) was not available to the inhabitants of the Type R Settlement Units; many of the species listed by Lucas are known in the Riet area.

There does not seem to have been any cultivation along the Riet River in prehistoric or early historical times. Maggs (1971 : 58) points out that the Sotho-Tswana peoples had lived in broadly the same areas for a considerable time without advancing any further south. The reason for this would seem to be economic, for these peoples were, to a certain extent, cultivators, and conditions to the south and west (including the Riet River) would probably have been too dry for agriculture. If the Riet River was unsuitable for occupation by experienced cultivators it is unlikely to have been the scene of any incipient cultivation.

So far we have only considered floral exploitation from the point of view of the people themselves but being pastoralists, a good food supply for their stock would have been almost as important as a requirement as their own needs. In Section 3 we saw that there has been a significant change in the vegetation of the area exploited by the inhabitants of the Type R Settlement Units. The primary change seems to have been from good markedly seasonal grazing to average all year round grazing resulting from the invasion of the area by Karoo plants. There is no evidence on the probable carrying capacity of the earlier vegetational cover but estimates on the basis of the existing cover suggest a carrying capacity of 2.75 to 1.33 sheep per morgen (1 morgen = .85 hectares) (Henrici 1932). If, for the

perhaps *
 more could
 have been said
 about this
 cover because
 seasonality

sake of argument, we take round figures of 2.0 sheep per morgen or 2.3 sheep per hectare, we find that the potential carrying capacity of the Riet River area would be approximately 230 sheep per square kilometre. We have no evidence on the area which was exploited around each Settlement Unit or on the numbers of animals owned by the inhabitants, but on the basis of these figures it does seem fairly likely that the vegetation in the area would have provided a more than adequate food supply for the stock. Cattle would clearly eat more than sheep but even so there does seem to have been adequate grazing. The minimum distance that the people would have travelled away from the Settlement Units would, on average, have been about 1.0 km (the average distance of the Settlement Units from the river) and so the minimum size of the area exploited around the Settlement Unit would have been about 3.15 sq. km; if this area were grazed to its limits, it could have carried nearly 700 sheep. This would indicate that estimates like that of Campbell (1822 : 287) that "some kraals have as many as five hundred (cattle)" may not be as far out as they would seem at first sight. This is not, however, to suggest that the Type R inhabitants had that many animals; clearly estimates on the extent of their herds and flocks should be based not upon the potential of the vegetation, but rather upon the facilities at their disposal for protecting the animals - i.e. their kraaling facilities. There is no direct evidence to show which of the enclosures on a Settlement Unit could be regarded as being "kraals" as opposed to those occupied by humans but, on the basis of what we know of the structure of a Settlement Unit, such kraals that may have existed would probably not have accommodated all that many animals.

We may therefore conclude that the Riet River environment must have provided an adequate vegetational or floral food supply for both the inhabitants and their stock. The lack of direct evidence on the utilisation of this resource is a reflection of the lack of archaeological evidence rather than of its relative importance in the diet and exploitation habits of the people.

plant

OTHER.

In the category "other" dietary resources we may include a variety of commodities which may well have been exploited but for which there is again little or no archaeological evidence. Honey, for example, was probably collected but no evidence of this is likely to be found in the archaeological record. Certain categories of insects were probably also eaten; the consumption of locusts is common among some groups. Locust swarms periodically wreak havoc on the vegetation of the interior; as recently as May 1969 a plague of locusts stretched the available technology to its limits in trying to control it. Moffat (1845) recorded a locust outbreak in 1826 and noted that it provided a good, but short-lived, food-supply for the Tlhaping. There is little reason to doubt that the Type R peoples also exploited the locust swarms whenever possible.

Quin (1959) records that, in addition to locusts, the Pedi ate termites, caterpillars, beetles, wasp larvae and grasshoppers. These insects would also probably have been eaten by the Type R peoples but clearly evidence of this is unlikely to survive on Settlement Units. The only direct evidence of dietary habits would be in the form of waste from food, like bones or shells, and any foods than can be consumed in toto are not likely to leave any trace; the utilisation of such food stuff can only be inferred from indirect evidence. The exploitation of "other" food supplies fall into this category and so we can only "infer" that the inhabitants may have eaten these commodities.

B. ARTEFACTS.

Another important requirement of any group of people is materials from which to fashion their artefacts. We have already examined the role of dolerite outcrops in the construction of the Structures in the Settlement Units so in this section we can turn our attention to the utilisation of resources for other artefactual purposes.

In considering how the Type R peoples used their available resources in the manufacture of artefacts it would perhaps be of value to consider what they made and what they used against the background of what we know of the habits the other peoples or

"cultures" in the general area. Unfortunately, as we have already seen, detailed information on Iron Age technology and artefacts in the Orange Free State, and Northern Cape, while having been collected, is as yet unsynthesised and unpublished. In this field, therefore, it is necessary to turn to the little and generally unsatisfactory literature that does exist on the Iron Age artefacts of the Orange Free State area. The most useful source is the De Jager (1965) synthesis of the literature on the Iron Age up to 1964, but this really only serves to highlight the inadequacies of the existing literature.

From the "Later Stone Age" point of view we are slightly better off as we have Sampson's (1967 a, b, c, d; 1970) detailed descriptions of materials from the Orange River area. Even these data have their limitations, of course, in that they are from a small area and need not necessarily be representative of general trends and ideas but they do at least provide some useful information for comparison.

In order to see what the "Later Stone Age" peoples were doing with what, an analysis was made of the non-lithic components of the assemblages derived from some of the shelters excavated by Sampson. In this analysis only shelter assemblages (as these were from sealed contexts) that were rated by Sampson as being representative of "Phase 6" were considered. Only the Phase 6 assemblages have been considered because C14 dating shows that material called Phase 6 occurs late in time and it is therefore likely to be contemporary, in part, with the occupation of the Type Settlement Units. We have already seen that there are grounds for regarding "Later Stone Age" patterns (from the lithic point of view) to have been broadly similar in the Riet and Orange areas and so the comparisons which are to follow may have some validity.

The non-lithic cultural material derived from the Phase 6 levels in shelters may be summarised as follows:

	<u>Glen Elliot</u>			<u>Zaayfontein</u>				<u>Ventershoek</u>	<u>Holmsgrove</u>	
	I	II	III	I	II	III	IV	all levels	I	II
Haematite			1	3						
OES beads	3	10	17					3		1
Bead frags.	2	5	5							3
OES frags.	341	1023	278		"very few"			few	257	187
Glass beads			4	1	1				1½	
Copper beads			1					1		
Iron objects										
Bone objects	11	100	69					7	1	1
Pottery	x	x	x	x	x	x	x	x	x	x

A few points with regard to this list need clarification: firstly, some of the artefacts listed here were clearly not manufactures by the "Later Stone Age" peoples and may therefore be regarded as trade items. These items are glass beads, copper beads and iron objects. As we saw in Section 4 these items are taken as evidence of contact and trade with Iron Age peoples. Trade will be discussed later and so for the time being we may ignore these artefacts. Haematite is unknown in the area and must therefore also have been "brought in".

The second point is the inclusion of ostrich egg-shell fragments in a list of "artefacts". This has been done because, apart from the food value of an ostrich egg, its shell could be used as a container or for the manufacture of beads or pendants. The occurrence of varying amounts of ostrich egg-shell in any context may therefore be regarded as being some reflection of the artefact making habits of the inhabitants in that they represent the "use" of shell either as containers or as bead making material; large quantities of ostrich egg-shell can clearly not be dismissed as "food remains" as they may represent broken or potential artefacts.

Let us now consider the exploitation of resources in the manufacture of artefacts under the following headings: animal, mineral and vegetable.

ANIMAL.

The main evidence for the use of animal remains in the manufacture of artefacts lies in bone implements. The most common type of bone implement seems, in the "Later Stone Age", to have been the "point" and Sampson (1967c : 139) lists some

9 sub-types; other types of bone artefacts are ground bone fragments, incised bone fragments, flaked bone fragments, bone flakes and polished bone tubes.

Excavations on Type R Settlement Units show that use was made of bone by the inhabitants in the manufacture of points. Three fragments testify to the production of these artefacts. Khartoum 1 also yielded an incised bone, but the purpose of this incision is not clear. Maggs (1971 : 55) recovered a splinter of bone which had become polished at the tip through use, as well as fragments with chop marks.

The Type R inhabitants therefore clearly made use of bone in the manufacture of certain types of artefacts; it is furthermore of interest to note that the range of bone artefacts made by "Later Stone Age" peoples is much wider but encompasses the objects made by the Type R people. This seems to suggest that bone was exploited for much the same reasons by the two groups of people and that exploitation methods and needs may well have been similar. The samples of bone artefacts from both "Later Stone Age" and Type R contexts are small, but bone and bone artefacts seem to have played a clearly defined part in the activities of both groups.

De Jager (1965) records various types of bone artefacts from Iron Age contexts in the Orange Free State including points, pipes, beads, awls and scrapers. Clearly Iron Age peoples made extensive use of bone as well.

The data does not exist at present but a valuable field for study in the future may well lie in a comparison between the bone artefacts and bone using habits of different groups of people.

At this juncture we can only conclude that, like Iron Age and "Later Stone Age" peoples, the inhabitants of Type R Settlement Units used bone for the manufacture of some of their artefacts.

A second type of "animal" remains exploited was ostrich egg-shell. The use of ostrich egg-shell has almost become regarded as "typical" of "Later Stone Age" contexts and this idea is re-inforced when we consider Sampson's finds. Ostrich egg-shell was used most commonly in the manufacture of beads but other uses for example as "water containers" or in the

manufacture of pendants were probably no less significant to the people concerned.

The use of ostrich egg-shell in the "Later Stone Age" is again paralleled by discoveries on Type R Settlement Units: as we have seen beads, decorated pieces (possibly from containers) and pendants were all used by the Type R people.

There is no specific published evidence on the use of ostrich egg-shell in the Iron Age of the Orange Free State, but what information does exist seems to suggest that Iron Age peoples also used ostrich egg-shell. This is, of course, a logical thing because the potentials of ostrich egg-shell must have been obvious to anyone living in an area inhabited by ostriches.

MINERAL.

The use of various types of minerals by prehistoric peoples is perhaps the aspect of past exploitation patterns and technology that is best known to the archaeologist. The concept of the "Stone Age" and the pottery sequences so beloved by the students of the Iron Age testify to the importance of the use of minerals in archaeological model making. This is, of course, because minerals are the most enduring of all the raw materials used by prehistoric man and as a result it is often easy to overemphasise the role played by the exploitation of mineral resources. The mineral component of any assemblage must be seen in the context of the whole range of cultural material of which that assemblage is a part whether or not other components are fully represented.

The fact that the mineral or lithic component of the Type R cultural remains is an important aspect of the technology of the peoples concerned is clear from the nature of the remains recovered, but over and above this, the mineral remains have an even greater significance in view of the role played by mineral objects in archaeological abstraction and classification. The mineral remains from the Type R Settlement Units therefore require special consideration for they may be crucial in defining not only aspects of exploitation patterns and technology of the peoples concerned but also the "archaeological status" of those peoples in terms of the concepts of "Stone Age" and "Iron Age".

A convenient starting point in this discussion is with the pottery. As we have seen the occurrence of a certain type of pottery is characteristic of the Settlement Units. This pottery seems to be quite unrelated either to "Later Stone Age" or to Iron Age pottery. The mineralogical analysis undertaken on a series of pottery samples from Settlement Units from a variety of positions within the Type R Settlement Area (see Appendix 3) has demonstrated the local provenance of the clays used to make the pottery. There is no evidence to suggest that the pottery was not made from raw materials derived from the Riet River area. The most likely source of clay for pot making would have been the Riet River itself; this clay was most commonly mixed with grit and the pots were made out of this raw material. Some of the sherds recovered showed that in a few instances tiny pieces of grass were mixed into the clay as a temper; the mineralogical analysis of one of these sherds showed, however, that apart from the grass, the mineral content of these particular sherds is similar to that of the non-grass tempered pottery. This would indicate that despite the difference in tempering the clays used for both types of pottery were still derived from the same environment. The grass tempered sample was from Khartoum 1 and so the wide grassy plain between the Settlement Unit and the river must have provided an ideal source of grass for use in tempering.

As we have seen, the Type R pottery is significantly thicker than that in a series of samples from the Orange River. It may be suggested that this difference in thickness could be a function of the Riet River environment but when we consider that the Orange River environment is basically similar, this suggestion becomes less attractive. The relatively thicker Type R pottery may therefore relate to different pottery making habits or requirements. The difference between Type R pottery and "Later Stone Age" pottery (from the point of view of tempering, thickness, decoration and shape - so far as we have information on the last) may be explained either in terms of different populations being involved or of a shift in emphasis within the same population resulting from significant economic and cultural changes. The decision as to which of these two factors is involved must depend upon consideration of the rest of the evidence at our

disposal: let us therefore turn to the other "mineral remains".

After looking at the fine grained minerals used, we must now consider the exploitation of larger rocks and minerals. At the outset it must be emphasised that with the exception of haematite, specularite and metal (which will be considered later) no rocks or minerals that could not have been obtained within the areas exploited by the Type R peoples were recovered from any Settlement Unit; all lithic remains represent the exploitation of the rocks and minerals of the area.

The various stone objects recovered from Type R Settlement Units have been described in detail; in the case of some of these the functions are obvious while in others the uses and purposes remain obscure. Perhaps the most important point for consideration here is not speculation on the uses of the various objects but rather on the relationship between them and material found in "Later Stone Age" and Iron Age contexts and any parallels in exploitation patterns which may emerge.

It is interesting to note that with the exception of the shale slabs (which seem to be pretty well unique - certainly nothing directly comparable has yet been published) all the stone remains recovered from Type R Settlement Units are paralleled by finds in "Later Stone Age" contexts. Stone pipes, grooved and bored stones and grindstones have all been recovered from "Later Stone Age" sites. These objects, however, constitute a small proportion of the total number of stone objects found on "Later Stone Age" sites and so we must obviously consider the occurrence of stone tools in the more general sense of the word.

We have seen that stone artefacts tentatively assigned to "Phase 6" in Sampson's scheme were collected from the surface of the large enclosure on Khartoum 1 to serve as comparative material for any artefacts which may have been found in the excavations that were to follow. These Phase 6 artefacts were found together with a heavily weathered series of artefacts which were separated from the Phase 6 assemblage on the basis of etat physique. It is important to emphasise that this separation seems to be entirely justified; the state of the weathering of the "older" series was such that there was no question of the two series being closely related in time. The "older" series

was so weathered, in fact, that an objective typological analysis would be extremely difficult - apart from the fact that the assemblage is too small to be meaningful.

The excavations on Khartoum 1 did not, however, yield a series of "Later Stone Age" artefacts that could be compared with the "Phase 6" assemblage. A few stone artefacts were recovered but these were all heavily weathered and far more akin (on the basis of etat physique) to the weathered series from the surface of the large enclosure on Khartoum 1. As we suggested in Section 7, it would therefore seem that on stratigraphic grounds the Phase 6 sample from the surface of the large enclosure must post-date the accumulation of the deposit overlying the floor on which the wall of the large enclosure had been built and which yielded the assemblage of pottery, cultural and faunal remains regarded as being related to the occupation of the Settlement Unit. However, this situation raises several problems. The heavily weathered artefacts from within the excavations can clearly not be regarded as contemporary with the occupation of the Settlement Unit; it would surely be impossible for them to become that weathered while the rest of the cultural material remained so "fresh". Perhaps the best explanation for these weathered artefacts is that they predate the occupation of the Settlement Unit and that they were lying on the surface of the area selected for occupation by the Type R people and that after the abandonment of the Settlement Unit they merely became incorporated in the deposit which preserved the Type R cultural remains. This would mean that on stratigraphic grounds the occupation of Khartoum 1 was "sandwiched" between two series of "Later Stone Age" artefacts. If this is the case the problem still remains as to the relationship between the Settlement Units and these "Later Stone Age" artefacts.

Clearly there is no stratigraphic evidence at Khartoum 1 to show an association between the Settlement Units and "Later Stone Age" artefacts because there is no evidence of stone artefacts being sealed in association with other Type R cultural material. But, because there is no evidence of an association, this is no reason to assume that some relationship did not exist: there is also no evidence to disprove an association.

Maggs (1971 : 53), during his excavations on OFD 1, recovered a few stone artefacts and remarked, "Although the stone artefacts tend to be more numerous in the lower levels, they are not stratigraphically separated from the other cultural material. It is not surprising, in view of the vast quantities of surface material along the Riet, that many artefacts occur within the settlement. Clearly most are not associated with the settlement, but on present evidence it is not possible to determine whether the inhabitants ever made flaked stone implements or not" (writer's emphasis). Maggs makes his views on the possibility of an association very clear. Several points do nevertheless emerge from Maggs' excavations. Firstly the fact that no weathered artefacts were recovered would seem to confirm that those found on Khartoum 1 were in fact not associated. (All Maggs' artefacts with the exception of a few "Middle Stone Age" pieces, were fresh.) Secondly, Maggs seems to regard the artefacts from within his excavations as having been derived from material lying on the surface prior to the occupation of the Settlement Unit. If this is correct we then have evidence of "Later Stone Age" artefacts (similar to material called "Phase 6" - Maggs 1971 : 53) being incorporated in the deposit during its accumulation rather than postdating it as the Khartoum 1 "Later Stone Age Phase 6" assemblage clearly did. We therefore have evidence of the production of "Later Stone Age" artefacts before, after and during the occupation of the Settlement Units. There seem to be two possible explanations which could account for this: the Type R peoples did not make stone artefacts themselves but exploited an area at the same time as makers of stone artefacts, or else the Type R peoples themselves made a certain amount of stone artefacts.

Clearly the first of the two possibilities is less likely. The area would probably not have been exploited simultaneously by two groups of people both living a way of life either completely or very largely dependent upon hunting and gathering with the one building stone structures and not making stone artefacts while the other lived a "Later Stone Age hunter-gatherer" way of life. This is, of course, an oversimplification of the situation but it does serve to show that the first

possibility is rather unlikely. When we consider the second possibility, the first seems even more unlikely. The second possibility is that the Type R people themselves made stone artefacts and were, during the time that their Settlement Pattern flourished, the major exploiters of the Type R Settlement Area. This is not to suggest that all stone artefacts after a certain date (the emergence of the Type R Settlement Pattern) are "associated" with the Type R peoples. As we saw in Section 5, the Riet River area was exploited by the San hunter-gatherers recorded by Andrew Smith and they may well have been responsible for the Phase 6 artefacts which postdated the occupation of the Settlement Units. The possibility does exist however that for a time the Type R Settlement Pattern supplanted the "conventional" hunter-gatherer way of life and, encompassing many of the attributes of the "Later Stone Age" as it clearly did, it may have been responsible for some of the stone artefacts produced during its existence. This "supplanting" may have taken the form of a shift in emphasis within the "Later Stone Age" of the Riet River leading a different ecological orientation rather than actual changes in population. If this was the case it is as yet not possible to define the stone tool-making habits of the Type R peoples in detail; such definition is only likely to emerge when the entire "Later Stone Age" sequence in the Riet River Valley is understood.

VEGETABLE.

Evidence on the exploitation of the ^{plants} ~~flora~~ for the manufacture of artefacts is, like that for diet, completely lacking. However, once again we can "infer" that certain types of plants were exploited.

As we have seen, apart from the "stone circles" there is very little evidence on the Settlement Units to show the type of habitations or huts built by the people. The stone walls themselves were not very high and so would probably not have formed very effective barriers or shields. It seems highly probably therefore that the "stone circles" represent the indestructable portion of larger and more complex structures. The destructable part which has since disappeared may well have

been made out of some botanical materials.

Du Toit (1964 : 361) suggested that the low walls may have formed kraals if stacked with thorn bushes and this may well have been done in some of the larger Structures like the large enclosure. Clearly some of the smaller enclosures (or Structures which have since disappeared) must have served as sleeping places and these may have been closed in by branches and grass. MacCalman and Grobbelaar (1965 : 33) illustrate a "skerm" or windbreak constructed by the Okombambi consisting of a grass and stick dome with stones packed around the base which is a good example of some of the structures which may have been built by the Type R peoples.

The Khoikhoi are known to have made reed mats from which they constructed their huts (Wilson and Thompson 1969) and similar structures may also have been made on Type R Settlement Units; the reeds from the Riet River would have provided ideal raw materials.

There seems to be little doubt that the line of post holes discovered by Maggs (1971) on OFD 1 once supported wooden posts and these provide direct evidence of the use of wood on some of the Settlement Units.

Grass was also probably used for "bedding" by the Type R people in addition to providing raw materials for the possible manufacture of "rope" and baskets. Parkington and Poggenpoel (1971) have recovered an impressive array of botanical artefacts from the south-west Cape ranging from string and rope to "leaf parcels" showing that the exploitation of the botanical environment was an important factor in the lives of the people which they investigated; there is no reason to assume that botanical exploitation was not a similarly important part of the Type R Settlement Pattern simply because evidence of it has not survived the severe climate of the interior.

We may conclude therefore that the botanical environment along the Riet River was probably exploited to the full for the purpose of creating shelter, making objects and provided fuel for fires. The Riet environment would have provided good resources for the pursuit of each of these activities.

TRADE.

As we have just seen, some of the artefacts which could have been discussed under "Mineral" were found to have consisted of materials not available within the Type R Settlement Area. These items - haematite, specularite and metal objects - must therefore have been brought into the Settlement Area from their source areas outside.

There is at present no indication of the possible source of the red ochre recovered from Khartoum 1 and OFD 1 and so it is impossible to infer any particular areas of contact on the basis of this material. It is clear, however, that the use of red ochre played a significant part in the lives of the Type R people. There is, as we have already seen, evidence of its having been ground on several of the Settlement Units while its use in at least 3 of the 6 well-documented burials shows its role in the burial customs of the people. Its use in burials is a clear indication of its significance to the people.

Specularite seems to have been equally important to the Type R peoples. The nearest known source of specularite is in the Postmasburg area about 200 km to the north-west and many of the early travellers record having visited some of the specularite exposures in that area (Maggs 1971 : 55). There seems to have been a fairly regular "trade" in specularite in the Riet and Vaal River areas in recent prehistoric times. Ostrich egg-shells filled with specularite have been recovered in the Douglas area from what were probably "Later Stone Age" contexts (certainly not Type R) and this is evidence of other peoples having also made use of the mineral (McGregor Museum records). Burchell (1822), of course, makes extensive reference to the use of specularite by the Tlhaping peoples.

The occurrence of specularite on Type R Settlement Units is direct evidence of some sort of contact between the inhabitants of the Settlement Units and other peoples to the north-west.

Further evidence of contact with the north and north-west is to be found in the existence of the metal objects found on the Settlement Units. There is no evidence of smelting along the Riet River and certainly no source of iron ore and so there is no reason to doubt that the iron objects were brought in from

outside. It is of interest to note that the occurrence of iron on Type R Settlement Units is paralleled by rare finds of iron in "Later Stone Age" contexts along the Orange River as we saw in Section 4. In Section 4 we suggested that the occurrence of iron in the "Later Stone Age" sites was evidence of contact with Iron Age peoples to the north and that the fact that the Riet River was located between the Iron Age areas and the Orange River would increase the possibility of contact between Riet River peoples and Iron Age peoples. The existence of contact between these two groups of peoples is reflected in this occurrence of iron on Type R Settlement Units. This contact is also indicated in the occurrence of other "trade" objects as we shall see later.

Maggs' Settlement Unit OFD 1 yielded 3 copper objects and he remarked, "The evidence of manual workmanship, especially on the bangle and band, indicates that these copper ornaments probably originated with Iron Age metallurgists north of the Vaal River" (Maggs 1971 : 55). One of the burials excavated by Fowler (Skeleton No. 277) yield two copper "extinguishers" (Appendix 1) while OFD 1 Burial 1 produced a copper pendant (Appendix 2); these finds provide further evidence of the acquisition of copper objects from the north. Wikar (1935) recorded how the Tlhaping traded a whole variety of objects, including copper, along the Orange River in the 1770's and this may well have been the source of the copper objects found along the Riet.

Evidence of contact with outside areas is not confined to metal objects; the occurrence of glass beads and marine shells also demonstrates "foreign" contacts. Six glass beads were recovered from the Fowler burial Skeleton No. 228 and these were also probably derived from the north (Maggs 1971 : 57). The occurrence of "some glass beads of more or less modern type" with the Springfield skeleton shows that glass beads were obtained and used by various different groups of peoples through time. There is no evidence of the beads having been made locally and so we must assume that they came from the north as well; Wikar includes glass beads in his list of trade items of the Tlhaping. Glass beads have been recovered from levels from both Phases 5 and 6 on the Orange River and this suggests that the trade in glass beads began relatively early in time (see Section 4).

Among the most interesting of the Fowler grave goods were the marine shells recovered from several of the burials (Appendix 1). The shells included cowries (Cypraea annulus), Oxysteles sinensis, Haliotis midae and Pecten sulcicostatus; the latter two were made into pendants. The distribution area of these shells is roughly from False Bay to the Transkei - all along the south and east coast of South Africa (Appendix 1). This area of origin is of great interest as it is located to the south of the Riet River rather than the north from where all the other trade goods seem to have been derived. Interestingly enough, however, Sampson does not seem to have found any marine shells in his "Later Stone Age" sites along the Orange River. In view of the fact that these sites seem to have been occupied all the time that the Type R Settlement Pattern was flourishing, this may be regarded as slight evidence that the marine shells were not obtained from the south coast by a more or less direct route. If this is the case then they may well have been derived via the lower Orange River area to the west, having come up along the west coast. Rudner (1959) records having found a cowrie shell near Upington on the lower Orange River, while Johnson (1910 : 63) found a portion of a cowrie near Boshof only some 60 km north of the Riet River. These finds provide some direct evidence for marine shells having come via the north-west rather than straight up from the south.

If the assumption that the marine shells came to the Riet River via the north-west is correct, then all the evidence we have on trade suggests contact with the north rather than the south. If this was indeed the case it may well be a reflection of the direction of "flow" of the contact between the Type R Settlement Pattern and its neighbouring cultural traditions; it may reflect a desire to be associated more with events to the north than to the south. In making this suggestion it is nevertheless important not to lose sight of the many parallels between cultural material from the Type R Settlement Units and the "Later Stone Age" sites to the south; clearly the cultural traditions have much in common. The flow of "exotic" and non-local objects from the north may still, however, be indicative of some type of dependence on the part of the Riet River area upon the resources of the north, and this seems to be an important point.

SOCIAL ORGANISATION.

The investigations described in this thesis have yielded little direct evidence on the social organisation of the Type R peoples, but once again a few theoretical points may be discussed.

We have established that each Settlement Units is likely to represent a discrete socio-economic unit but, as we saw in Section 7, there is little evidence on how the Settlement Unit functioned. Each Settlement Unit is likely, however, to have accommodated a certain number of males and females with their dependants and such live-stock as they may have owned, all living together within a defined social pattern. Each social group within the Settlement Unit probably had its role clearly defined. In this regard it is perhaps of some interest to look at the record of what Mr. Jansz saw when he visited Karupny in 1811 for this was a settlement which had its own stock and so the way of life could not have been all that different to that existing within the Type R Settlement Pattern. According to Burchell (1822 : 302) - who recorded Mr. Jansz's experiences - "... not more than forty men were seen, the rest happened then to be abroad in the plains in search of game and wild roots. The number of women and children was much more considerable: they flocked around him, begging as usual for tobacco; some bringing milk. One old woman, with great disinterestedness, requested him to accept a mat..." From this we may deduce that, despite the possession of stock, the division of labour between the sexes was broadly similar to that existing among the "hunters-herders" where the men do the hunting and general food getting while the women see to the domestic side of life (Cf. Wilson and Thompson 1969).

Plant
animal
food

On the basis of the available evidence it does seem unlikely that the Type R Settlement Units could have accommodated quite as many people as Jansz claims to have seen at Karupny but in view of the lack of evidence on specifically living areas it is impossible to be dogmatic on this point.

A possible source of information on social status is a study of burial habits. Struever (1971 : 15) remarks, "Contact between regional cultures involved movement of small

quantities of scarce raw materials, including minerals, native or smelted metals, marine products, etc: These appear archaeologically most often in burial association as prestige goods: These artefacts appear to have functioned largely in the social system as symbols of status ..." It is perhaps relevant to note, in view of Struever's remarks, that some of the most interesting objects have been obtained from the burials as we saw in Section 8; their occurrence in burials may therefore be some reflection of the relative status of the dead persons. The wide range and quantities of grave goods may well be a reflection of a consciousness of social status on the part of the Type R people. Such consciousness of social status would probably have emerged in a group that had acquired stock and which was actively involved in trading objects like metal tools which seem normally not to have been a part of their general technology.

On the available evidence it does not seem possible to say any more about the social organisation of the inhabitants of the Type R Settlement Units. The relationship between Settlement Units is likely to have been primarily related to the exploitation patterns of the people within the Type R Settlement Area and this would be reflected in the location strategy of the Settlement Pattern which was described in detail in Section 6: the full implications of this pattern will be discussed later.

SEASONALITY.

As Parkington and Poggenpoel (1971 : 28) point out, "Most, is not all, hunter-gatherers lead a mobile existence in order to exploit fully the resources of their territory. Seasonal abundance must be utilised and this requires a thorough knowledge of what is available, where and when." This mobile existence is clearly reflected in the cultural material of the hunter-gatherers: they seem to have a limited number of objects (large numbers would make transportation difficult) and their habitations seem to have been insubstantial and could probably be assembled relatively quickly. This mobile existence is, furthermore, determined by the necessity of exploiting all the resources available, usually in adjacent complimentary ecological zones (Carter 1970). A highly mobile seasonal

economy and way of life therefore presupposes a cultural system adapted to this way of life and an exploitation territory so structured as to justify moving from place to place to exploit the necessary resources. How do these requirements apply in the Type R Settlement Area and what can be said about possible seasonal movements within that area?

In the first place the construction of a stone walled Settlement Unit must be regarded as indicative of a stay at one spot of a much longer duration than that undertaken by pure hunter-gatherer groups; if this were not the case why do hunter-gatherer groups not build stone structures? We may therefore assume that the Type R people stayed regularly in one spot for a long enough time to justify building relatively elaborate Settlement Units. The acquisition of stock must have been an important factor in the extension of the potential period of occupation of any given area.

We may conclude that the cultural remains left by the Type R people are not such as to suggest seasonality on the scale of that associated with pure hunter-gatherers.

We have already seen how the Riet River as a water-supply determined the orientation of the Type R Settlement Pattern. In terms of Haggett's (1965) "linear resource" the exploitation territories of the Settlement Units would have encompassed areas running at right angles to the river. All the known Settlement Units are located along the Riet River and so the exploitation areas of each would cover a broadly similar ecological zone running from the river to a point at some distance away. There does not seem to have been a great difference from east to west even allowing for the subtle differences in vegetation; faunal differences, on the available evidence, do not seem to have been significant either.

On the basis of the existing evidence on the distribution of Type R Settlement Locales any "seasonal" movement undertaken by the people would have been up and down the river. In view of the fact that conditions along the river would generally be similar regardless of position on the river it is difficult to imagine a regular movement up and down the river according to season. If, for example, the river ceased to flow at any time

the same conditions would apply all along the river, east or west. If the river did stop flowing it would not dry up completely because pools would form at regular intervals. In the writer's experience these pools would be placed at far too regular intervals to justify a movement to another area; if water were not obtainable at precisely point A, it would almost certainly be obtainable within a few hundred metres either above or below that spot. These facts would seem to suggest that movements up and down the river would not be directly related to seasonal changes. If there was movement up or down the river this would probably be related to the over-grazing of the area immediately surrounding a Settlement Unit. In this instance movement or the necessity to move would be related to the number of stock involved and the grazing habits of that particular Settlement Unit rather than to purely seasonal fluctuations.

The possibility must, of course, be considered that there was a seasonal movement away from the Riet River. If this was the case then the Settlement Units along the Riet River would probably only represent one aspect of the seasonal cycle of the people. In the absence of any evidence of the Type R Settlement Pattern outside the defined Settlement Area it is not possible to show whether or not the people did move significantly far away from the Riet River; certainly if they did, they did not build comparable Settlement Units.

In the absence of any evidence of the Type R people having moved far away from the Riet River we must conclude that the main activity was confined to the presently defined Settlement Area. Such movements from Settlement Locale to Settlement Locale that did take place may therefore have been related to the over-grazing of any particular Settlement Locale, to purely social causes or to factors such as those underlying the movements of Iron Age settlements but which are as yet undefined. It is not entirely clear why some Settlement Locales were exploited more than others; this may be due to conservatism on the part of the inhabitants for there is no clear ecological cause for this concentration of Settlement Units in some Settlement Locales. The concentration of most of the Settlement Units in the east may reflect the area of origin of the Type R Settlement Pattern as we shall see later.

RELATIONSHIP BETWEEN SETTLEMENT PATTERN & EXTERNAL ENVIRONMENT.

As we saw in Section 1, one of the main guide lines of this study is the proposition by Struever (1971 : 11) that, "It can be expected, given a systemic view of culture, that an extinct subsistence-settlement system will reveal a "structure of material culture" that can be described within various analytical frames, eg., the site, the region, etc ... Assuming that the physical environment is structured and that culture as an adaptive system articulates with it, then the subsistence economy and the closely linked settlement pattern should reflect this environment." So far in this Section attention has been focused upon the way in which the Type R people used the environment whether this be natural (eg. exploitation for food and artefacts) or cultural (eg. trade); we have examined the link between the subsistence of the peoples and their environment. It is now necessary to go a step further and see to what extent the whole Settlement Pattern is linked to and reflects this environment.

On the basis of archaeological evidence the Type R Settlement Pattern seems to represent a way of life confined to a small section of the Riet River. The Settlement Area along the Riet River is situated in a geographical zone more prone to drought than the areas to the north which were inhabited by Iron Age peoples; the relatively drier areas to the south seem to have prevented the further southerly penetration of the Iron Age peoples. The areas to the south of the Riet River were even drier and less hospitable and so the Type R Settlement Area was based, geographically, in a zone marginal between "good" and "bad" areas.

While the Riet River area was apparently too dry for cultivation (Maggs 1971 : 58) and so was not occupied by Iron Age peoples, it nevertheless provided more than adequate grazing for small herds and flocks as well as being able to support what was once a relatively rich fauna. The Type R peoples seem to have exploited the resources of their natural environment to the extent of including pastoralism but still relying to a large degree upon hunting and gathering. No cultivation seems to have been attempted, either because they were unaware of its potentials or because the area was unsuitable anyway, and so the natural

resources of the area must have been exploited for the vegetable side of their diet.

As mentioned above, the "good" areas to the north coincide closely with the distribution of Iron Age settlement and so the Riet River area was also "marginal" to the Iron Age areas. What evidence does exist seems to indicate that peoples to the south of the Iron Age areas were broadly "hunter-gatherers" but that contact between the two groups did take place. Iron Age objects found in "Later Stone Age" contexts on the Orange River show that contact was made that far south of the Iron Age areas; the Riet River area, being near to the Iron Age areas, could, potentially have been in "closer" contact with the Iron Age peoples. To some degree therefore the Riet River area may be regarded as potentially "marginal" from the point of view of being a Settlement Area between the Iron Age "farmers" and the "Later Stone Age" hunter-gatherers.

From an economic point of view the Type R Settlement Pattern is also "marginal" between Iron Age and hunter-gatherer economies. On the basis of the faunal remains the Type R Settlement Pattern may be rated as an "Essentially Hunting Economy" in terms of Welbourne's (1971 : 80) scheme; the occurrence of domestic animals shows that they did not depend solely on hunting for their meat. The absence of cultivation, however, shows that their economy depended far more upon "gathering" than did that of the Iron Age cultivators.

The cultural remains, apart from the direct association of stone artefacts, showed striking parallels with those found on "Later Stone Age" sites. The most important exception was, of course, the construction of stone Structures, but this aspect is likely to be related to longer stays at one spot resulting from the acquisition of stock and the consequent necessity to gear their movements to domestic rather than wild animals. The parallels between Type R and "Later Stone Age" cultural material is highlighted by the fact that both groups were in trading contact with Iron Age peoples.

Three main points seem to emerge when we consider the Type R Settlement Pattern. These are:

- 1) its marginal position, both geographically and relative to other cultural systems or Settlement Patterns,

- 2) the evidence of pastoralism, and
- 3) the presence of stone Structures.

It seems that within these three facts lies the explanation for the Type R Settlement Pattern.

The marginal position of the Type R Settlement Area carries with it the possibility of any people living within it being in potential social and cultural contact with two radically different Settlement Patterns - one based upon farming and the other upon hunting and gathering. This marginal position is complemented by the geographical factors which probably helped to create it and which also provided the potential for the assimilation of some of the aspects of the economy supported by the "better" areas to the north (i.e. pastoralism). The potential for pastoralism was exploited as the faunal remains from the excavations on OFD 1 have proved. However, the acquisition of stock carried with it several very important results, both economically and culturally. Clearly the re-orientation within the food getting sphere would have had an important affect upon the way of life of the people. The most obvious result was a "slowing down" of the mobility of their way of life; this is reflected in the necessity to protect their stock and the construction of more permanent Structures for this purpose and also the possibility of taking advantage of their relative stability for the construction of more "permanent" Settlement Units. The re-orientations within the cultural sphere are also reflected in the fact that the whole Settlement Pattern and its associated cultural material is clearly distinct from anything else in the area. The cultural material seems to have close parallels with material produced in "Later Stone Age" contexts and this similarity would seem to suggest that whatever re-orientations did take place did so in what was initially a "Later Stone Age" context rather than an Iron Age one. The most significant difference between the "Later Stone Age" and Type R contexts, from the point of view of cultural remains seems to lie in the pottery. The Type R pottery is very distinct from "Later Stone Age" pottery and this may be a reflection of the change in mobility, the creation of "permanent" Settlement Units and the greater reliance on pottery for water supplies among the other necessities in a more settled existance. One aspect of

the cultural system which may have remained relatively stable was the burial tradition. As we saw in the previous Section, there is evidence to show that the Settlement Units were associated with burials similar in type to one made over 3000 years ago and the suggestion was made that the whole burial tradition was associated with a cultural system undergoing change as a result of contact with other peoples. Such an interpretation would seem to agree well with the picture produced by these other lines of evidence.

If, as we are suggesting, the Type R Settlement Pattern represents a "re-orientation" within a broadly "Later Stone Age" context it should theoretically be possible to document the ontogenetic development of this Settlement Pattern. In the present state of knowledge, however, this can only be done in very general terms. The main reason for this is that detailed quantitative data on the relevant significant attributes are not available. It is also likely that the Type R Settlement Pattern got no further than the "birth" stage in the ontogeny cycle. There are several reasons for suggesting this. In the first place, historical evidence seems to show that the Type R Settlement Pattern, as well as others, came to an abrupt end as a result of the Difaqane; it therefore did not have the opportunity to develop through a complete cycle. There is furthermore little, if any, evidence of a long sequence of time for the series of Settlement Units. While some Settlement Units in various Settlement Locales may be earlier or later than others, there is no evidence to suggest that a long time span was involved. Large midden accumulations around the Settlement Units such as those found near Iron Age sites, are lacking and this may reflect a shorter occupation of the Type R Settlement Units themselves than was apparently the case with Iron Age Settlement Units (assuming, of course, that the lack of middens is not a function of the erosion cycles in the Riet River area). Certainly in terms of archaeological time the Type R Settlement Pattern would seem to have existed for a very short period.

If the Type R Settlement Pattern does only represent the "birth" stage in a new cultural system this would account for its close resemblance to the "conventional" "Later Stone Age"

hunter-gatherer way of life as well as its apparent lack of time depth and rather limited geographical distribution. From the point of view of the latter we have already seen how the Settlement Units tend to be concentrated in the east with only a few scattered occurrences to the west. It was suggested that this was a reflection of cultural pressures in the west and this may well have operated in conjunction with the fact that there are more Settlement Units to the east because this is where it all started. As was suggested in Section 6, the initial expansion would have taken place along the Riet rather than away from it and this expansion is, furthermore, only likely to have taken place once pressure on the existing exploitation areas made it necessary. An "eastern" origin for the Settlement Pattern may also account for the much more intensive exploitation of the Settlement Locales in that area. One point which may have contributed to the movement west rather than further east may lie in the fact that, as we saw in Section 3, even if the upper Riet River (our "eastern" area) ceased to flow the lower Riet (or "western" area) would always have water because of the flow of the Modder River which joins the Riet between our "western" and "eastern" sections. The lower or western section of the Riet would therefore be more attractive than the area further east where conditions would be drier rather than wetter.

⊗
 contradicts
 earlier point

In overview therefore we may say that the Type R Settlement Pattern represents a relatively unique occurrence in the archaeological record. It is apparently confined to a clearly defined area and there seems to be no evidence of its having "migrated" in from somewhere else. It is located in an area that is marginal between two distinct zones both geographically and culturally and it is this marginal area which may have been the prime factor in the emergence of the Settlement Pattern. The Type R Settlement Pattern seems to have emerged in an area of contact between Iron Age and "Later Stone Age" peoples - an area which was suitable geographically for the assimilation of some of the Iron Age activities (pastoralism), but was not such as to have been attractive to the Iron Age peoples themselves. The direction of "flow" of contacts through trade has, as we have seen, shown that a certain amount of interaction took place

with peoples to the north rather than to the south (but here we must again not overlook the parallels between the Type R cultural remains and those from "Later Stone Age" contexts to the south). The Type R Settlement Pattern may therefore represent the archaeological remains of a "Later Stone Age" hunter-gatherer group who, through a combination of contact with the Iron Age peoples to the north and a geographically and culturally advantageous area adopted a pastoral way of life. Such a change in economy would have led to radical re-orientations within the cultural system and these are reflected in such things as stone-built Settlement Units, unique aspects of their material culture (notably pottery), "burial grounds" associated with Settlement Locales suggesting longer stays than those made by pure hunter-gatherers and differences in hunting and gathering habits so far as these can be assessed in the light of the scant information existing on the "Later Stone Age".

It would seem, in conclusion, that in general terms Struever's proposition does have some validity. The exploitation of the general environment, natural and cultural, is clearly reflected in the archaeological remains from the Settlement Units while the whole Settlement Pattern itself can be explained relative to its situation both geographically and culturally; its "marginal" nature is a clear reflection of its "marginal" location. There is little doubt, if we consider all the evidence that has been presented, that the nature of the Type R Settlement Pattern could not be understood if it were examined in isolation; it is only through placing it in its geographical, historical and prehistoric context that it has been possible to understand the occurrence as recognised through presently existing evidence. This fact is clear support for Struever's proposition about "culture as an adaptive system"; the Type R Settlement Pattern represents an adaptation to a given set of cultural and geographical circumstances.

THE WIDER VIEW.

In the final paragraph of Section 1 we noted that "The aim of the project is to gain some insight into how man behaved in a limited area, and in a given set of circumstances, as a small contribution to the whole problem of the study of man and his

behaviour patterns in the past". We have already seen how man behaved in the Type R Settlement Area, but what are the wider implications - what is its significance for archaeology in general?

Inskeep (1971 : 249) once remarked that "... pastoralists still remain to be identified within the Later Stone Age". This comment was remarkable not only in that it was at that time true, but more particularly in the fact that implicitly it recognised the necessity of taking account of all peoples whether or not they are clearly represented in the archaeological record. In the same paper Inskeep pointed out how in the past "archaeology" was confined to objects that were truly "prehistoric"; archaeology in historical contexts was unaccepted. Gradually through time, however, "archaeology" as a technique or method of approach has been applied even in relatively recent contexts - the upsurge in Iron Age studies is but one example of this. But despite this broadening of the field of archaeology, it has nevertheless still been confined only to material manifestations and archaeological concepts have developed into water-tight compartments expressing concrete ideas like Stone Age and Iron Age. This type of conceptualization is acceptable so far as it goes and also provided that it does not either explicitly or implicitly prejudge the status of all occurrences or tend to ignore those that are not represented by already defined attribute combinations. Recently archaeologists have become aware that, in theory, their water-tight concepts are not entirely valid in that they imply clearly defined entities (Derricourt 1971), but little progress has been made towards defining the "areas in between". Even today archaeologists tend to rate themselves as "Iron Age men" or "Stone Age men". Old ideas and concepts are always difficult to break down and while their standing may have become unacceptable "formally" they still survive in "informal" usage.

This state of affairs is likely to continue until such time as research becomes sufficiently diversified to break out of "pure" Stone Age and Iron Age problems and has to take account of the "stages of the spectrum". It is in this very field that this study on the Type R Settlement Pattern seems to have made its great contribution. This thesis and the paper by Maggs (1971)

represent the first serious attempt in South Africa to describe an archaeological occurrence that cannot comfortably be "written off" as either "Stone Age" or "Iron Age"; it represents a study of a part of the spectrum between "pure" Iron Age and Stone Age. Any short-comings in the study are obviously the responsibility of the author but one factor worthy of consideration is that in a study of this kind we do not have the "expected" characteristics clearly defined as we do in Iron Age and Stone Age contexts. (This is not to say that the traditional ideas on what constitutes Iron Age and Stone Age are completely valid!) In this study we had to contend with an undefined dynamic model rather than a static or polarized one (however well- or ill-defined). The fact that all archaeological models should be dynamic is becoming recognised, as books like David Clarke's "Analytical Archaeology" testify, and this re-orientation within archaeology is bringing with it as many problems as it is new perspectives. Many of the problems encountered and new techniques (like location analysis) which have been applied in this study have yielded indefinite results and this state of affairs is, in part, a reflection of the new state of flux within archaeology and the problems that will be encountered in a dynamic rather than a static view of the past.

APPENDIX 1

and

APPENDIX 2

(see back pocket)

APPENDIX 3.MINERALOGICAL ANALYSIS OF SELECTED POTTERY SAMPLES.

Eight samples of pottery from various Settlement Units were submitted to Mr. J.B. Hawthorne of the De Beers Geology Department, Kimberley, for mineralogical analysis. The object of the exercise was to investigate the possibility of the mineral content of the potsherds giving some indication of the origin of the clays from which the pottery was made.

Samples from the following Settlement Units were submitted:

Weltevreden 1
 Mierkraal 1
 Klipfontein 1
 Pramborg 3
 Khartoum 1 (2 samples)
 Poortjie 2
 Goede Hoop 1

Seven of the samples were "typical" Type R pottery; a sample of grass tempered pottery from Khartoum 1 was the eighth sample.

The analysis was carried out as follows:

All the samples were soaked in water and gently crushed periodically in order to cause disaggregation. Once the samples had completely disaggregated, they were examined under a microscope for distinctive mineralogical inclusions.

Mr. Hawthorne's report is as follows:

"The following are present in variable amounts in all the samples:

Dolerite - pyroxene/felspar and rare magnetite intergrowths.

Siltstone - fine grained white or grey fragments.

Clay Minerals. These are reddish-grey, brown and black.

There is no distinction. The colour differences could depend on

- a) amount of organic matter originally present.
- b) amount and type of iron oxides present.
- c) temperature of baking.

Comments. There is nothing to suggest a non-local source.

All the samples indicate a Karoo System background - sedimentary rocks and intrusive dolerites."

APPENDIX 4.THE RIET RIVER RUINS FAUNA (KHARTOUM 1)

by

ELIZABETH VOIGT

TRANSVAAL MUSEUM, PRETORIA.INTRODUCTION.

The total collection from the excavations in Khartoum 1, Structure L, consisted of 2121 pieces, the majority of which were too fragmented for identification. The collection was initially divided into long-bone flakes and skeletal parts; the identifiable skeletal parts were examined further in an attempt to determine which species of animal were present.

LONG-BONE FLAKES.

C.K. Brain demonstrated in 1969 (Brain 1969) that a bone assemblage from a human occupation site is characterized by a very high proportion of long-bone flakes. These are fragments of long bone shafts which are less than half the diameter of the bone and which have no articular ends; they constitute 71.7% of the total of this collection.

The long bone flakes were divided according to centimetre lengths (Table 1 and Fig. 1). As with the collections from the Iron Age levels of Bushman Rock (Brain 1969) and Nkope (Speed 1970), the largest number of flakes, i.e. 72.8% of all the bone flakes, fall within the 0-2 cm categories.

The high proportion of bone flakes and the high degree of fragmentation indicate that this bone assemblage was the result of human activities and represents the food remains of the occupants.

TABLE 1.KHARTOUM 1, STRUCTURE L, EXCAVATIONS 1-3: LONG BONE FLAKES.

<u>Length (cm.)</u>	<u>Number</u>	<u>%</u>
0 - 1	285	18.7
1 - 2	820	54.1
2 - 3	270	17.7
3 - 4	81	5.3
4 - 5	37	2.4
5 - 6	14	0.9
6 - 7	6	0.4
7 - 8	5	0.4
8 - 9	-	-
9 - 10	-	-
10 - 11	2	0.1
TOTAL	1520	100.0%

IDENTIFIABLE REMAINS.

The identifiable material was divided according to skeletal parts (Table II). Material which could not be identified as to skeletal part was grouped as "Miscellaneous skeletal parts".

Those pieces which could be identified further were used for determining minimum numbers of individuals (Table III). The size groupings of bovids are those used by the author in 1970 (Speed, 1970, p.108), as defined by C.K. Brain (pers. comm.).

NOTES ON IDENTIFIABLE SPECIES.

Springbok: Springbok are represented by three individuals. They are a six-week old individual (Rdpm 3), an individual showing medium tooth wear (RM₁) and one with more advanced tooth wear (RM₂). The two distal metacarpals, the phalanges and the astragali (the latter also represent 3 individuals) are very similar to the comparative springbok material available, and may come from the same individuals.

FIG 1

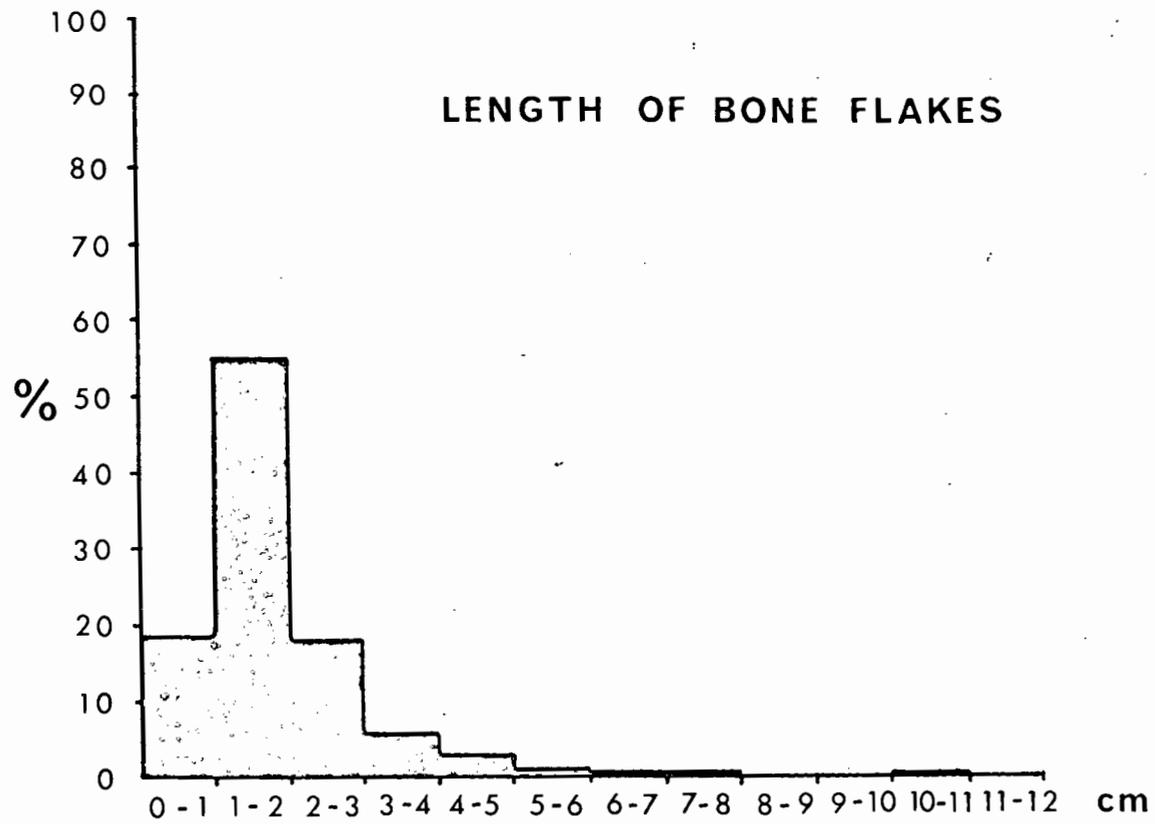


TABLE II.TOTAL REMAINS FROM KHARTOUM 1, STRUCTURE L.

SKELETAL PART	NUMBER
<u>Skull:</u>	
Isolated bovid tooth fragments	68
Bovid incisor fragments	3
Bovid mandibular fragments	6
Bovid maxillary fragment	1
Skull fragments	42
<u>Skeletal Fragments:</u>	
Scapula fragments	3
Radius/ulna	1
Proximal ulna	2
Proximal femur	3
Carpals/tarsals/sesamoids	10
Metapodials	10
Shaft fragments	15
Astragalus	6
Phalanges	15
Terminal phalanges	2
Rib fragments	88
Vertebral fragments	23
Tortoise carapace fragments	7
Miscellaneous skeletal parts	295
Long bone flakes	1520
Freshwater mollusc	1
TOTAL	2121

TABLE III.

SKELETAL PARTS USED IN IDENTIFICATION.

Species	No. of Individuals	Skeletal Part
<u>Antidorcas marsupialis</u> (Springbok)	3 (1 juv.)	R dpm ³ , RM ₁ , RM ₂
cf. <u>Antidorcas marsupialis</u>	3	3 left and 1 right astragali, 1 left and 1 right distal metacarpal, 8 distal first phalanges, 6 proximal first phalanges, 2 terminal phalanges.
Tortoise	1	7 carapace fragments
Bovids smaller than springbok	2 (at least 1 juv.)	3 scapula fragments, 1 proximal ulna, 3 proximal femora, 1 proximal metacarpal, 2 proximal metatarsals, 2 vertebral centra, carpals and tarsals.
Springbok-hartebeest sized bovid	1	Radius shaft with ulna fragment, 2 proximal metatarsals, carpals and tarsals.
Hartebeest-roan sized bovid	1	2 fragments thoracic vertebrae, 1 fragment astragalus.
Unidentified bovid	3 (2 juv.)	1 astragalus, 3 shaft fragments.
Non-bovid	1	1 vertebral fragment.

The teeth were compared with comparative goat and sheep material, but were most similar to a comparative springbok dental series.

Tortoise: Tortoises were represented by carapace fragments.

Ostrich: Ostrich egg-shell was common on the site, but is not listed.

Bovids smaller than springbok: The scapula fragments came from two different individuals. The femora also came from two individuals; one was a very small species, the other two are the left and right femur of an immature individual, as the epiphyses are missing from the bones.

The two vertebral centra are probably from the same individual, which was also a juvenile.

The collection included three very fragmentary metapodials which could either have come from a bovid of this size category, or from a juvenile of the springbok-hartebeest sized category. They do not appear in Table III.

Springbok-hartebeest sized bovid: These remains cannot be assumed to represent more than one individual.

Hartebeest-roan sized bovid: The two vertebral fragments probably come from the same individual, which may also have yielded the astragalus.

Non-bovids: Non-bovids are represented by one fragmentary vertebra.

THE CULTURAL INTERPRETATION OF THE FAUNAL REMAINS.

There is some evidence in the bone itself which supports the hypothesis that the assemblage represents food remains. A number of the bones have been burnt, possibly as a result of cooking. One fragment of a small rib has a V-shaped cut mark and one of the miscellaneous skeletal fragments (which may be part of the epiphysis of a large bone) has been neatly cut through by two cuts at 90° to one another. Both bones appear to have been cut by a sharp-edged implement; the cuts are so clean as to suggest the use of a metal tool.

The high degree of fragmentation at this site is probably a result of deliberate crushing of the bone in order to extract the marrow. Some of the fragmentation was also due to the poor condition of the bone when excavated. One metapodial fragment has been very heavily gnawed by a small rodent.

At least two of the seven identified bovid individuals were juveniles. However the range of bovid sizes indicates that these people were capable of hunting from the smallest juvenile bovids up to those about the size of a roan antelope. There is unfortunately no evidence for the inclusion of any type of domestic animal in the diet of these people; the tortoise and ostrich eggshell indicate that collecting supplemented their hunting. The virtual absence of non-bovid remains indicates a heavy dependence by these hunters on the contemporary bovid population.

ACKNOWLEDGEMENTS.

I am grateful to Mr. Tony Humphreys for the opportunity to examine the material, and to Mr. Francis Thackeray who undertook the initial sorting and the work on the bone flakes. He made my task very much easier. My thanks go also to Mrs. E.S. Vrba for the identification of the bovid teeth.

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APPENDIX 5.SOIL ANALYSIS.

A series of 13 soil samples was collected from Khartoum 1 and 2 for analysis. The primary object of the proposed analysis was to determine whether or not there was a higher P_2O_5 value for samples taken from within the enclosures than for samples from the areas surrounding the Structures.

Mr. O.E. Bergh of the Kimberley Phosphate Co. (Pty) Ltd. (Kimfos) kindly undertook to have the samples processed in his laboratory. The samples were numbered at random and submitted to Mr. Bergh who reported as follows:

Sample No.	<u>% P</u>	<u>% P_2O_5</u>
1	0.05	0.12
2	0.075	0.17
3	0.08	0.18
4	0.062	0.14
5	0.075	0.17
6	0.07	0.16
7	0.038	0.087
8	0.062	0.14
9	0.045	0.103
10	0.04	0.092
11	0.055	0.13
12	0.038	0.087
13	0.055	0.13

The precise locations of the soil samples on Khartoum 1 can be seen in Fig. 7:3 for those not obtained within excavations, and in Fig. 7:6, 7 and 8 for those from within excavations, or associated with excavated areas. The positions may be summarised as follows:

Sample 1	Khartoum 2	Structure A, Exc 1. Just outside wall below excavation.
2	Khartoum 2	Structure A, Exc 1. At level of base of wall.
3	Khartoum 1	Structure J, Exc 1. At level of base of wall.
4	Khartoum 1	Structure J, Exc 1. Just outside wall below excavation.
5	Khartoum 1	Structure L, Exc 1. Within hard floor layer.
6	Khartoum 1	Structure L, Exc 1. Just above hard floor layer.

Sample	7	Khartoum 1	Structure L, Exc 1. Just outside wall.
	8	Khartoum 1	Structure B.
	9	Khartoum 1	Structure D.
	10	Khartoum 1	Open area just north of Datum D1.
	11	Khartoum 1	Structure G.
	12	Khartoum 1	Adjacent to Structure F.
	13	Khartoum 1	Open area between Structures E, F, G, & L.

A glance at the results obtained in the soil analysis will show that there is very little difference in the P_2O_5 value between individual samples. However, if the differences that do exist are studied in detail, some correlation between P_2O_5 value and position on the Settlement Units can be seen. The following groupings show this correlation:

<u>Position on Settlement Unit</u>	<u>% P_2O_5</u>
Area outside Structures:	0.12; 0.14; 0.087 0.092; 0.087; 0.13
On suspected living floors:	0.17; 0.18; 0.17; 0.16
Within other Structures:	0.14; 0.103; 0.13.

From this grouping it is clear that the highest values (0.16 - 0.18) were recorded for samples from established or suspected living floors or levels. Moderately high levels were recorded from within the other Structures samples (0.103 - 0.14). The samples from the "open" areas have, however, yielded a large range of values but this can be broken into two groups: the first consists of values ranging from 0.087 - 0.092 (which are the lowest recorded), while the second group ranges from 0.12 - 0.14 and overlaps the values obtained from samples from unexcavated Structures. It is interesting to note, however, that all the "high" values in the second group were obtained from samples that were collected immediately down-slope from Structures while the "low" values were from samples not directly in line with any Structure. A possible explanation for these "high" values may therefore be found in the fact that the areas immediately below Structures may have an abnormally high level of P_2O_5 (compared to the other areas) because of percolation down from the Structures level just above.

Whatever the explanation for the anomalies in the samples from the areas outside the Structures, there can be no denying that the highest values obtained are from living levels. This relatively high level may well be a reflection of the fact that the Structures concerned were inhabited by man or animals although the values obtained are nowhere near as high as those obtained by Maggs (1971 : 61) for comparable positions on OFD 1.

We may therefore conclude that there is some evidence to show that the Structures were probably inhabited but that there was apparently no difference in the intensity of habitation in either the large or small enclosures, if the interpretation of the values of P_2O_5 can be stretched to this extent.

APPENDIX 6.THE C14 DATING OF KHARTOUM 1.

As mentioned in Section 7, a charcoal sample from Khartoum 1 was submitted to Dr. J.C. Vogel of the National Physical Research Laboratory in Pretoria for C14 dating. The charcoal was recovered in fragments diffused through the deposit excavated in Structure L; the sample submitted to Dr. Vogel was recovered from Excavation 1 (see Fig. 7:6).

Dr. Vogel has communicated the following date for the sample:

Pta 717	Khartoum 1c	170 ± 50 B.P.
		A.D. 1780.

As we saw in Section 5, there are historical records suggesting that the Settlement Units were abandoned by 1834 at the very latest (1834-5 being the date of Andrew Smith's journey along the Riet River) and that there is every likelihood that their abandonment was related to the upheavals caused by the Difaqane in the 1820's. This date from Khartoum 1 would therefore tend to support the historical evidence and some if not all of the Settlement Units can be demonstrated to have been occupied in the years just prior to the Difaqane. This early date would also tend to support the suggestion that the stone structures have no association with the Tswana groups that were displaced by the Difaqane and recorded by Andrew Smith.

An additional point of interest in this date lies in the light it throws on the age of the Khartoum "Later Stone age" Phase 6 assemblage described in Section 4. As we saw in Sections 4 & 7, the "Later Stone Age" artefacts lying on the surface of the deposit in Structure L on Khartoum 1 must, on stratigraphic grounds, post-date the underlying deposit and so they must also post-date any C14 date derived from within that deposit.

We can, therefore, show that the Khartoum "Later Stone Age" Phase 6 assemblage must be younger than 170 ± 50 B.P. This date falls comfortably within the time-range for Phase 6 in

the Orange River Basin as defined by Sampson (1970) - the earliest date being 235 ± 80 B.P. - and so the two groups of assemblages in the Orange River Basin and in the Riet River Valley are not only typologically similar but also relate to a similar date. The Khartoum 1 date would therefore tend to support the suggestion made in Section 3 that the Phase 6 artefacts were probably made by the San recorded by Andrew Smith as these people clearly post-dated the occupation of the Settlement Units on historical evidence.

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PLATE 1

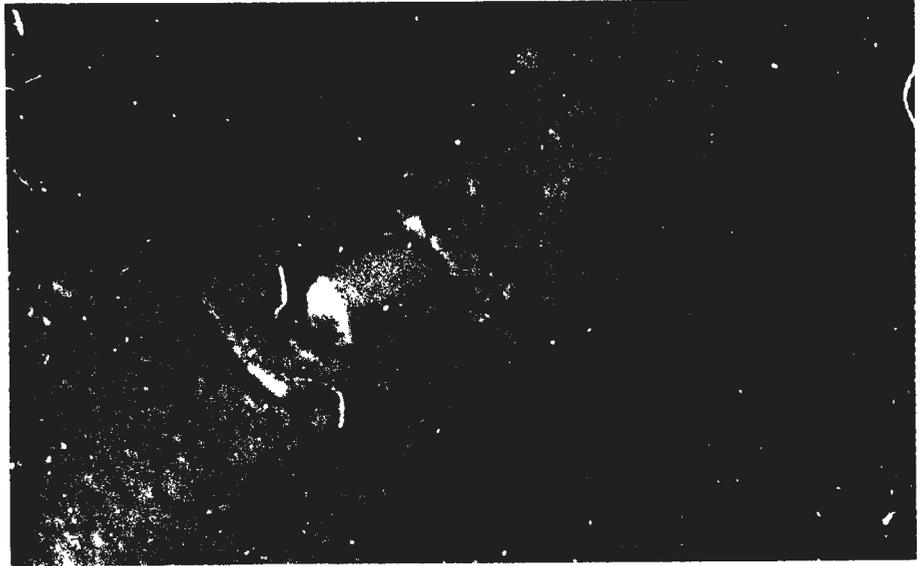
Aerial photograph of Settlement Unit Afvallingskop 6 which has the partial "surrounding wall" occurring on some Settlement Units. This is the Settlement Unit illustrated and described by Van Riet Lowe (1931).

Scale approx. 1 : 3000.

PLATE 2

Aerial photograph of part of Settlement Locale Wintershoek 2-10 showing the complexity and overlapping of Settlement Units Wintershoek 8-10+.

Scale approx. 1 : 3500.



PLATES 3 & 4

Two views of part of Structure L on Khartoum I. The photographs show how the wall is continued over the edge of the high ridge to the south-west of the Settlement Unit. Both photographs were taken from the relatively flat area within the enclosure and facing approximately west.

All scales are marked in 10 cm. divisions.



PLATE 5

A view of the 'possible entrance' in Structure L on Khartoum 1. The photograph was taken during the clearing of the area as Excavation E. The view is towards the north and a few typical dolerite kopjes can be seen away in the distance on the north bank of the river.

PLATE 6

A view of Excavation 1 in Structure L on Khartoum 1. The hard floor layer has been exposed at the bottom of the excavation and the pit into the hard floor layer can be seen at the base of the wall. View towards the east.

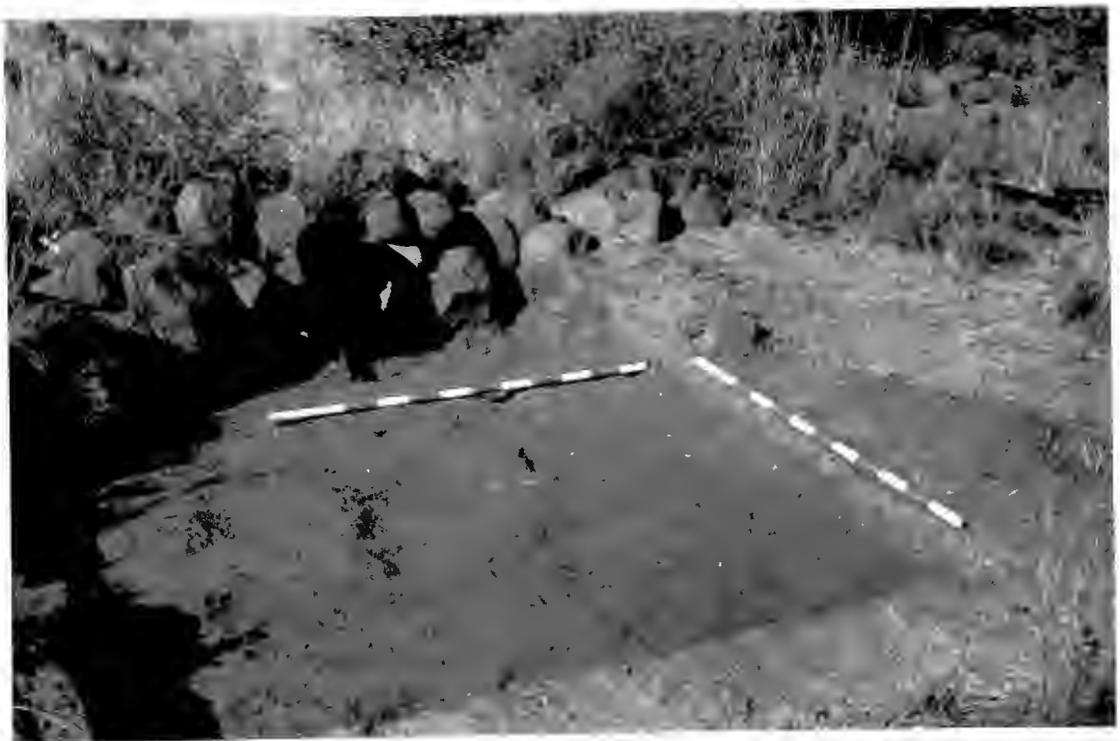


PLATE 7

A view towards the east showing Excavations 1 & 2 in Structure L on Khartoum 1. The irregularities in the hard floor layer were created during the excavation of material "crushed" into the surface of the floor and are not associated with the formation of the floor itself.

The flat grassy plain lying between Khartoum 1 and the Riet River can be seen in the background. The river runs across the length of the photograph and is located just this side of the line of trees on the left.

PLATE 8

A view east of Excavation 1 in Structure J on Khartoum 1. Dolerite bedrock has been exposed in the bottom of the excavation. The photograph clearly shows that the wall was built onto a surface about 10 cm. above bedrock.



PLATES 9 & 10

Excavation 1 in Structure A on Khartoum 2.

Plate 9 is a general view of the excavation looking more or less south. Structure B can be seen just south of the exposed wall. In the far background is part of the grassy plain between the dolerite ridge and the Riet River.

Plate 10 is a detail of the excavation showing the exposed shale bedrock and how the wall was built more or less onto this surface.

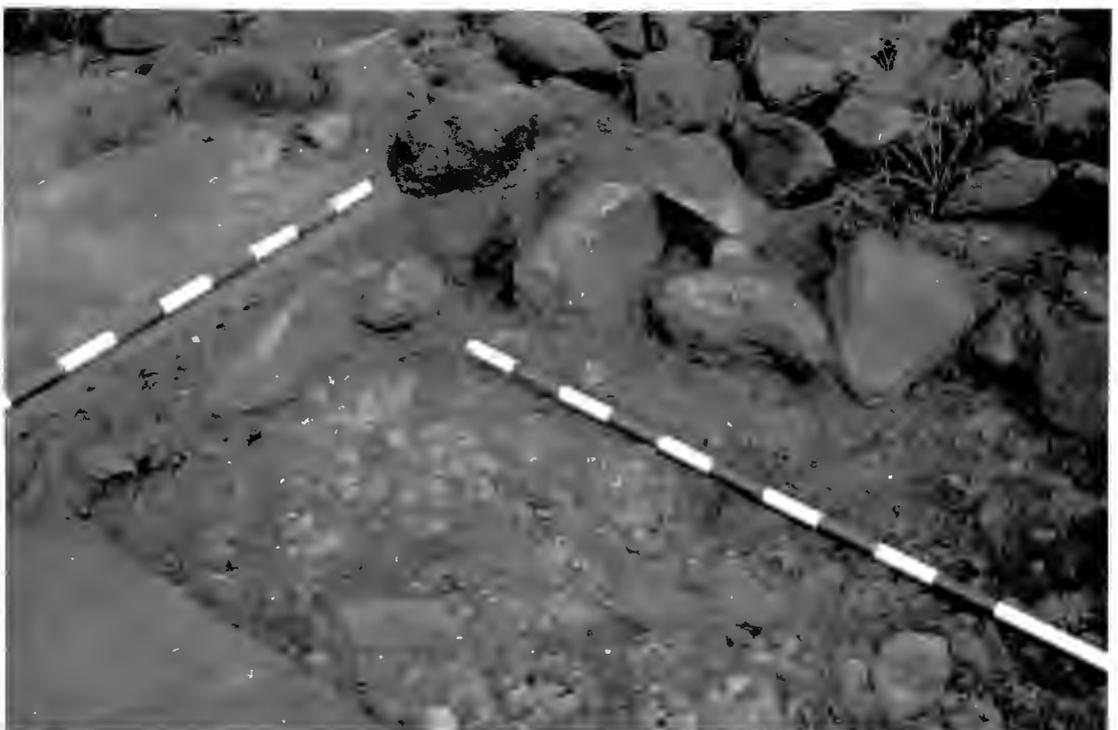
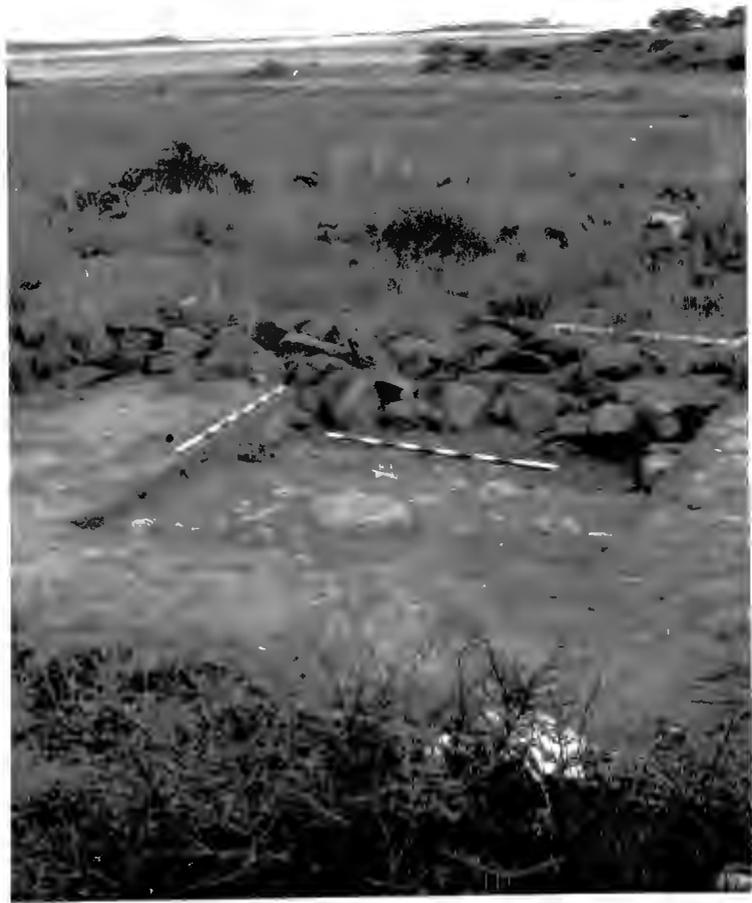


PLATE 11

Small finds from Excavations 1-3 in
Structure L on Khartoum 1.

On the left are the three bone points,
while in the centre and on the right
are the metal objects.

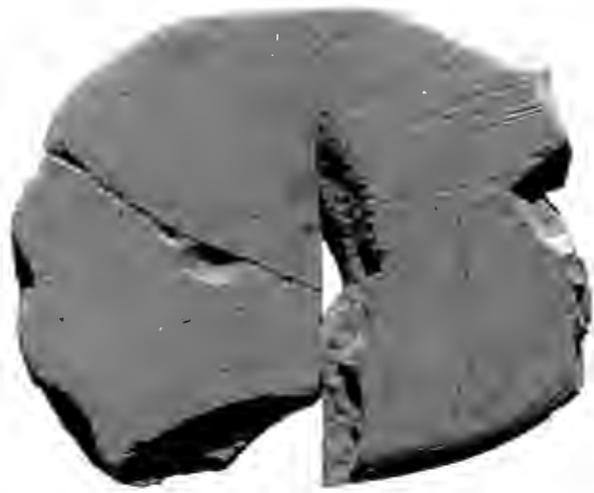


PLATE 12

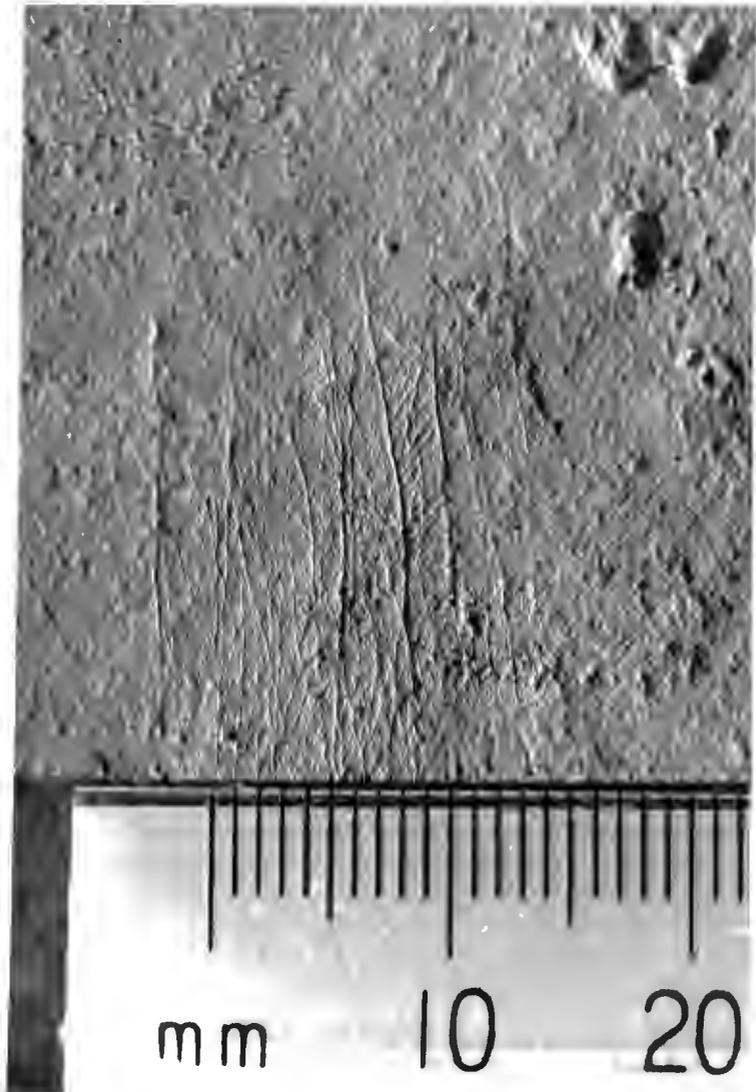
The striated shale slab from Excavations
1-3 in Structure L on Khartoum 1.
The bottom right edge is the one that has
been sharpened.

PLATE 13

An enlarged photograph of the incisions
found on the large shale slab illustrated
in Fig. 7:18.



cm



mm

10

20

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THE REMAINS FROM KOFFIEFONTEIN BURIALS EXCAVATED BY W. FOWLER AND PRESERVED IN THE MCGREGOR MUSEUM, KIMBERLEY

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INTRODUCTION

There are, in the Alexander McGregor Memorial Museum, Kimberley, records of some 57 burials from around Koffiefontein excavated by Mr. W. Fowler during the period 1922 to 1946. The skeletal remains, or part thereof, and the grave goods from nearly all of these burials are preserved in the Museum. Mr. Fowler was a keen amateur archaeologist who worked as a water engineer at Koffiefontein and during his stay there he collected many artefacts and skeletons from the area. In addition to the remains from these burials, the museum possesses large numbers of stone artefacts donated by Mr. Fowler.

The burials, by virtue of their number, constitute an interesting sample from a localized area and as such must be considered of some importance. The purpose of this paper is to place on record what information the Museum has concerning these burials and to describe the associated grave goods. Some attempt will also be made to relate these burials to the known prehistoric sequence in the area so far as this is possible on the basis of the cultural attributes of the burials.

The description of the actual skeletal remains is beyond the scope of this paper but it is to be hoped that a study of them will soon be undertaken.

LIST OF BURIALS

The list of the burials given below is based upon the information contained in the Museum's accession catalogue. The skeletal remains are identified by 'Skeleton No.' as listed in that catalogue. The gaps in the sequence represent non-Fowler material not being considered here. The skeletal material was identified by Dr. Robert Broom and his labels have been listed with the respective remains. No attempt has been made to check either the racial or sexual identifications. Other information consists of locality, general remarks and date accessioned. It must be pointed out that in some cases there is a large discrepancy between the date at which a skeleton was accessioned and the date when the associated grave goods were accessioned (where these were listed in the 'cultural' catalogue and not left with the skeletal remains) and so the dates given with each skeleton need not necessarily reflect the actual date of excavation.

Skeleton No. 189: Korana male; skeleton; near Koffiefontein; —; 1922.

Skeleton No. 190: Korana female?; skull and portion of skeleton; Koffiefontein; —; 1922.

Skeleton No. 192: Korana female; skull only with no face; Koffiefontein; ostrich egg-shell beads; 1926.

Skeleton No. 194: Bush-; skull only with no lower jaw; Koppieskraal near Koffiefontein; 3 feet from surface, near sluit; 1927.

Skeleton No. 195: Bush female; skull and much of skeleton 3 miles north-west of Koffiefontein; inside one of the stone circles; 1927.

Skeleton No. 196: Sent to Australia in 1935; 12 miles north of Koffiefontein on Riet River Bank; an oval grave (3.6 × 2 ft), lower part of leg bent over (not knee to chin), grave 5 ft deep, facing east; 1928.

Skeleton No. 197: Bush female?; skull only; 1½ miles north of Koffiefontein; this and 198 were found close together, washed out of sluit, bone slightly differently coloured; 1928.

Skeleton No. 198: Korana —; skull only; 1½ miles north of Koffiefontein; see 197; 1928.

Skeleton No. 199: Bush juvenile —; skull only; bank of Riet River, Koffiefontein; in a shallow roundish grave, apparently buried at same time as 200; 1928.

Skeleton No. 200: Bush juvenile —; skull only; bank of Riet River, Koffiefontein; see 199; 1928.

Skeleton No. 201: Korana male; crushed skull with a few bones; bank of Riet River, Koffiefontein; deep grave, approx. 4 ft 6 in. at the bottom, round, with a niche cut out for head, stones laid on remains right up to the surface; 1928.

Skeleton No. 202: Bush (mainly) female; skull and a few bones; Koffiefontein; some depth down in pot clay; 1928.

Skeleton No. 203: Bush female; skull and much of skeleton; 1½ miles from Koffiefontein, about ⅓ of a mile from the river on the south side; from a 'pocket grave' near old encampment; 1928.

Skeleton No. 204: Korana Bush female; skull and not much of skeleton; 1 mile north-west of Koffiefontein; found together with 205 in round grave, approx. 4 ft long, 2 ft 6 in. broad and 2 ft 6 in. deep, wood ash present; 1929.

Skeleton No. 205: Bush juvenile —; jaw; 1 mile north-west of Koffiefontein; see 204; 1929.

Skeleton No. 206: Korana female; skull and much of skeleton; Koffiefontein; —; 1929.

Skeleton No. 207: Bush juvenile —; skull; Koffiefontein; found in round grave on river bank; 1929.

Skeleton No. 208: Korana Bush male; lower jaw and some bones; 4 miles south-east of Koffiefontein; round grave exposed by erosion; 1929.

Skeleton No. 209: Korana female; skull and skeleton; 4 miles east of Koffiefontein; found in pocket grave 4 ft × 3 ft × 3 ft 6 in. deep, in pot clay, dug east and west with head at west; 1929.

Skeleton No. 211: Bush (mainly) —; imperfect skull and a few bones; 13 miles north-west of Koffiefontein; found in round grave 3 ft × 2 ft 6 in. × 2 ft deep, grindstone and sharpened slab found with remains; 1929.

Skeleton No. 212: Bush —; imperfect skull and jaw; 1½ miles from Koffiefontein; found in round grave

- 2 ft 6 in. diameter × 2 ft deep in hard pot clay; 1929.
Skeleton No. 213: Korana female; skull and much of skeleton; 2 miles east of Koffiefontein on north bank of river; grave 4 ft × 2 ft 6 in. × 4 ft deep in sandy soil; 1929.
- Skeleton No. 214:* Korana juvenile —; skull; Koffiefontein; —; 1929.
- Skeleton No. 217:* Korana female; skull and skeleton; 3 miles north-west of Koffiefontein; found grave (3 ft × 3 ft × 3 ft 6 in.), head meant to face north-west, ostrich egg-shell beads and pitted stone found in grave; 1929.
- Skeleton No. 218:* Bush Korana juvenile female?; skull and some bones; same locality as 217; round grave, 2 ft 6 in. × 2 ft 6 in. × 3 ft, head meant to face east; 1929.
- Skeleton No. 219:* Boskopoid —; portion of skull; 2½ miles north-west of Koffiefontein; round grave 3 ft × 3 ft × 3 ft 6 in., white stone in the bottom, brown ones on top; 1929.
- Skeleton No. 220:* Bush (mainly) male?; distorted skull and skeleton; 1½ miles north-west of Koffiefontein; round grave, 2 ft 6 in. × 2 ft 6 in. × 2 ft 6 in.; 1929.
- Skeleton No. 221:* Korana —; imperfect skull and some bones; 1½ miles north-west of Koffiefontein; donga under koppie; 1929.
- Skeleton No. 222:* Bush juvenile —; skull with much of skeleton; 1¼ miles north-west of Koffiefontein; buried 'hunched up' sitting position, feet towards north; 1929.
- Skeleton No. 223:* Korana juvenile —; skull with no face or jaw and a few bones; 2½ miles north-west of Koffiefontein; inside a kraal, shallow round grave (2 ft 3 in. × 2 ft 3 in.); 1929.
- Skeleton No. 224:* Korana —; top of skull only and a few bones; 1½ miles from Koffiefontein; exposed side of donga under koppie where engravings are; 1929.
- Skeleton No. 225:* Korana juvenile —; imperfect skull with no face; 2½ miles north-west of Koffiefontein; inside a kraal, 2 ft 3 in. × 2 ft 3 in. round grave (see No. 223), ostrich egg-shell beads and cowries; 1929.
- Skeleton No. 228:* Korana female; skull and skeleton; 300 yds from north bank of Riet, 7 miles north-west of Koffiefontein; round grave 3 ft × 3 ft × 3 ft 6 in. deep, glass beads; 1930.
- Skeleton No. 229:* Korana female?; skull; north-west of Koffiefontein on sloping bank to donga; round shallow grave buried in crouched-up posture, a few ostrich egg-shell beads; 1930.
- Skeleton No. 230:* Korana —; distorted skull and a few bones; 3 miles north of Koffiefontein and one mile from the river; shallow grave, hunched-up posture; 1930.
- Skeleton No. 230a:* Korana juvenile —; extremely distorted skull; Koffiefontein; shallow grave; 1930.
- Skeleton No. 231:* Bush Korana female; skull and some bones; 1 mile south-east of Koffiefontein; shallow grave, hunched-up position; 1930.
- Skeleton No. 232:* Korana juvenile —; very imperfect skull and a few bones; 1 mile south-east of Koffiefontein; shallow grave, hunched-up position; 1930.
- Skeleton No. 234:* Given to the University of Cape Town; Koffiefontein; beads and bangles on arm; 1930.
- Skeleton No. 235:* Korana female; skull and skeleton; ¼ mile north of river, 2 miles east of Koffiefontein; shallow round grave, stones on top with flat grinder, buried in crouched position, bored stone, ostrich egg-shell beads, pot; 1930.
- Skeleton No. 236:* Korana female; skull and skeleton; a few yards from 235; similar details but with bored stone, cowries and pot with lugs; 1930.
- Skeleton No. 237:* Korana female; skull and much of skeleton; 3 miles east of Koffiefontein; shallow round grave, buried in crouched position, stones on top, including a grinder, facing east; 1931.
- Skeleton No. 238:* Bush (mainly) juvenile —; skull with some bones; near Koffiefontein; shallow round grave, usual indications; 1931.
- Skeleton No. 239:* Bush —; poor skull with face restored, much of skeleton; Koffiefontein; shallow grave, shells, pendant, ostrich egg-shell beads; 1931.
- Skeleton No. 245:* Korana juvenile female; skull and much of skeleton; near Koffiefontein; exact locality not remembered by W.F., ostrich egg-shell beads; 1931.
- Skeleton No. 246:* Korana juvenile —; skull with no face; south side of river, 1½ miles east of Koffiefontein; old round grave nearly washed away, ostrich egg-shell beads; 1931.
- Skeleton No. 247:* Korana juvenile male; skull and most of skeleton; same grave as 246; 1931.
- Skeleton No. 248:* Korana female; skull with jaw and part of skeleton; north side of river, 8 miles from Koffiefontein; buried in crouched position; 1931.
- Skeleton No. 249:* Korana female; skull; 6 miles downstream on north bank of river, Koffiefontein; grave goods, scraper, pottery, bored stone, grindstone; 1931.
- Skeleton No. 250:* Korana with Bush blood, female; skeleton; near river at Koffiefontein; buried in very hunched-up position; 1932.
- Skeleton No. 252:* Bush Korana —; imperfect skull; near river approx. 8 miles north-west of Koffiefontein; contents of round shallow grave, ostrich egg-shell beads; 1932.
- Skeleton No. 254:* Missing; north bank of river 4½ miles from Koffiefontein; very small round grave on river bank, ostrich egg-shell beads; 1933.
- Skeleton No. 255:* Bush Korana —; skull with no face or jaw and a few bones; Koffiefontein; —; 1933.
- Skeleton No. 272:* Bush male; skull; 2 miles east of Koffiefontein; round grave 3 ft deep, ostrich egg-shell beads; 1934.
- Skeleton No. 277:* Bush female; skull with no lower jaw, skeleton fragmentary; Weltevrede, Koffiefontein; copper extinguishers used as pendants and ostrich egg-shell beads; 1939.
- Skeleton No. 287:* —; skull; Koffiefontein; —; 1944.

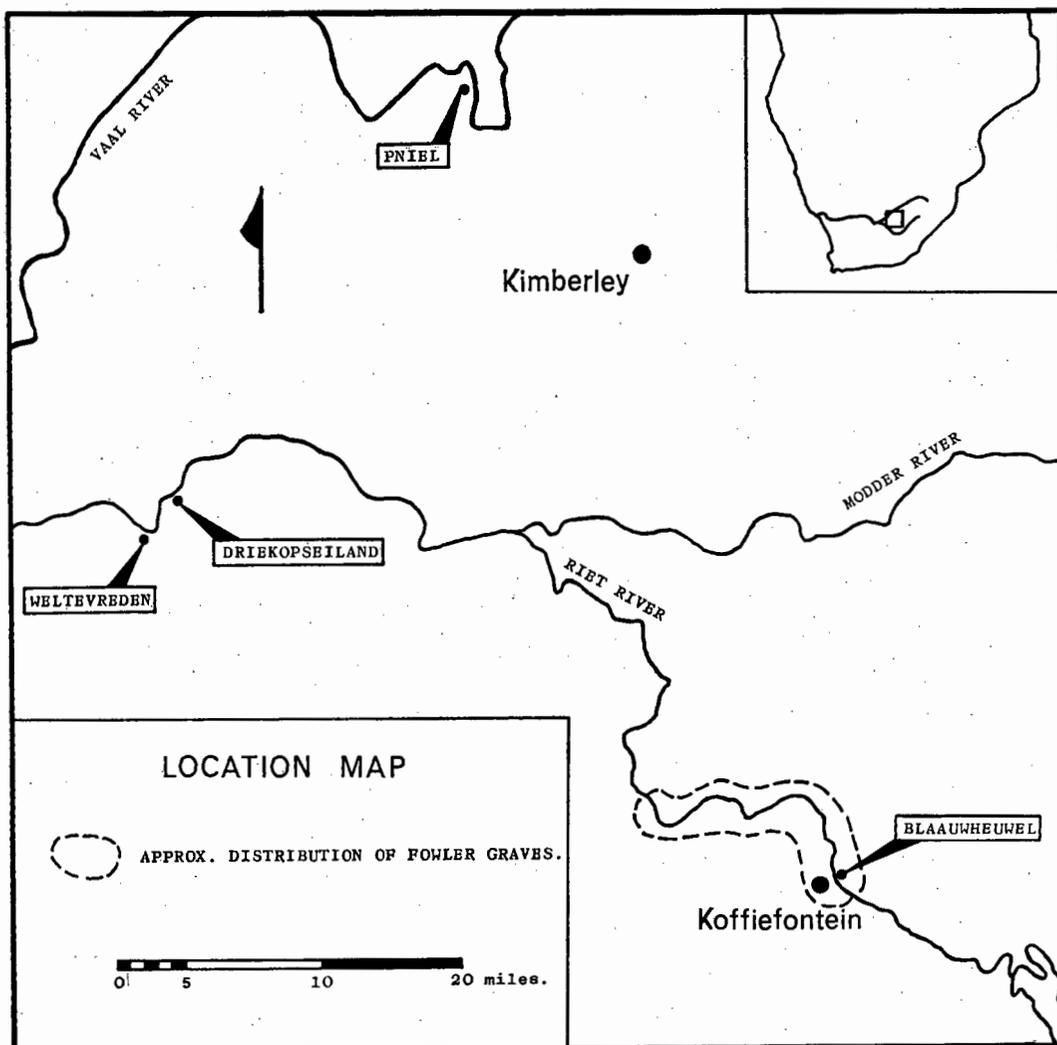


Fig. 1

Skeleton No. 292: ———; skull with no lower jaw;
Koffiefontein; ———; 1946.

DISTRIBUTION

It can be seen from the list of burials that not much information is available on the precise localities of the graves. It is, however, possible to plot the approximate distribution of the burials around Koffiefontein and this has been done in figure 1. The most distant site from Koffiefontein seems to have been Skeleton No. 196 which was found on the banks of the Riet River 12 miles north of Koffiefontein. The most distant in the other direction seems to have been Skeleton No. 237 which was found 3 miles east of Koffiefontein.

DISCUSSION ON SKELETAL MATERIAL

Broom's identifications of the Fowler skeletal material have been given in the list above. The skeletal material has not been published in full and so it is not possible to study the grounds upon which these identifications were made.

In 1941, however, Broom (1941) published a paper on 'Bushmen, Koranas & Hottentots' in which he described and illustrated some of the Fowler skulls. These were referred to by Broom as showing 'a mixture of races, Bush, Korana, and mixed'. He illustrated three skulls—those from Skeletons No. 229, 236 and 250—and these sketches have been reproduced in figure 2. Despite illustrating three skulls, he only describes the first two. His descriptions are as follows:

'Skull 229: This seems to be the skull of a young male Korana. It seems to be about as pure a Korana as we can get today—a Korana with little trace of either Bush, Bantu or Australoid. The following are the principal measurements: G.O. 184 mm; M.B. 132 mm; B.B.H. 119 mm; Bimax 101 mm; B.Z. 128 mm; N.A. 65 mm; O.H. 33 mm; O.B. 36 mm; Bidac 29 mm; N.H. 47 mm; N.B. 27 mm; I.B.O. 101 mm; B.N. 98 mm; B.A. 104 mm; D.L. 41 mm. Cephalic index 71.7. The skull is ovoid with the brow sloping well backwards. There is only a slight indication of a supraorbital ridge, and there are no parietal eminences. The lower jaw has the ascending ramus very low, but of considerable anteroposterior length. The height of the coronoid is 48 mm and the

length from the front of the coronoid to the condyle is 52 mm.

'Skull 236: This is a beautifully preserved skull of an elderly female. The following are the principal measurements: G.O. length 180 mm; M.B. 127 mm; Basi-breg. height 118 mm; Bizyg. 120 mm; Naso-alv. about 64 mm; Orb. height 33 mm; Orb. Br. 38 mm; Bidac 29 mm; Nas. Ht. 45 mm; Nas. Br. 27 mm; Int. bi. orb. 98 mm; Basi-nas. 100 mm; Basi-alv. 100 mm; Dent. length about 40 mm (teeth much worn). Cephalic index 70.5. The skull is ovoid with a rounded sloping brow, and with a rather low parietal region. The orbital arch is well behind the bridge of the nose. The mandible is low, the height of the coronoid process above the base being 54 mm. This

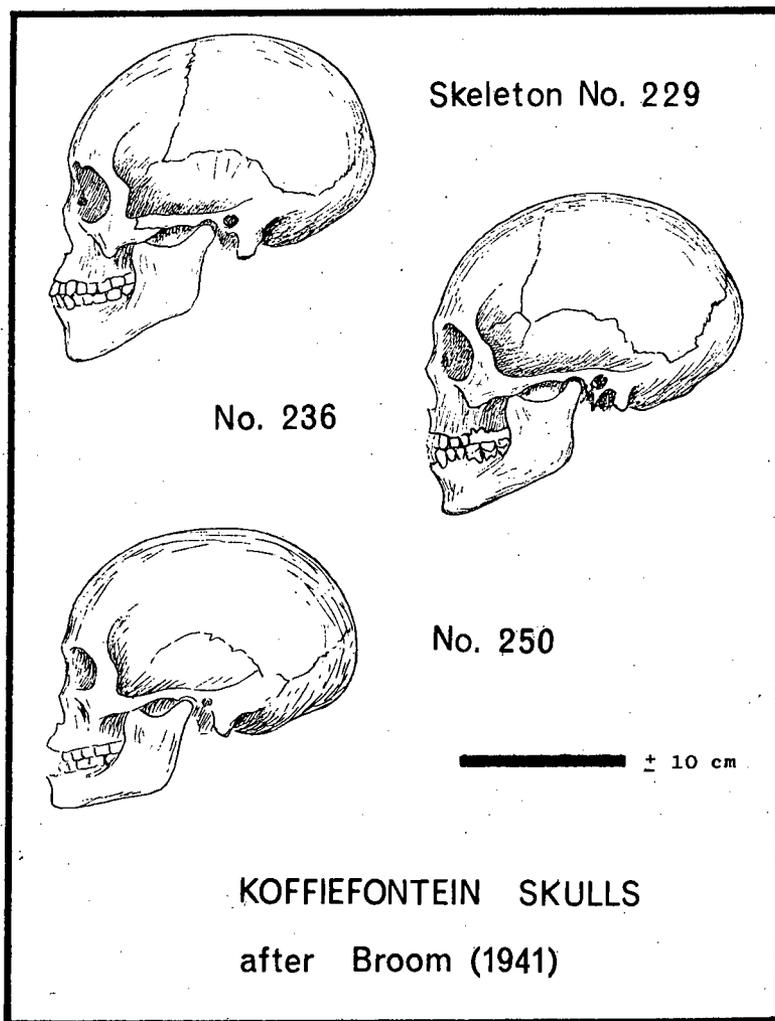


Fig. 2

skull seems to be that of a fairly pure Korana. It closely resembles the preceding.'

In this paper Broom uses some of the Fowler skulls as part of the basis for his remarks on the 'Korana' type. Wells (1948) and others have objected to the use of ethnographical labels to describe racial types and Wells has suggested the use of the term 'Douglas' rather than 'Korana'. It is not the intention of the writer to become involved in a physical anthropological controversy as to the identification of human types but it must be said that the ethnographical labels attached to the skulls by Broom should not be allowed to prejudice the cultural status of the burials. Apart from the fact that modern anthropologists may not necessarily feel bound by identifications made almost thirty years ago, it is now well known that physical, cultural and linguistic criteria need not always correlate with each other (Wilson & Thompson, 1969).

If the Fowler skeletons are to be divorced from the ethnographic terms applied to them by Broom, and it seems that they must, then very little can be claimed to be known about the physical types represented by the Fowler burials. The questions about the physical attributes of these skeletons must thus remain unanswered until a thorough study is undertaken.

DESCRIPTION OF ASSOCIATED CULTURAL REMAINS

The cultural material associated with the burials can be divided into four categories:

1. Material associated with specific burials.
2. Material that cannot be associated with any specific burial.
3. Material that cannot be located in the Museum or associated with any specific burial.
4. Material that can be associated with a burial on the basis of circumstantial evidence.

The cultural material can be described in these various categories:

Material associated with specific burials

Skeleton No. 192

Ostrich egg-shell beads were found in the grave. These have not been located in the Museum.

Skeleton No. 211

Upper Grindstone. A pebble 65 mm long was used as a grindstone. The single grinding surface has an indistinct red smudge on it which may be the result of ochre grinding.

Sharpened Shale Slab (fig. 3, no. 6). A flat piece of shale was found with a concave edge which was formed by the bevelling of both surfaces so as to form a sharp edge. One end may have been snapped off but the other shows natural rounding off. It is very similar to a sharpened slab illustrated by Van Riet Lowe (1929). Length: 82 mm. Thickness: 5 mm.

Skeleton No. 217

Ostrich egg-shell beads (actual counts of beads will not be given, as it is not known whether or not all beads were recovered from a grave. However, in order

to give some indication of the quantity of beads that have been preserved they have been strung together and their combined length measured). Length of string of beads: 185 mm.

One small hollowed pebble has been preserved with the beads but it appears to be natural.

Skeleton No. 225

Ostrich egg-shell beads. Length of string of beads: 120 mm.

Cowrie shells (*Cypraea annulus*). Three cowrie shells were recovered. The backs of the shells have been removed so they may have been used as beads or pendants.

Skeleton No. 228

Glass beads. Six cylindrical blue glass beads were recovered. They are translucent although three show signs of corrosion. Diameters: 9.0 mm, 9.5 mm, 10.5 mm, 9.5 mm, 9.5 mm, 10.0 mm.

Skeleton No. 229

Ostrich egg-shell beads. Twenty-five beads were recovered.

Skeleton No. 234

Ostrich egg-shell beads. Unlocated in the Museum. Bangles (fig. 3, no. 7). Three bangles were recovered. They are 71 mm in diameter, 10 mm wide and \pm 10 mm thick. They have flat sides with the outer surface rounded. All three are eroded resulting, in each case, in about half of the bangle having disintegrated. Despite this, each is still a complete ring. They are made from an as yet unidentified substance.

Skeleton No. 235

Bored stone. Unlocated in the Museum. Ostrich egg-shell beads. Unlocated in the Museum. Pot (fig. 3, no. 5). One complete slightly elongated spherical pot with imperfect symmetry was recovered. The rim is rounded and rather uneven. It has no neck but a certain amount of pressure was applied all around just below the rim creating a rather ill-defined ring of depression. The pot is undecorated and unburnished except for a very localized area (about 10 mm \times 20 mm) near the rim where a black burnish appears. The texture is sandy clay and the colour light brown. Mouth diameter: 70 mm. Height 76 mm.

Skeleton No. 236

Bored stone. Unlocated in the Museum. Cowrie shells. Nine cowrie shells were recovered. Pot (fig. 3, no. 1). One bag-shaped lugged pot was recovered. The pot is complete except for a small section of rim that is missing. The rim is rounded but uneven and the neck is everted from a poorly defined point of inflection. The pot has two distinct lugs on opposite sides but they are not placed at precisely the same height. The lugs have been perforated vertically by holes about 3 mm in diameter. The pot is unburnished. The texture is sandy clay and the colour light brown. Mouth diameter: 54 mm. Height: 83 mm.

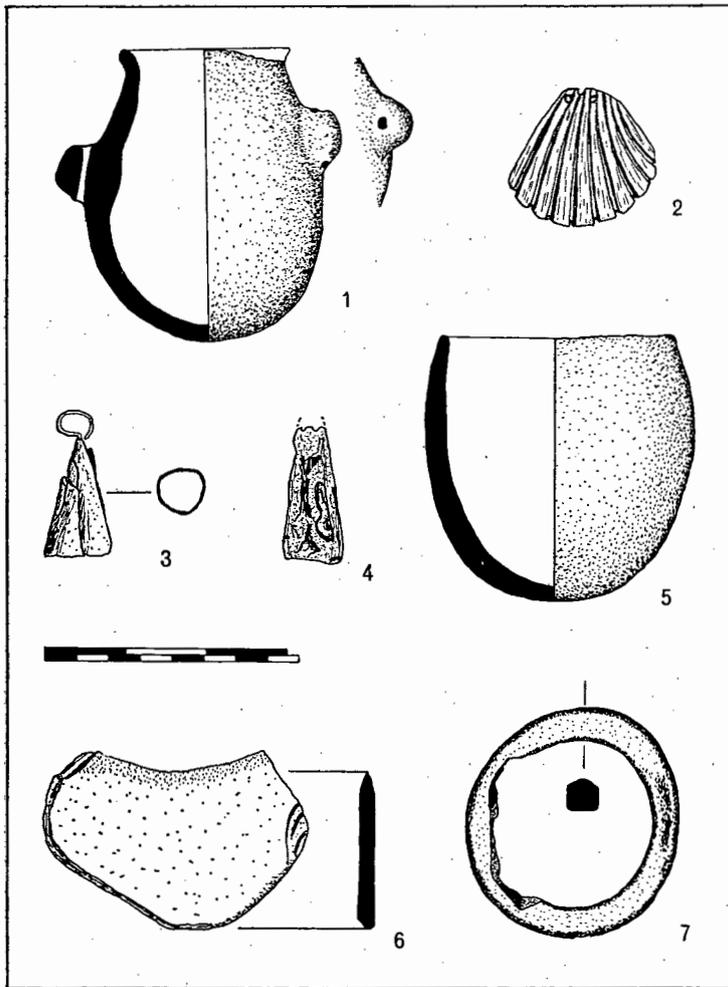


Fig. 3.

1. Pot with lugs. 2. Pecten pendant. 3. Copper extinguisher.
4. Shell pendant. 5. Pot. 6. Sharpened shale slab. 7. Bangle.

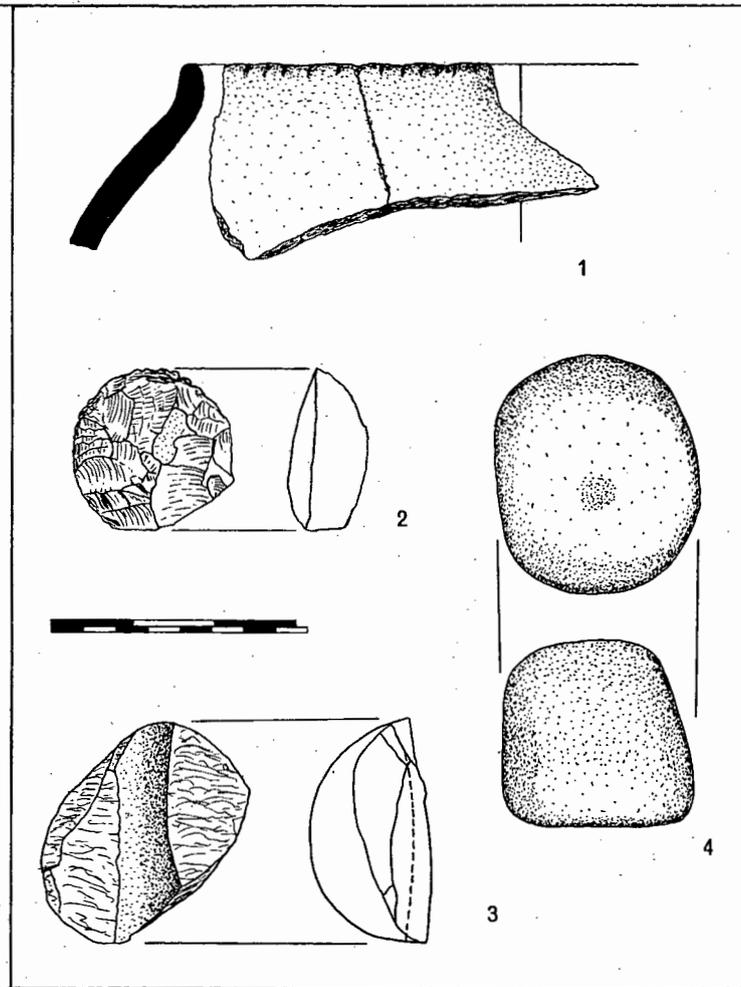


Fig. 4.

Cultural material from grave of Skeleton No. 249: 1. Rim fragments of large pot. 2. Circular scraper. 3. Bored stone fragment.
4. Grindstone.

Skeleton No. 237

A grindstone is recorded as having been found on the top of the grave but was apparently not preserved.

Skeleton No. 239

Ostrich egg-shell beads. Unlocated in the Museum. *Oxysteles sinensis* shells. Two such shells were recovered. They are slightly damaged so it cannot be seen whether or not they were perforated for use as pendants. Diameters: 29 mm, 24 mm.

Shell pendant (fig. 3, no. 4). A pendant made from a piece of a *Haliotis midae* shell was recovered. The pendant has been snapped across the perforations at the top. The perforations were drilled from the back 4 mm apart. The edges of the shell show rounding off. The base of the pendant (19 mm) is nearly twice as broad as the existing top (10 mm). The length of the existing portion is 40 mm.

Skeleton No. 245

Ostrich egg-shell beads. Unlocated in the Museum.

Skeleton No. 246

Ostrich egg-shell beads. Unlocated in the Museum.

Skeleton No. 249

Pottery fragments (fig. 4, no. 1). Two rim sherds and a body fragment were recovered. The rim sherds fit together and are the remains of a pot about 205 mm in diameter at the mouth. The pot had a short upright neck formed from a poorly defined point of inflection. The rim is rounded and despite being slightly eroded still preserves little vertical incisions placed about 7 mm apart. The pot was probably not burnished if the remaining sherds are representative.

Round scraper (fig. 4, no. 2). A well-worked denticulated round scraper was recovered. Length: 50 mm.

Bored stone fragment (fig. 4, no. 3). A fragment of a quartzite bored stone was also found. The thickness of the bored stone was 66 mm and the diameter of the perforation at the centre of the stone was 18 mm.

Upper grindstone (fig. 4, no. 4). This pebble grindstone has three grinding surfaces. One surface has localized pitting in the centre. The grindstone has a red smudge on an area between the grinding surfaces and this may be the result of hammering some red substance like ochre. The grindstone is 71 mm long.

Skeleton No. 252

Ostrich egg-shell beads. Unlocated.

Skeleton No. 254

Ostrich egg-shell beads. Unlocated.

Skeleton No. 272

Ostrich egg-shell beads. Unlocated.

Skeleton No. 277

Copper extinguishers (fig. 3, no. 3). Two copper 'extinguishers' were recovered. These consist of cone-

shaped bodies with a thin wire hook on the top. The extinguishers are both extensively corroded and fragmented but more or less complete. Length 45 mm. Width at base: 22 mm.

Material that cannot be associated with a specific burial

The following objects are known to have been found in one or more of the graves but it has not been possible to associate them with specific burials.

(a) Shell pendant (fig. 3, no. 2). A *Pecten sulcicostatus* shell was used to make a pendant. Three holes near the top in the form of a triangle were drilled through from the back of the shell. The upper hole has been bisected by a break at the top of the pendant. The remaining lower two holes were placed 9 mm apart. The length of the remaining portion of the pendant is 43 mm.

Associated with the pendant were some ostrich egg-shell beads which have not been located in the Museum.

(b) Ostrich egg-shell beads and cowrie shells. A string of beads 44 cm in length and three cowries cannot be associated with any specific burial.

Material that cannot be located in the Museum or associated with a specific grave

The following items are unlocated and unassociated:

- (a) 'Beads—in round grave with skeleton which was not kept (1929).'
- (b) 'Beads—found in grave on river bank (1929).'
- (c) 'Bushman pot—found in grave (1929).'
- (d) 'Beads of ostrich egg-shell—found in grave (1921).'
- (e) 'Portion of cowrie shell—found with a skeleton (1934).'

Material associated on the basis of circumstantial evidence

Some unlocated ostrich egg-shell beads were 'found in a grave' and accessioned in 1922. From this date it would appear, assuming that the skeleton was kept, that these beads relate either to Skeleton No. 189 or Skeleton No. 190, as these were the only ones accessioned at that time.

METHOD OF BURIAL

A certain amount of information on the method of burial can be obtained from the accession catalogue and this has been included in the above list. The information is rather scant but some features can be noted. It can probably be assumed that in most cases (except those where the skeleton was exposed in a donga, and possibly even then) that the grave was indicated by a cairn of stones. Skeleton No. 235 is referred to a grave with 'stones on top with a flat grinder', while Skeleton No. 219 had 'brown ones on top'. Skeleton No. 201 had 'stones laid on remains right up to the surface'. Skeleton No. 238 had the 'usual indications'. It would seem likely, therefore, that the burials were recognized by a surface cairn.

The depths of the graves, on the basis of figures

quoted, would appear to range from about 2 ft 6 in. to 3 ft 6 in. with two 'deep' graves being noted at 5 ft and 4 ft 6 in.

One grave is recorded as having had 'stones laid on remains right up to the surface' and another had a 'white stone in the bottom'. These are the only records of any stones other than those of the surface cairn being associated with the burial. It is unknown if this reflects the lack of any other stones in the burial or whether they were in fact merely not recorded.

For ten of the burials it is recorded that the skeleton was in a 'crouched' or 'hunched' position. Again it is not clear what the position of the skeleton was in the other burials but if the dimensions attached to several of these other burials are at all accurate they could only have accommodated similarly crouched skeletons.

The terms 'crouched' and 'hunched' must indicate that the body was buried in a flexed position with the knees drawn up against the chest and the arms either placed against the chest or around the flexed legs. Such a position would require a much smaller hole for burial than would a body that was laid out flat. However, a body in a flexed position can be placed in the grave in two different ways: it can be laid flat on either its left or right side or it could be placed in an upright or 'sitting' position. The terms 'crouched' and 'hunched' could therefore refer to either type of burial.

There does not seem to be any consistency in the orientation of the burials.

COMPARATIVE SITES

In order to test the validity of these conclusions on the method of burial and also to provide some sort of control in the assessment of these burials it is necessary to consider a few better-documented sites.

Blaauwheuwel

Van Riet Lowe (1931) described two burials from Blaauwheuwel near Koffiefontein which actually fall within the distribution area of Fowler's graves (see fig. 1). Van Riet Lowe described the burials as follows: In the first burial 'the skeleton . . . was found flexed, on its right side, head pointing east, with the whole in a remarkably good state of preservation. With it, in the grave, was found a small collection of ring-shaped ostrich egg-shell beads. The form of the grave is a cylindrical cavity about four and a half feet deep and four feet in diameter. Over the skeleton are successively about eighteen inches of earth, a layer of boulders, a nine-inch earth fill, then another layer of boulders with an earth fill over to natural ground level; over which was finally erected the small dome-shaped mound of rough mountain stones.' In the second grave 'an exactly similar state of affairs was found . . . but with the skeleton was recovered a copper bracelet . . .'

Driekopseiland

In 1954 Mason (1954) excavated a very elaborate burial near the Driekopseiland engraving site. Mason described the burial as follows: 'a small pile of stones, including an ochre-encrusted lower grindstone,

marked the grave. The skeleton lay three feet below this. Soft sand filled the grave which was dug into hard soil. Charcoal fragments were scattered through the grave filling from surface to a depth of two ft. The adult skeleton was contracted to a flexed position and faced south.' The body was laid on its side. (Dr. R. J. Mason, pers. comm.) 'An inverted half of an ostrich egg-shell lay beneath the arms, coated internally with specularite and externally with red ochre. A small, bipolar grindstone, dimple-scarred on one side, and the skull of a reedbuck minus the mandible lay a few inches away. The grave floor beneath the right arm and upper grindstone was coated with red ochre, which also stained the ulna of the right arm. Two small pieces of red ochre were found in the grave filling to a few inches above the arm bones, close to three ostrich egg-shell beads.'

Weltevreden

In 1967 the writer excavated a burial on the farm Weltevreden (29° 2.3' S 24° 10.8' E). The burial was located in a very eroded area about half a mile south of the Riet River and at the north-west foot of a prominent flat-topped hill. The excavation was a rescue operation, as the burial, identified by a cairn of stones on top, was being threatened by an encroaching donga. The details of the burial are illustrated in figure 5. Excavation revealed a second layer of stones about 17 inches below the present ground surface and below these was a large single stone which had apparently been laid upon the body. The skeleton was flexed and placed on its left side, facing east. The bones were in a very poor state of preservation and the skull was somewhat disintegrated. Associated grave goods were confined to five isolated ostrich egg-shell beads. An interesting feature on the skull was a very localized faint red smear (about 20 × 20 mm) on the right upper part of the frontal bone. This may represent some very localized and isolated ochre daubing. It was not possible to locate the actual outline of the grave.

Pniel

In 1969 the writer excavated another threatened burial. The site (28° 34.5' S 24° 33.9' E) is on the Pniel Estate near the Vaal River and the skeleton was exposed in the bottom of a water canal. The exposure of the skeleton obliterated all surface and infill details and it was only possible to recover the skeletal remains and associated goods. The skeleton was removed within a block of wet clay which was taken complete to the Museum. The skeleton was later cleaned up and preserved *in situ* as a museum display. The interest in this burial, however, lies in the fact that while the body was flexed, it was not buried on its side but placed upright in a sitting position in the grave. This contrasts with the other burials so far described. The associated grave goods included six fragments of a small black pot; one tiny fragment of another pot; one unretouched flake; one upper grindstone with two grinding surfaces, one showing traces of red ochre; three pieces of corroded 'wire'

and one antelope tooth. It is difficult to know if these objects occurred in true association because of the highly disturbed nature of the site and the fact that also associated were two air-gun pellets.

The first three examples quoted are burials that occur in much the same environment as Fowler's graves. The burials contrast with regard to the amount of associated cultural material but nevertheless there seems to be a consistency of burial method in the placing of the flexed body on its side. These burials may therefore be related to the ones excavated by Fowler. However, the grave from Pniel must serve as a warning against assuming that 'crouched' burials mentioned with reference to Fowler's burials must mean a flexed body placed on its side. Some of the graves may in fact have been of this Pniel type and it is impossible to assume a common burial method for Fowler's graves. One such grave may be Skeleton No. 222 which is recorded as having been buried in a 'hunched-up sitting position'. However, it is also recorded that the feet were 'towards N' which may indicate that it was laid on its side with the feet towards the north and not upright facing north. The records seem to be ambiguous but they do indicate

that caution must be exercised with regard to assumptions on burial position.

DISCUSSION

The Fowler burials can be of archaeological significance from two points of view: (1) the physical characteristics of the individuals buried, and (2) their cultural associations as revealed through the burial method and grave goods interred with them.

The first is beyond the scope of this paper and must be regarded as unknown until analysis is undertaken at a later date.

From a cultural point of view some information has been salvaged and this has been presented above.

Information on the actual method of burial is scant but some conclusions have been drawn. It is however, unlikely that they will be of any great importance. It has been suggested that all the burials were flexed despite the fact that this is not specified in every case. Comparisons with other graves in the Riet River area seem to suggest that the body was laid on its side after having been contracted into a flexed position but the Pniel site (and also Skeleton No. 222) serves to warn against assuming that this was invariably the case. But

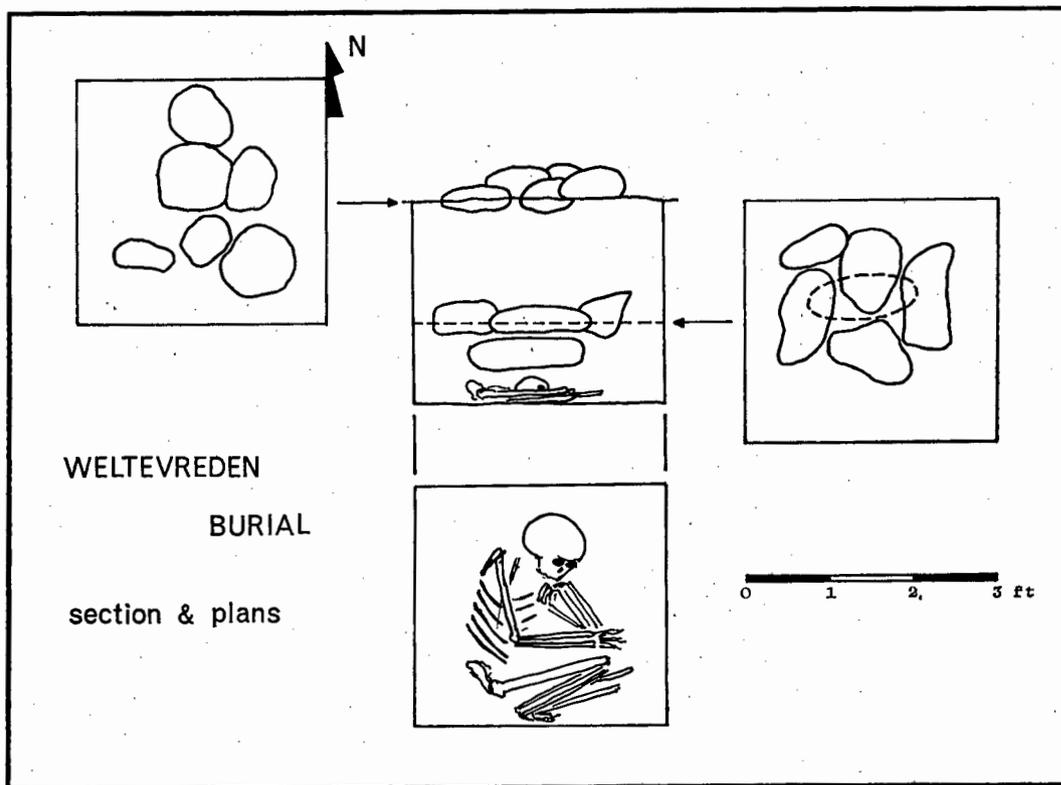


Fig. 5

even if all the burials were in fact laid on their sides and not placed upright, this is unlikely to be of any real value in our present state of knowledge, as this position of burial seems to be widespread in time and space. It is known in an LSA context on the Robberg Peninsula (Inskoop, 1965) and an Iron Age context in Rhodesia (Summers, 1969) to mention but two examples. This method of burial may, of course, be of specific cultural significance but at the moment there is not enough evidence to show whether or not this is the case.

The only useful cultural information available would thus seem to be the grave goods. Of these the ostrich egg-shell beads are of little assistance. While it has been demonstrated that beads can vary from one cultural level to another in a cave (Schrire, 1962), bead studies in the area under consideration have not reached nearly so sophisticated a level and so the beads cannot be regarded as useful at present.

However, before considering the value of the rest of the grave goods it is important to examine the basis of their associations with the burials. Many objects can be found in association but this final association may be a very different thing from the original direct association resulting from a specific human action.

The longest association of grave goods was discovered with Skeleton No. 249. The potsherds recovered give good information on the shape and size of the original pot but it is necessary to be rather cautious about the association of these sherds with the burial. It is impossible to be sure that there is a direct association. With a pot as large as this one obviously was, it is to be expected that, if it was buried with the body, many more sherds would have been recovered in the excavation. It would surely be difficult to miss large pieces of pot or many smaller sherds whatever excavation method was used. As it is, only two rim sherds and one body sherd (presumably of the same pot) were recovered. This means either that the rest of the pot was abandoned during excavation (and if this was the case why preserve the single body sherd?) or else that the complete pot was not directly associated with the burial. If the latter is the case, then the burial could only be regarded as contemporary with or later than the use of the pot. However the pot itself is not sufficiently diagnostic to give any definite indications of its cultural associations. The incisions on the rim do not seem to show the same regularity and formality as the Buispoort pottery illustrated by Van Hoepen & Hoffman (1935) and Mason (1962). No connection between the two is suggested.

Verifying the association of the grindstone is more difficult but at the same time it is not likely to be crucial, for it is rather undiagnostic from a cultural point of view. The traces of ochre on it are nevertheless interesting, as is the apparent and relatively widespread occurrence of ochre in the graves in general.

The association of the scraper and bored stone fragment are also open to question. The scraper may or may not be directly associated—it could as easily

have fallen into the grave as been placed with the body. The same applies to the bored stone fragment although the occurrence of the others in near-by graves may be indicative of some pattern. It is too soon to know the significance of this.

All this discussion on the association of the objects is, of course, speculation but in the absence of direct evidence it does serve to show that there are no grounds for assuming a direct association between any of these objects and Skeleton No. 249.

The associations between the other grave goods and their respective burials would appear to be more acceptable. The two small pots, by virtue of their completeness, must have been placed deliberately. A complete pot is unlikely to have been shovelled into a grave carelessly. The bangles were apparently found on the body and the extinguishers have been called pendants and so may have been found in a suggestive position, so their associations must also be accepted. It is difficult to imagine that the cowrie shells and shell pendants got into the graves naturally, as their occurrence is completely foreign to the area.

The association of these grave goods with their burials can therefore be regarded as acceptable, but now the question arises—what archaeological information can they give? The objects are all interesting in themselves but the archaeologist is not so much interested in the objects of archaeology as in what they can tell of the people behind them. It is with this idea in mind that the importance of the grave goods must be assessed.

The most important grave goods must therefore be the shells and shell pendants. They all suggest some sort of contact with the coast whether it be through group migrations or through trade or bartering contacts. Day (1969) gives the following distributions for the shells concerned: *Oxystele sinensis*—False Bay to the Transkei, *Cypraea annulus* (cowries)—Port Edward to Inhambane, *Haliotis midae*—St. Helena Bay to East London, *Pecten sulcicostatus*—False Bay to Mossel Bay. This distribution refers to live specimens: shells of dead specimens could possibly be found further afield. The distribution of these shells is unfortunately too wide to suggest any localized area of origin for the specimens recovered in the burials but it does suggest south and east coast rather than west coast contacts.

The two small pots are of some interest but it is difficult to associate them directly with any known local traditions. The lugged pot is, however, reminiscent of specimens illustrated by Rudner (1968) but it would be premature to draw any far-reaching conclusions before more is known about the nature of the skeletal remains and other graves which may be found to contain similar material.

It is clear that none of the associated grave goods is sufficiently diagnostic to be of use in isolating any specific cultural tradition. It is therefore difficult to relate the graves either individually or collectively to the archaeological sequence as presently known in the area. The association of Stone Age, Iron Age and

modern objects would, however, suggest a relatively recent date and a period of culture contact between peoples living varying ways of life.

While describing the graves at Blaauwheuwel, Van Riet Lowe (1931) suggested the possibilities of an association with the stone circles occurring in the Koffiefontein area. These stone circles have been labelled R-type settlements by Maggs (1967). A study of these settlements is currently being undertaken by Maggs and the writer. Their distribution is being studied by means of air photographs and they are known to occur extensively within the distribution area of Fowler's graves. In addition three of the burials are recorded as having been found within some of these circles (Skeletons No. 195, 223 and 225) while Skeleton No. 211 has a letter preserved with it written by Fowler to Miss Mayne which makes the following statement: The site 'is just under a kopje on which is situated some old kraals and seeing that some of the implements found in the vicinity seemed very old I told Miss Wilman I would prospect round it for evidence of the old inhabitants of the Kraals.' R-type sites also occur on Driekopseiland about a mile south of the grave excavated by Mason (1954) and another is to be found on the top of the hill at whose foot the Weltevreden grave was excavated by the writer. There is therefore a coincidence between the known distribution of R-type settlements and graves of the type described here. It is tempting to suggest, with Van Riet Lowe, an association between the settlements and the burials but, despite this apparent close coincidence, present evidence does not permit this idea to be put forward as any more than a tentative possibility. As pointed out above, the burial method is not locally distinctive—and there is no certainty that all the burials were in fact of the same type—and at present the grave goods do not provide evidence of a direct association with the settlements. However, the fact that some of the graves occurred in close physical association with the settlements does suggest very strongly that some if not all of the graves may in fact be directly associated. Unfortunately those known to have been found within the stone settlements are not demonstrably different from the rest on cultural grounds and Skeleton No. 211 has produced the grindstone and sharpened stone slab neither of which provide any conclusive evidence. If an association exists between the stone settlements and all or some of the burials, it may become clear when the skeletal material is examined and other well-documented graves related to the Fowler collection. But such an association, if it exists, will probably only be demonstrated by a completely new examination of graves in the area, with the Fowler graves eventually being related to these rather than providing the key to the problem themselves.

CONCLUSION

It must be concluded that, valuable though they are, the Fowler graves cannot at present be related with confidence either among themselves or to any known

industry in the area. The possibility exists that there may be some sort of relationship to the R-type settlements but more evidence is required to confirm or reject this idea.

The main problems relating to the Fowler graves requiring investigation may be summarized as follows:

1. Do the skeletal remains represent a single group of people or is more than one group represented? What is the identity of these people?
2. These burials must be related physically and culturally to other well-documented and dated graves from the same area so as to be able to evaluate them to the full. (In this connection it may be noted that samples from two burials from within the Fowler grave-distribution area have been submitted by Maggs and the writer for C14 dating.)
3. These burials and any others that may be investigated to obtain additional evidence must be related to the prehistoric sequence at large with prime attention going to their possible relationship to the R-type settlements.

The remains from the Fowler graves in the McGregor Museum constitute too valuable a sample to be ignored and lost in the depths of Museum storage. They can throw light on human activity in this area and therefore deserve attention. The relatively little known about their associations at present is the result of a lack of exploration in this field of prehistory, for in the words of Van Riet Lowe (1931), 'And here, and in this area particularly, is a field pregnant with potentialities. It is rich beyond the dreams of even an archaeologist, and it is virgin.'

ACKNOWLEDGEMENTS

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FURTHER GRAVES AND CULTURAL MATERIAL FROM THE BANKS OF THE RIET RIVER*

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INTRODUCTION

During the course of excavation of a stone-walled settlement at site OFD. 1 on the Riet River in July and August 1969, a number of small stone mounds were noticed on the river bank near by; three of these were excavated, and two of them proved to be graves. A surface collection was made in order to sample the dense scatter of Later Stone Age material in the vicinity. A description of the settlement and general information on the location and environment of the site will be included in a separate paper at a later date. The present paper is confined to the graves and the surface cultural material.

Along much of the course of the Riet River in the Koffiefontein and Jacobsdal districts and further downstream are deposits of sandy silt in the form of river terraces. Detailed work on these terraces has not yet been undertaken and it is not known whether or not they are of the same age. However, on the evidence of their contained fossil mammals, including *Homoioceras bainii* and others (Cooke, 1948), and the common occurrence of Later Stone Age material on the surface, at least some of them must be of Pleistocene age. These relatively soft deposits form part of the river-banks and are being subjected to gully erosion, greatly accelerated at the present time by intense grazing and agricultural activity.

THE GRAVES

The OFD. 1 site consists of a number of stone structures built in a shallow basin surrounded by dolerite hills. The southern end of this basin is marked by an abrupt south-facing slope marked 'Dolerite Ridge' on the plan (fig. 1). From here a terrace stretches southwards for some 800 metres. It is bounded on the east by the Riet River, on the west by another dolerite outcrop and is some 250 metres wide tapering southwards. Stone implements and débris occur in large quantities on this surface and are particularly concentrated towards the northern end. Also on the terrace, fifteen stone mounds were recorded, grouped in about the first 100 metres south of the dolerite ridge. There is another mound towards the southern end of the terrace and several others on the river-bank 250 metres north-east of the main burial area. These mounds are partly overgrown and in some cases the stones have become scattered. They are in the region of one metre in diameter and built of weathered dolerite blocks from the adjacent hills. Similar mounds and the graves they marked have been

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described previously by Van Riet Lowe (1931) and others along the Riet River (Humphreys, this issue pp. 102-113). On his map of the Riet River, Van Riet Lowe (1929) marked the positions of several burial sites, including the one described here, which appears under the name Koppieskraal. He also showed the stone ruins and the concentration of Later Stone Age material which is assigned to his Smithfield B culture.

A striking feature of this site is the localization of fifteen mounds, most of which must be burials, within such a small area. It seems likely that the people concerned regarded this as a regular burial ground. Van Riet Lowe (1931) records twelve graves from the site across the river from Koffiefontein and although he does not give the numbers at the other sites they are apparently similar. Therefore the makers of these graves seem regularly to have buried their dead in particular burial grounds on the river terraces. Burial grounds are relatively uncommon in the archaeological record of southern Africa so that the presence of a number of them along the Riet River indicates a distinct cultural trait.

Stone Mould 1

The description of similar graves by Van Riet Lowe showed that an excavation procedure allowing for the recording of both plans and sections at various stages of the excavation would be required. To record the stone mounds the vegetation was first cleared away and a grid of four squares, each of one square metre, was laid out with the centre being approximately the centre of the stone mound. The sides of the squares were orientated on a magnetic north-south bearing. After the plan of the mound was recorded (fig. 2) the stones were removed and the two northern metre squares were excavated to a depth of 1.8 m. A number of stone implements and a warthog tooth were recovered from the loose sandy soil below the stones, but no further trace of a grave or human bones were found, and therefore Stone Mould 1 did not mark a burial. The objects found within the soil would have arrived there by the burrowing activity of animals, as burrows are very common in the soft soil of the river terrace. Such stone mounds without burials beneath them have also been encountered in Griqualand West, but there does not appear to be any explanation for them at present.

Burial 1

The same procedure was followed for the second stone mound, but leaving the stones of the southern

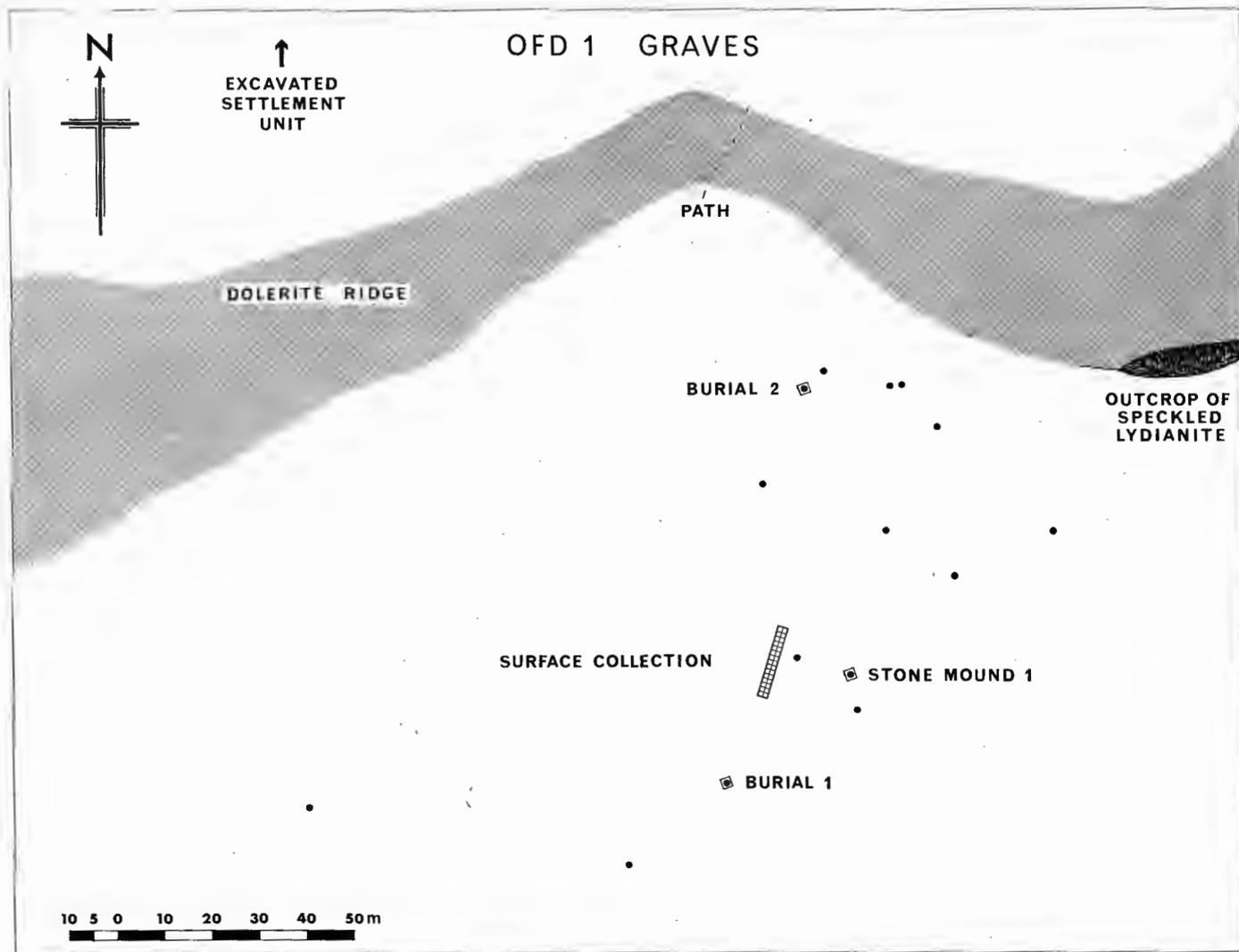
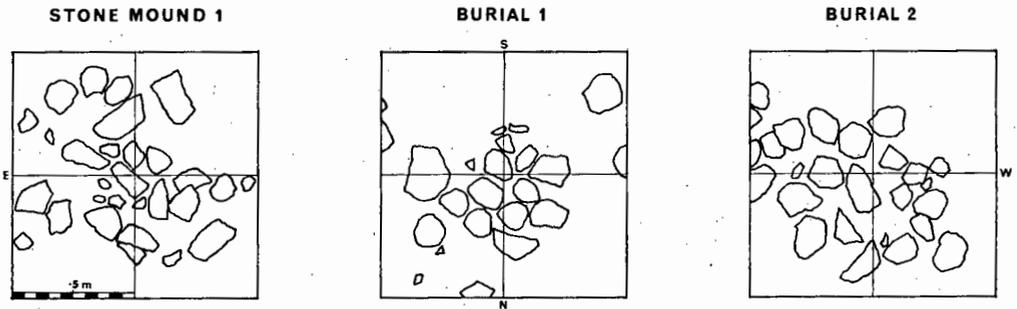


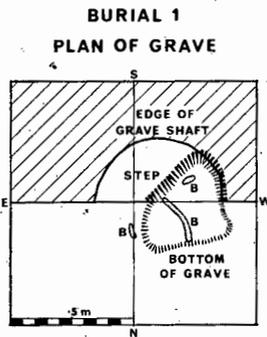
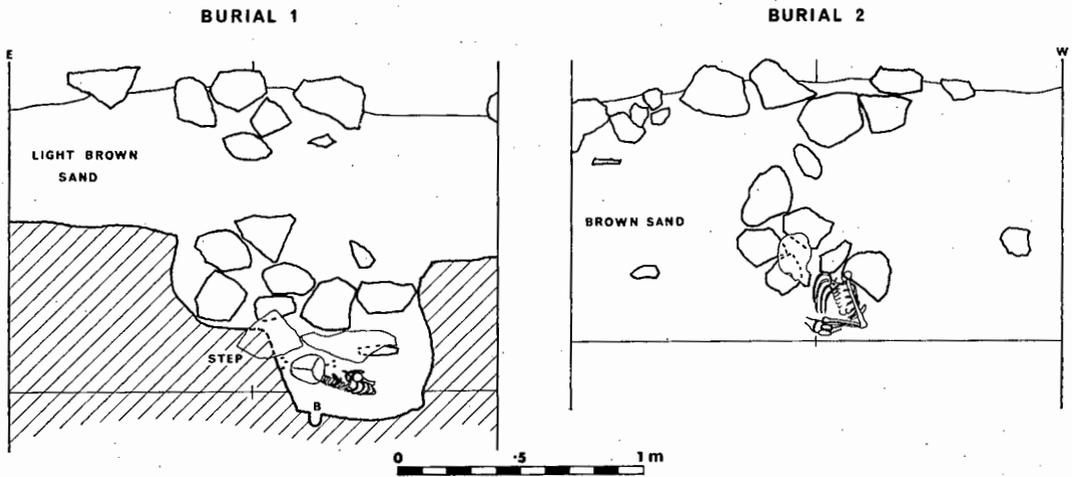
Fig. 1. Plan of the major features referred to in the text.

OFD 1 GRAVES

PLANS OF STONE MOUNDS



SECTIONS



B - ANIMAL BURROW

 HARDER LAYER

DIRECTIONS MAGNETIC

Fig. 2. Plans and sections of the stone mound and the burials.

half so that they would appear in the east-west section (fig. 2). As the two northern squares were excavated, more stones were located from 0.5 m to 1 m below the surface. Below these stones a number of ostrich egg-shell beads, the top of a skull and the articulated bones of a shoulder appeared. These together with the two stones immediately above them are recorded in the section but at a little distance in front of the face of the section itself, to avoid damage to the skull which was already partly crushed by the weight of the stones.

In the upper part of the excavation the soil consists of a light brown, sandy silt, relatively soft and easy to dig. It has been disturbed by animal burrows and there is no trace of the edges of the grave shaft. Below about 0.5 m the soil changes abruptly to a consolidated, lighter coloured material. In the upper portions this consists of hard lumps which separate from one another easily, but the structure becomes increasingly consolidated with depth. This material is thought to be the same sandy silt as the upper layer but here partly cemented by lime or some other substance. In this harder layer the sides and bottom of the original grave shaft are preserved.

After the section had been drawn, the two southern squares were excavated down to the top of the hard layer and the lower stones were uncovered. This showed that the lower stones fill the whole of the lower half of the grave from just above the skeleton to about the top of the harder layer (Pl. IIIA). The angular blocks of stone rest on one another and the spaces in between have become filled with loose sand.

The stones and sand were then removed to uncover the lower part of the grave and the skeleton. While the central part of the shaft was circular in plan, the lowest 0.4 m in which the burial lies was roughly semicircular, being only half of the area of the shaft. The other half was not dug out when the grave was made, but remained, probably to provide a step while the grave was being made and when the body was interred. (See figure 2 section of Burial 1 and plan of bottom of grave.)

At first the position of the skeleton seemed to be flexed and lying on one side, but closer examination showed that this was not quite the case. In fact the torso from the pelvis to the shoulders was really lying on its back. The head had been twisted to lie on its left side but this may have been caused after burial, by the weight of the stones which have partly crushed the right side of the skull. The arms were folded across the body with the hands near the elbows of the opposite arms. The legs and to some extent the arms were swung across to the left side, the flexed knees resting on top of the forearms and the ankles beside the pelvis. The long axis of the body was, from pelvis to head, south-west to north-east, the head itself facing south (Pl. IIIB).

There was considerable evidence of small-scale disturbance. The finger- and toe-bones were mostly scattered and the left hand and lower vertebrae had become disarticulated. There were several bones of

small rodents, and several burrows were found, dug into the hard material at the bottom of the grave, after the skeleton had been lifted (fig. 2).

Ornaments and Decoration

During excavation many ostrich egg-shell beads were found scattered about but chiefly in the region of the skull. Protruding from the underside of the skull, a group of beads had remained undisturbed as the result of being covered by a pendant made of a thin sheet of copper. This fortunate occurrence of copper has preserved, by its chemical action, not only the beads and their fibre thread but some hair and skin from the adjacent part of the skull (Pl. IVA). The hair occurs in tight little balls a few millimetres in diameter (Pl. IVB). These little curls are thickly matted with powdered specularite. The practice of rubbing specularite, usually with fat, into the hair has been widely recorded in southern Africa and was particularly common along the middle part of the Orange River and northwards (Burchell, 1822, and others). A sample of the hair has been sent to Dr. D. R. Brothwell of the British Museum for examination.

The pendant is in the shape of a segment 5.3 cm long and 2.5 cm wide. It is made from a thin sheet of copper 0.3-0.4 mm thick. Patination has developed and the remaining metal is rather brittle. There are two small holes about 1 mm in diameter towards the middle of the straight side and the strings from which the pendant hung are preserved (Pl. IVC). The string is made up of about five fine threads, about 0.2 mm thick which are loosely twisted together. The threads have a parallel fibrous texture and are therefore probably vegetable in origin. The two strings, one from each hole, converge to meet at the edge of the pendant from which they may have formed a single string. The pendant may have been suspended from the hair itself or from the bead headdress.

On removal of the pendant and the skull, a large number of ostrich egg-shell beads were found underneath, more or less undisturbed. Below the pendant these were quite undisturbed and in particularly good condition with some of the string preserved. Below the skull, however, the arrangement had become partly distorted and the beads were rather decayed (Pl. VA). The interstices between the beads was filled with specularite mixed with sand. This was removed with a soft brush and the beads were hardened and stuck together with three layers of Glyptal adhesive. A thin polythene sheet was placed on top and plaster of Paris poured over it. On hardening, the plaster block was lifted with the mass of beads intact.

The beads are well rounded, 6 mm in diameter, and drilled from one side leaving a conical-shaped perforation. Many of the perforations are partly filled with red ochre as distinct from specularite. This probably means that the beads were previously worn by somebody with red ochre in their hair.

The beads are strung in staggered rows except for the two central rows where they are opposite each other. There is a total of twenty-five rows which was

evidently the total width of the band, the maximum surviving length being 15.5 cm. Miss F. Barbour, ethnologist of the Duggan-Cronin Bantu Gallery in Kimberley, pointed out the resemblance of the beadwork to headbands and side-flaps collected from recent Bushman groups in the Kalahari. The side-flaps are shorter and narrower than the surviving example and therefore the probability of its being a headband was examined. The length and orientation relative to the skull supported this interpretation, as did a small patch of similarly arranged beads, also with specularite, on the right side of the skull. Furthermore in almost all the ethnological examples, the centre of the band is accentuated by rows of beads opposite each other, two, three, four or even five such rows occur. Of thirteen examples examined at the Duggan-Cronin Gallery and at the South African Museum, Cape Town, the average length is 53 cm. While most have fewer rows of beads, one of them also has 25 rows. Using these figures it is evident that such a headband would have required some 1,800 to 2,000 beads. When all the beads from the burial were counted a total of 1,180 was reached. While this is still well short of the required number, the difference could be accounted for by dispersion of some beads, while a considerable number from below the skull must have decayed to such an extent that they were not recovered. The evidence therefore all points to this having been a headband similar to those worn by Kalahari Bushmen up to the present time. Apart from the red ochre on the beads, this substance also occurred in a number of other places. A small lump was found near the skull, while patches also occurred on a number of bones including the following: mandible, right humerus, left arm-bones, right ribs, both knees and tibias. It was usually on the upward-facing surfaces but on the legs it was on the underside as well. It presumably came from ochre smeared on the skin before burial which, after decomposition, became attached to the bones.

Burial 2

The excavation procedure was the same as for Burial 1. After the stone mound had been recorded, the two northern squares were excavated. Here again, below the stone mound, further stones were found which rested on the skeleton (fig. 2). The gap between the upper and lower stones however is less pronounced, although it is still present, and the grave is not so deep, the maximum depth being about 1 m. There are fewer of the lower stones and they are more closely mingled with the bones, the skull actually resting on one stone.

The soil to bottom of the excavation consisted of light brown, loose, sandy silt. This has encouraged burrowing animals and there is considerable evidence of their activity in and around the grave. In the absence of the harder layer it was not possible to trace the margins of the grave shaft, although the positions of the stones give some idea of them. The bone is in markedly poorer condition than Burial 1 but it is not known whether this is due to difference in soil, age or some other factor.

Burial 2 is also a flexed burial but the position is different from that of Burial 1. The torso has its front downwards, the lower spinal column being horizontal but the upper part rises towards the shoulders. The left arm is flexed, the distal ends of radius and ulna resting on the left knee, but the bones of the hand were completely dispersed. The right humerus remains in its correct position but the scapula had slumped downwards and the radius and ulna were not articulated. The orientation of the spinal column is approximately south to north from pelvis to neck. The skull however is twisted into an east-west axis facing directly downwards. This position is probably the result of slumping and disturbance as there was considerable burrowing in this area; the neck vertebrae became disarticulated in the process and the mandible has disappeared altogether (Pl. VB).

The femurs were parallel, running northwards below the torso. The left leg was only partly flexed, the tibia and fibula running below the bones of the right leg which was fully flexed but lacking its fibula. Extensive disturbance had taken place in the pelvic region, resulting in the disarticulation of the right ilium from the femur and the complete disappearance of the sacrum and most of the bones from the feet.

The general position of this burial is then a flattened kneeling posture, although subsequent burrowing and slumping have caused much disturbance. Some of the bones including the mandible, right fibula, right radius, sacrum and most hand- and foot-bones had become so far dispersed, presumably by the burrowing animals, that they were not located in the excavation. A number of rodent skulls were found, and in the area of this grave were many fresh burrows around 10-20 cm in diameter.

CONCLUSION

These two graves are clearly representative of the same burial practices as those described previously for the area. This type of grave has up to now only been described from the Riet River and usually occurs in clusters. These burial grounds always seem to be on the silt terraces beside the river, which provide the softest soil in the vicinity. The graves are marked by small stone mounds, while further stones occur as part of the filling of the grave shaft. In the two graves described here the lower stones rest on or near the skeleton and form the lower part of the grave filling. Van Riet Lowe however shows two well-defined layers of stone, separated by a layer of soil, within the grave shaft. Since his section drawing is an idealized one, it is likely that the arrangement of stones was not quite as neat as indicated.

The graves are circular in plan, about 1 metre in diameter. The legs of the burial are usually tightly flexed, while the arms are more or less in the folded position, between the torso and the legs, with the elbows bent at about 90°. The torso may rest on its side, back or front. There does not seem to be any particular orientation. In contrast to most known Later Stone Age burials, these ones often contain

grave goods, which include both ornaments and functional objects such as pots. The general impression is one of a relatively settled population with sufficient resources to trade over considerable distances to obtain luxury items.

During the excavation of Burials 1 and 2 as well as Stone Mound 1, artefacts and débris of lydianite were found. They occur chiefly in the upper portions and on the surface, and there is no evidence to associate them with the actual burials. Rather they are a part of the general scatter of surface material which would have become mixed into the softer parts of the terrace deposit by burrowing and when the graves were refilled. The material resembles that from the surface collection and therefore it was not considered to be worth separate description.

THE LATER STONE AGE SURFACE MATERIAL

A dense scatter of LSA cultural material occurred in the general vicinity of the graves. The scatter was so wide that it was not possible to strip the entire site but in order to gain some impression of the nature of the cultural material it was decided to strip a sample area. Accordingly a grid 15 × 2 metres was laid out and the material occurring within this area was collected in 1-metre squares. The precise position of the grid is recorded in figure 1. No excavation was carried out within the grid and only material occurring on the surface was collected. This surface collection has been designated Oudefontein 1.

The cultural material recovered can be divided into two groups: Lithic and Non-lithic. The first consists of all stone artefacts while the second comprises pottery fragments, beads and material brought to the site through some human agency.

The Lithic cultural material is all fresh and there is no reason to suggest, on the basis of *état physique*, that it is a mixed assemblage. The material is therefore regarded as a sample from an unmixed surface occurrence.

For the purposes of analysis the stone artefacts were divided into the following categories:

Shaped

The tools listed in this category follow the definitions given by Sampson (1967a). The tool types that are not represented in this assemblage have, with one exception, been left out of the list. The only classes that do not follow Sampson's definitions are a general 'Backed Blades' class which covers all of his backed types, and a new class of 'Notched Scrapers'.

Utilized

This category includes artefacts that were utilized but not specifically shaped for any particular purpose. 'Utilized Flakes' in this context embraces the 'Trimmed and Utilized' flakes and blades which are rated as 'tools' by Sampson. The other 'utilized' artefacts are grindstone fragments.

Waste

This category consists of unretouched or 'waste' flakes, cores (these being pieces that show a pattern of systematic flaking) and chips and chunks (consisting of all other lithic material, broken waste flakes and flaked chunks).

Table I (p. 120) shows the breakdown of the cultural material into the various categories and classes. The proportions of the shaped tools are reproduced graphically in figure 3.

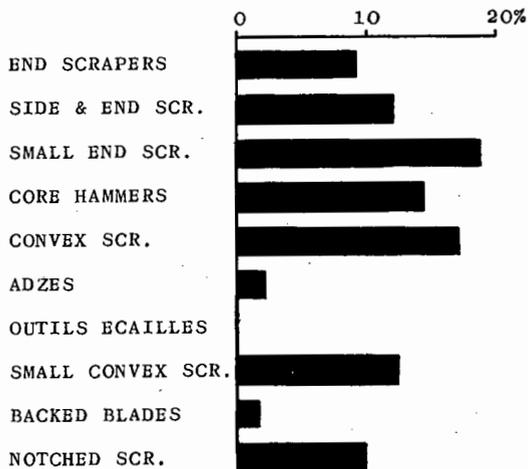


Fig. 3. Diagram showing proportions of shaped tools.

DESCRIPTION OF THE LITHIC MATERIAL

Shaped

End, Side and End, and Small End Scrapers (fig. 4, No. 1-3)

These three classes are as defined by Sampson (1967a). The counts given in Table I follow his division into 'large' and 'small' depending upon whether the scrapers are more or less than 1 inch (25 mm) in length. It should be noted that eleven broken end scrapers have been included in the Small End Scraper class and this accounts for the apparent high proportion of these tools.

In order to test the validity of the division into 'large' and 'small' at the 1 inch (25 mm) mark, all the scrapers were measured and their length distribution plotted on a graph (fig. 5). In this case the scrapers were divided into End Scrapers and Side and End Scrapers only. The broken specimens (4 and 7 respectively) were excluded from this experiment. The graph shows, in both cases, a group of scrapers shorter than 1 inch (25 mm) and a group longer than 1 inch. It would therefore appear to support the division of the End Scrapers and Side and End Scrapers into 'large' and 'small' at the 1 inch (25 mm)

TABLE I

LITHIC			
Shaped:			
End scrapers	16		
Side and end scrapers ..	21		
Small end scrapers (+ broken)	34		
Core hammers	25		
Convex scrapers	30		
Adzes	4		
<i>Outils écaillés</i>	0		
Small convex scrapers ..	22		
Backed blades	3		
Notched scrapers	17		
		172	8.7%
Utilized:			
Utilized flakes (whole) ..	61		
(broken)	140		
Grindstones (upper)	6		
(lower)	1		
		208	10.4%
Waste:			
Waste flakes	231		
Cores	25		
Chips and chunks	1307		
		1563	78.8%
NON-LITHIC			
Pottery	37		
Ostrich egg-shell beads ..	1		
Specularite	1		
		39	2.0%
TOTAL 1982			

mark. The production of 'large' and 'small' end scrapers may thus be a feature of LSA activity in the interior and will require further investigation in the future.

Core Hammers (fig. 4, No. 5)

The core hammers form a significant proportion of the shaped tools. The specimen illustrated is made on a pebble but most of the core hammers are made on more extensively worked pieces. Each one, however, has a similar working edge to that illustrated.

Convex Scrapers and Small Convex Scrapers (fig. 4, Nos. 4 and 9)

These two classes have also been distinguished on the basis of length greater than and less than 1 inch (25 mm) following Sampson (1967a). In this case, too, the lengths were plotted to test the validity of the division. The graph is reproduced in figure 5. The length distribution does not, however, seem to support the division into 'large' and 'small' convex scrapers. This division has nevertheless been retained in Table I so as to facilitate comparisons with Sampson's assemblages. It is, however, important to note that the small convex scrapers in this assemblage are not

of the same quality as those in Sampson's assemblages. By definition Small Convex Scrapers are less than 1 inch in length but in Sampson's assemblages (Sampson, 1967a, b, c, d) there is a very close coincidence between convex scrapers, and lydianite and small convex scrapers, and agate and jasper. Sampson (1967a) remarks on this fact and adds that a large proportion of the small convex scrapers are $\frac{1}{2}$ inch (12.5 mm) or less in length. In the Oudefontein I assemblage all but three of the small convex scrapers are made on lydianite and it can be seen from the graph that most of the specimens are more than $\frac{1}{2}$ inch (12.5 mm) in length. Therefore despite the fact that a large number of the convex scrapers rate as 'small' in that they are less than 1 inch (25 mm) in length they are not, in fact, of the same type as those described by Sampson. They are not made predominantly on agate nor are they mainly $\frac{1}{2}$ inch or less in length.

Adzes

This class covers Sampson's (1967a) Backed Adzes and Pebble Adzes. Of the four specimens recovered one is made on a pebble and three on thick chunks.

Outils Écaillés

No *outils écaillés* were recovered. This class has, however, been retained, as it plays an important part in the definition of some of Sampson's phases (Sampson 1967a, b, c, d).

Backed Blades (fig. 4, No. 7)

Only three pieces in the assemblage were backed and these have been grouped into one class.

Notched Scrapers (fig. 4, No. 6)

This is a new class designed to accommodate a number of flakes that have notches worked on to them somewhere along the margin. The specimen illustrated is typical.

Utilized

Utilized Flakes

This class includes all flakes that have their margins modified through utilization. Small flake scars can be seen along the edges but they do not represent continuous formal retouch as is found on the scrapers.

In order to see whether or not utilized flakes differed significantly from waste flakes on the basis of length, the length distribution for each class was plotted. Only whole specimens were used in this measurement. The graph (fig. 5) shows a very similar length distribution for Utilized and Waste Flakes except for those flakes which were between 1 and 2 cm in length. This suggests that of all the flakes not used for formal tool-making, anything longer than 2 cm could potentially have been 'utilized' and that there was apparently no selection of flakes for utilization on the basis of length above 2 cm.

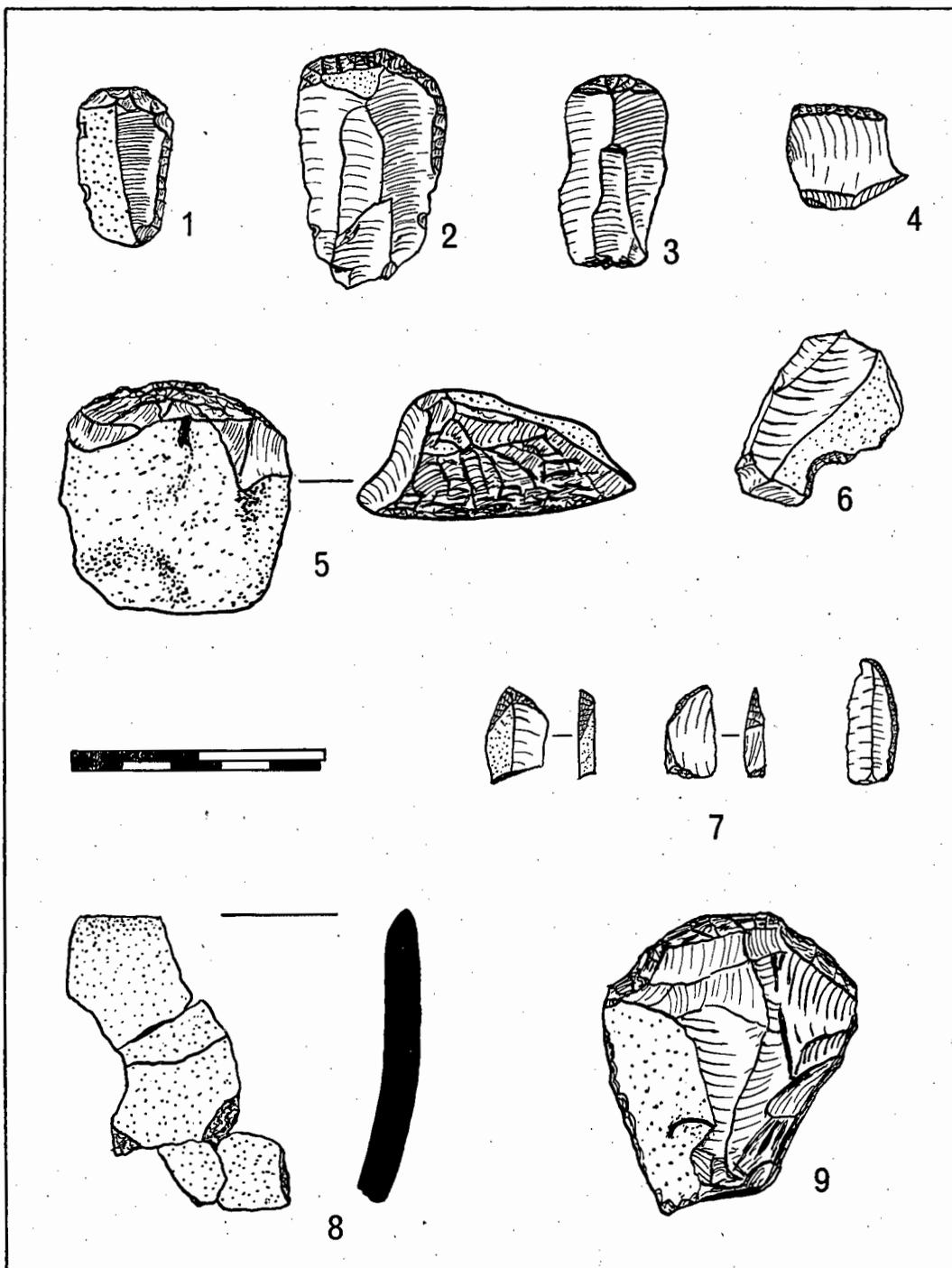


Fig. 4. Cultural material from Oudefontein I: 1. Side and end scraper. 2. Side and end scraper. 3. End scraper. 4. Small convex scraper. 5. Core hammer. 6. Notched scraper. 7. Backed blades. 8. Pottery. 9. Convex scraper.

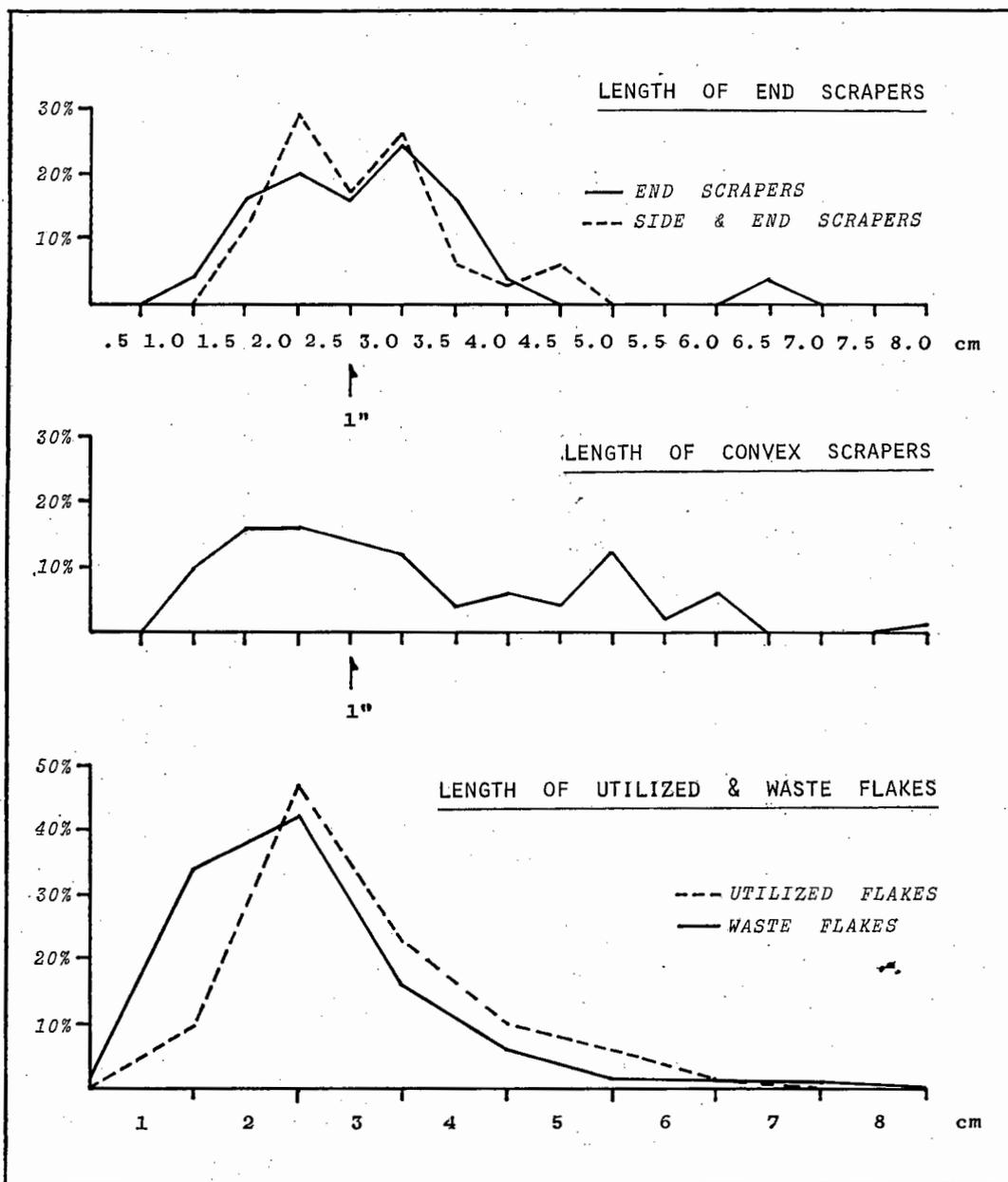


Fig. 5. Graphs showing the length distributions of various artefact classes.

Grindstones

None of the grindstones recovered was complete. Six fragments of upper grindstone were found and one fragment of a lower grindstone.

Waste

Waste Flakes

This class consists of all whole flakes that do not show signs of utilization. They may not all have been regarded as 'waste' by their makers but in view of the fact that they cannot be seen to have been used they are classified as waste for the purposes of this analysis.

Cores

Only 25 cores were recovered. Of these 8 were microblade, 4 blade and 13 miscellaneous cores.

Chips and Chunks

All material that was not sorted into any of the classes listed above was rated as 'Chips and Chunks'.

DESCRIPTION OF NON-LITHIC MATERIAL

Pottery

A total of 37 potsherds (including 2 rim sherds) was recovered. They are all very small—few being more than 2 cm in length. All but one are of a similar colour and texture and so it is impossible to know how many vessels are represented. The exception, being lighter in colour, is clearly from another type of vessel. Ten of the sherds can be fitted together to form two fragments of five sherds each but the two fragments cannot be joined together, so it is impossible to be sure if they are from one or two pots. The colour and texture however suggest that they may both belong to the same pot. One fragment has a section of rim preserved on it and has been illustrated in figure 4, No. 8. It is portion of a shallow straight-sided pot. The sherds have a dark reddish brown exterior and a black interior. There is no burnish and small amounts of grass can be seen in the temper. There is no sign of decoration on any of the sherds.

Ostrich Egg-shell Bead

Only one bead was recovered. It was bored through from one side only and is 6.5 mm in diameter.

Specularite

A single fragment of specularite, 11 mm long, was recovered. Specularite is unknown in this area and must have been brought to the site by some human agency.

RAW MATERIAL

Lydianite was by far the most important raw material used. Of the shaped tools only ten pieces were made on chert or agate (1 end scraper, 2 small end scrapers, 1 adze, 3 small convex scrapers and 3 backed blades).

The high proportion of lydianite can probably be accounted for by the fact that near by there is an outcrop of this raw material (fig. 1). The lydianite

from this outcrop is distinctive in that it has lighter bands and patches that contrast with the otherwise dark colour of the rock. A large proportion of the lydianite from the L.S.A. site clearly came from this source.

THE IDENTITY OF THE L.S.A. CULTURAL MATERIAL

The cultural material from Oudefontein I was labelled 'Smithfield B' by Van Riet Lowe (1929) but it has been shown (Inskeep, 1967) that the early definitions of the Smithfield are not satisfactory and cannot be regarded as acceptable by modern standards. Any identification of this assemblage on the basis of Smithfield A, B or C must therefore be regarded with the greatest caution.

In looking for comparative material against which to evaluate Oudefontein I it became clear that the only well-documented work on the L.S.A. in this region is that done by Sampson on the Orange River Project (Sampson, 1967*a, b, c, d*). On that project Sampson developed a stratigraphic sequence for the Middle Orange River consisting of six phases and one transitional phase. He has emphasized that this framework is not meant to be an attempt to establish a new terminology for the L.S.A. but is merely a provisional scheme for the description of his assemblages. This scheme is, however, the only well-defined framework for the L.S.A. in this region and must now be regarded as the starting-point for the evaluation of any new assemblages.

Sampson's (1967*a*) tool types have therefore been used in the analysis of Oudefontein I so far as they are represented. Many of his types not represented have been left out of the Table. However, enough of his types have been retained to allow the comparison of Oudefontein I with the various phases in the sequence.

The main features of Oudefontein I may be summarized as follows:

1. Tools are dominated by various end scraper classes (40.3%).
2. Backed elements are rare.
3. *Outils écaillés* are absent.
4. Small convex scrapers occur but are made predominantly on lydianite.
5. Pottery is present.
6. Worked bone is absent.
7. Chert and agate form a very small proportion of the raw material.
8. There are few tool types.
9. There is a large number of utilized flakes.
10. There is a large number of convex scrapers.

These features taken in combination coincide very closely with Sampson's descriptions of those assemblages which he assigns to his Phase 6. Phase 6 assemblages have been recognized in two shelters: Glen Elliott (Sampson, 1967*c*) and Zaayfontein (Sampson, 1967*b*). Sampson's general description of the relevant assemblages can be summarized as follows:

1. Tools are dominated by various End Scraper classes at both sites.

2. Backed elements are rare at one site and absent at the other.
3. *Outils écaillés* are absent.
4. Small convex scrapers are rare in one case and absent in the other.
5. Pottery is present.
6. Worked bone occurs.
7. Agate and chert are rare.
8. There are only a few tool types.
9. Glass beads occur.

It can be seen that there is a close resemblance between the characteristics of Phase 6 and those of Oudefontein I. On this basis therefore Oudefontein I could be related to Phase 6. This would suggest that the Oudefontein I assemblage represents a sample from a very late stage of L.S.A. culture if the date of 235 ± 80 B.P. for Level III at Glen Elliott (Singer & Wymer, 1969) is at all representative.

However, despite the close coincidence between Oudefontein I and other Phase 6 assemblages, Oudefontein I has two important features that are not represented to the same extent in Phase 6. These are the large numbers of convex scrapers (including the lydianite small convex scrapers) and utilized flakes. As already pointed out, the lydianite small convex scrapers have no parallel in Sampson's assemblages and can therefore not be explained at present. The large number of utilized flakes is also unparalleled in the assemblages from the shelter sites but it does compare with the proportions of trimmed and utilized flakes found at Zeekoegat 13 (Sampson, 1967d). It is impossible to suggest a connection between Oudefontein I and Zeekoegat 13 as the sites are far apart and also Zeekoegat 13 has been related to Phases 1 and 2. It is interesting however to note that Zeekoegat 13 is the only open site published by Sampson for the L.S.A. in the Middle Orange River sequence. It is possible that the high percentage of utilized flakes may be the result (or part of the result) of an occupational variation associated with open sites. It is not suggested that Oudefontein I proves anything, but the possibility must be given consideration. Sampson's sequence takes no account of the existence of occupational variations and so these similarities between assemblages from comparable situations must be regarded as important enough to raise the whole question of the identification of occupational variations. It stands to reason that different activities were carried out in shelters and on river banks and these must be identified and described.

Certain reservations must thus be expressed when relating Oudefontein I to Phase 6. It is necessary to relate new assemblages to Sampson's sequence, for it is the only well-defined one for the region, but it is also important not to lose sight of the fact that the sequence does not make provision for any occupational variations that may exist. An assemblage can therefore not be expected to fit into the sequence exactly, because it may be the result of any of a variety of unknown occupational and activity patterns which need not necessarily leave similar remains. Oude-

fontein I differs enough from other Phase 6 assemblages to suggest that it may be the remains of a different type of activity. The fact that it is related to Phase 6 on the basis of Sampson's criteria must therefore in no way be allowed to submerge the real differences that exist.

The undertaking of a variety of different activities is basic to all human culture and this must be reflected in the archaeological remains of those activities. An important priority in the study of prehistoric society is the realization that people did different things to different degrees at different times and places and this realization must be incorporated in any scheme that attempts to give dimension to past human cultures.

CONCLUSION

The Oudefontein I assemblage has been described in order to give some indication of the nature of the L.S.A. cultural material that occurs in such profusion in the area of the burial ground near OFD. 1.

The cultural material is apparently related to Phase 6 of the Middle Orange River L.S.A. sequence, but the system of analysis is too broad to give any indication of the type of activities carried out at the site.

The abundant L.S.A. cultural material as well as the many graves and the stone-walled settlements indicate that this particular section of the Riet River was the focus of human activity from late Stone Age times until relatively recently.

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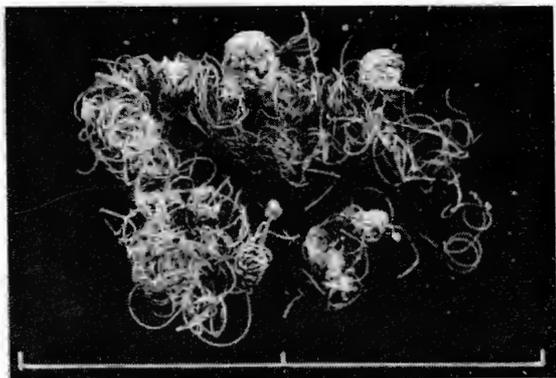
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Plate IIIA. Burial 1, lower stones filling the lower part of the grave shaft from the top of the hard layer to just above the skeleton.



Plate IIIB. Burial 1, position of skeleton and shape of lower part of grave shaft. Scale is half metre.



B

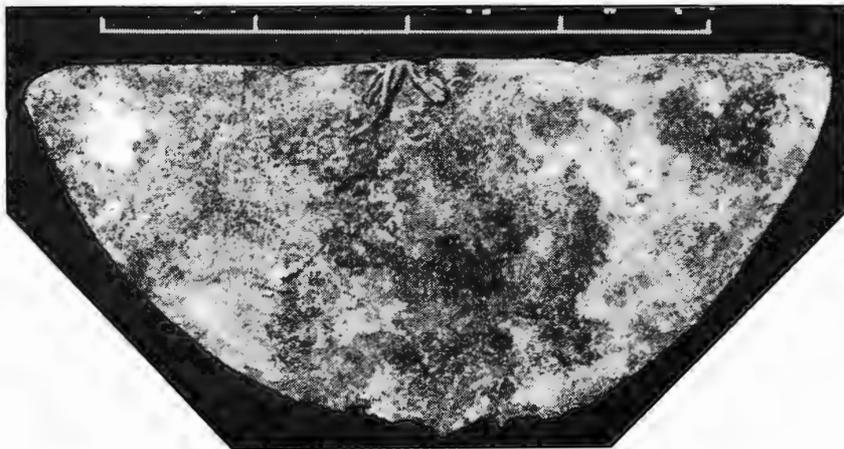


A

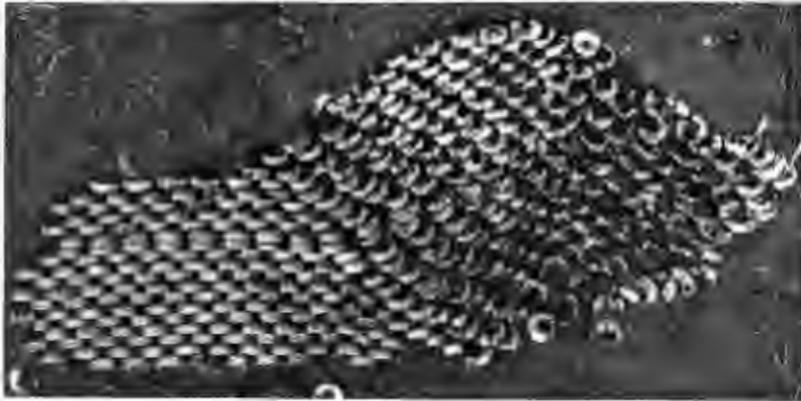
Plate IVA. Burial 1, bead headband below copper pendant and skull. Hair and skin preserved above the pendant. Scale of centimetres.

Plate IVB. 'Peppercorn' hair matted with specularite powder. Scale of centimetres.

Plate IVC. Copper pendant with strings (top centre) preserved. Scale of centimetres.



C



A



Plate VA. Surviving portion of ostrich egg-shell bead headband. Near the centre are two rows where the beads are opposite each other.

Plate VB. Burial 2, position of skeleton and some of the lower stones. Scale is half metre.

B