

A preliminary report on settlement layout and gold melting at Thula Mela, a Late Iron Age site in the Kruger National Park

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Archaeological investigations at a Late Iron Age stone-walled hill site, Thula Mela, near the Luvuvhu River in the Pafuri area of the Kruger National Park, have produced evidence of gold melting. The recovery of two fragments of pottery crucibles with the remains of slag and gold globules and three gold beads from a test trench in a midden at Thula Mela represents the first direct evidence of indigenous gold melting in South Africa. From radiocarbon dates it was established that this site was occupied between the fifteenth and early seventeenth century AD.

Key words: archaeology, Late Iron Age, Kruger National Park, settlement patterns, indigenous gold melting.

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Introduction

Archaeological research in the Kruger National Park

Over the past few decades a number of research projects on the presence of human groups in the present Kruger National Park during the Stone Age, Iron Age and historic period have been undertaken by various institutions (Eloff & De Vaal 1965; Eloff 1966, 1979, 1980a, 1980b, 1990; Meyer 1986; Plug 1988). From these it became evident that more detailed information on the settlement patterns of Iron Age people in this area was necessary before any in-depth archaeological studies could be undertaken. A lack of knowledge about settlement layout during the Late Iron Age, particularly the stone-walled complexes, was identified. A research project was initiated with the aim of documenting the settlement layout of Iron Age sites in the Kruger National Park. This is a long-term and extensive project which emphasises the surveying and mapping of the layout of Iron Age sites with the focus on settlement patterns. The objective of the survey is to establish a basis for more detailed archaeological investigations.

In the early 1960s research at the site of Makahane near the Luvuvhu River revealed

the existence of a large hill-top ruin with extensive stone walling (Eloff & De Vaal 1965). As a result of this the present project commenced with a survey of the Pafuri area in the most northern part of the park since the localities of a few other stone-walled sites in this area were already known (Pienaar 1990). A number of sites were surveyed and mapped during two field work periods of ten days each. All the investigated sites are located on hill-tops and typified by stone walling. The settlements on Thula Mela (22°25'50"S; 31°11'40"E), Matjigwili (22°35'49"S; 31°10'35"E) and Makahane (22°29'15"S; 31°03'30"E) were surveyed and mapped in more detail. These three sites exhibit similar settlement features, e.g. extensive stone-walling and stone-built enclosures and division of the layout of the settlement into various residential areas. The location and settlement organisation of these three sites are very similar to those of sites described by Huffman & Hanisch (1987) as typical of the Zimbabwe Culture Pattern. The Shona word *muzinda* (Huffman & Hanisch 1987) and the Venda word *musanda* (Loubser 1988) are the terms used to denote a chief's court or the hill-top stone-walled enclosed residential area of a ruler. In accordance with Huffman and Hanisch the term *muzinda* will be used in this discussion as the settlement on Thula Mela most probably dates to the period before

the consolidation of the Venda nation. The *muzinda* symbolised prestige and provided protection and ritual seclusion. The major function of similar stone walls from this period was to demarcate the settlement into various areas and to separate the residential area of the ruler from that of the commoners. The location of the residential area of commoners provided further protection to the *muzinda* although no extensive stone-walling occurred (Huffman & Hanisch 1987).

The Zimbabwe Culture Pattern settlements reflect social, economic and political power and a stratified society. In the ruins of the Zimbabwe Culture Pattern, political power and wealth can be inferred from the relative size of the settlement as well as the spatial organisation. Huffman & Hanisch (1987) distinguish a hierarchy consisting of five levels for stone-walled settlements of the Zimbabwe Culture style in the Limpopo Basin. This hierarchy is based on the size and layout. Levels 1 and 2 typify dwellings of family heads and ward headmen, Level 3 that of petty chiefs, Level 4 the settlement of senior chiefs with Level 5 representing the highest political authority of paramount chiefs. The site of Dzata in the Nzhelele Valley in Venda is the only settlement south of the Limpopo which developed into a level-5 capital (Huffman & Hanisch 1987). Apart from a difference in size the level-5 site at Dzata may be chronologically later than the level-4 sites (Loubser 1988). In his classification of stone-walled sites in the Soutpansberg area Loubser (1988) distinguishes five settlement types. The Zimbabwe Pattern settlements are built on slopes and on hills. Stone-walling occurs in the form of semi-circles and irregular enclosures with regularly coursed walls (Loubser 1988). From preliminary investigations the location, settlement layout and extent of Thula Mela seem to conform to that of a level-4 site of a senior chief in the Zimbabwe Culture Pattern.

Although Matjigwili is smaller than Thula Mela, extensive stone walling and a similar settlement organisation are present. The main area is situated on a plateau on the eastern

side of the hill with a large monolith immediately to the east of the *muzinda*. The stone walling near the monolith is built with regular sandstone slabs similar to the evenly coursed walls at Thula Mela. As at Thula Mela semi-coursed walling again predominates. A well-preserved stone wall is found near the cliff line of a small koppie. This is the highest point overlooking the western access. This wall is similar to the wall on Thula Mela which was probably utilised as a look-out post by the 'eyes' of the chief.

In 1963 the archaeological site on Makahane hill was investigated by Eloff and De Vaal. At that stage oral ethnohistoric information on the 18th century Lembethu ruler, Makahane, who was killed and buried at this locality, was still available. Descendants of Makahane used to visit the site up to the middle of the 20th century to offer sacrifices and pray at his grave. Makahane Hill is situated near the confluence of the Luvuvhu and Mutale rivers with the *muzinda* overlooking the Luvuvhu. The commoner area is on the eastern and western slopes of this large hill with the *muzinda* of the chief situated on the hill-top. Makahane is typical of a level-4 site (Huffman & Hanisch 1987). Eloff & De Vaal (1965) were of the opinion that their investigations were not detailed enough to furnish a complete report on the site. From ethno-historical investigations it seems that the site of Makahane was occupied from the seventeenth to the eighteenth/early nineteenth century (Eloff 1966).

Preliminary results of the Thula Mela investigation

The environment

The project commenced with a survey of the hill-top site on Thula Mela. On this hill extensive stone walling was identified more than twenty years ago. Thula Mela is a fairly large koppie (Fig. 1) located within sight of the Luvuvhu River. The veld type is *Adansonia digitata/Colophospermum mopane* Rugged Veld (Gertenbach 1983). The following trees are abundant: *Adansonia digitata*, *Terminalia prunioides*, *Commiphora* spp.,

Sterculia rogersii and *Kirkia acuminata* (Coates Palgrave 1988). There is evidence of intensive game utilisation of the veld and the stone walls exhibit much damage from fallen trees and trees growing into the walls.

Features of the settlement

The site was surveyed and mapped during 1990 and 1991. The following areas have been preliminarily identified: (Fig. 2)

Entrance to the enclosed main area

A large monolith of sandstone is situated near the best-built walls at the main entrance to the settlement (see Fig 3). The circumference of the monolith is 104 cm and its height 65 cm. A small monolith with a height of 30 cm and a circumference of 40 cm is built into a section of a wall. An undecorated clay pot with a diameter of 20 cm was found in a covered position in the wall near this monolith. A large baobab is situated in the centre of this entrance with stepped terraces built on both sides and a stone staircase immediately to the south of the tree. On the higher plateau of the entrance the remains of several huts can be seen.

Two types of stone walling have been identified. The wall at the entrance and other main walls are built with more rectangular sandstone slabs which allows for more regular coursing. The second kind of semi-coursed walling is built with irregularly shaped sandstone slabs and is therefore coarser and more uneven and represents the predominant building technique at the site. The even planes of the stone slabs are built into the outside of the perimeter walls giving an impression of regular coursing whereas from the inside this is not the case.

The muzinda at Thula Mela

Extensive stone walling occurs on the highest part of the hill with perimeter walls surrounding a number of enclosures of varying shapes and sizes. The building technique used for the walls at Thula Mela is typical of that found at many Iron Age stone settlements where the walls are built with a broad base, tapering towards the top. The walls measure approximately 50-60 cm across the top and have an inside height of 70 cm to 100 cm. Viewed from the outside the walls appear much higher as a result of the steep slope of the terrain. The walls could originally have been considerably higher as there are large quantities of fallen stone next to them. This area

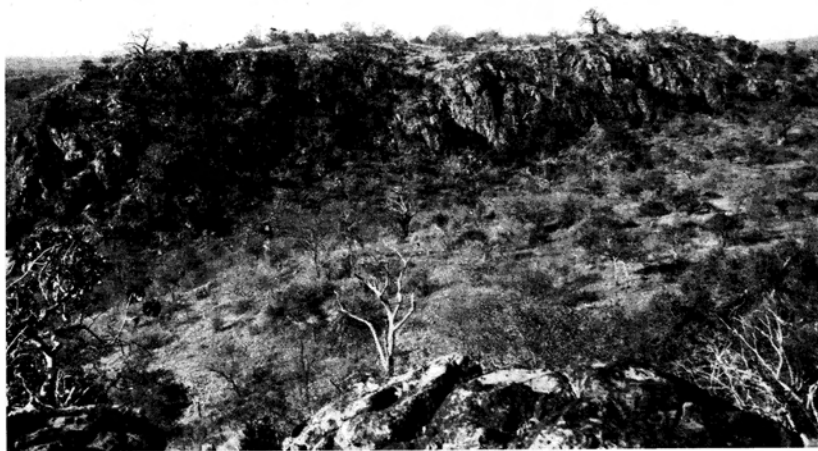


Fig. 1 Thula Mela hill from the south-west

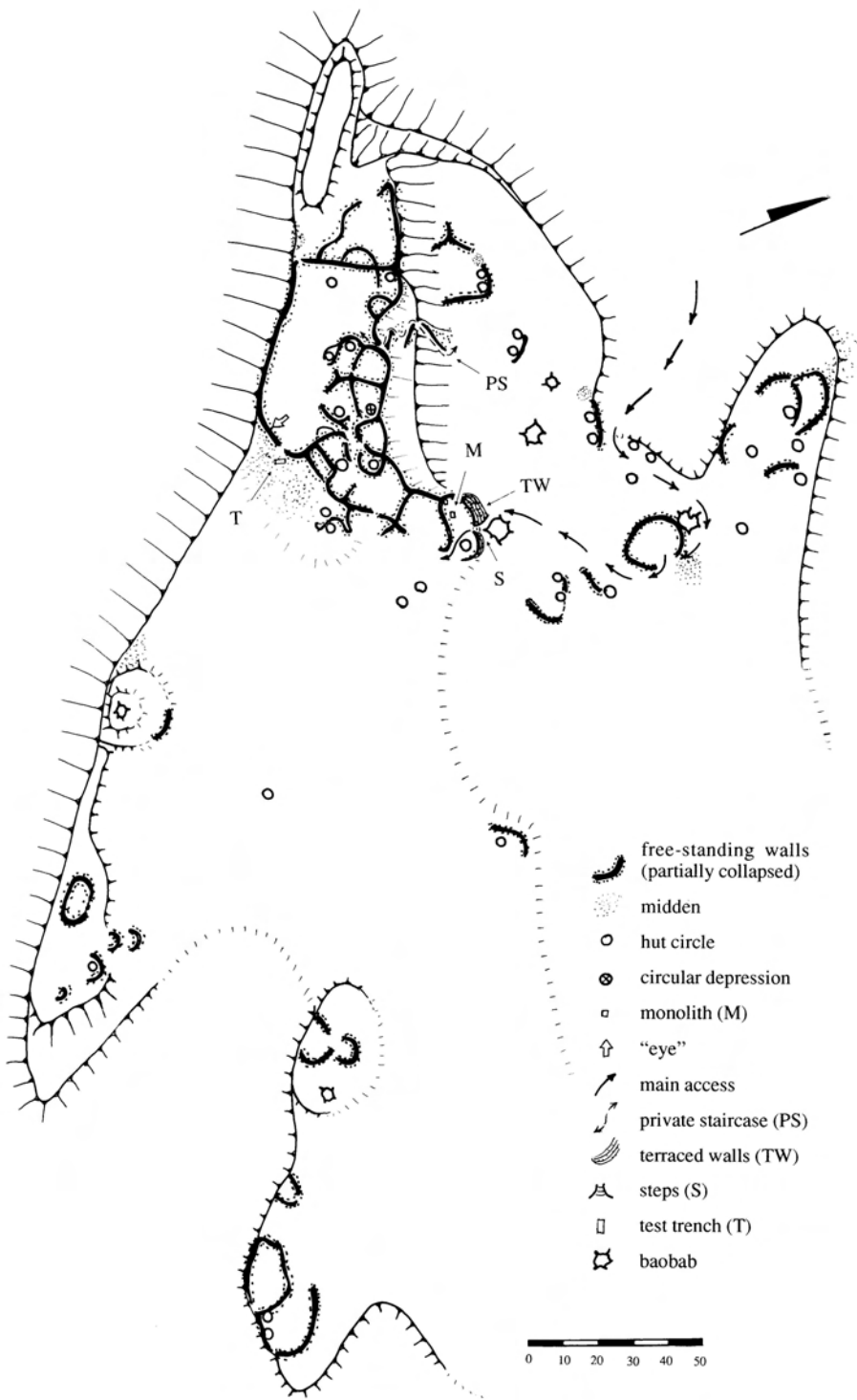


Fig. 2 Settlement layout on Thula Mela

represents the main residential complex and private court of the ruler where important social and political activities took place. Although most of the stone walls have partially collapsed, the main layout and various entrances can still be identified. The stones in the southern perimeter wall near the edge of the precipice have been used with the even planes facing outside, and from the remaining section of this wall it is evident that it was finely built. If the amount of fallen stone is taken into account this wall could originally have been up to about two metres in height. When the settlement of Thula Mela is approached from the southern plains this particular wall would have been the most prominent visible feature. Similar structures were used as a look-out and manned by guards called the 'eyes' of the chief (Huffman & Hanisch 1987). On the southern edge of the settlement the steep hill forms a precipice which makes a southern access to the *muzinda* practically impossible. A steep slope on the southern edge of the royal area also makes access to the *muzinda* very difficult. A private staircase in the northern perimeter walls has been tentatively identified. The perimeter walls of the settlement follow the highest line of the hill-top.

A large circular depression, which is probably a grain bin, occurs adjacent to the enclosure provisionally identified as the chief's residential area. It measures three metres across, is plastered with clay and has the remains of a bevelled edge at the rim. The clay continues vertically for approximately 40 cm after which a hard, gravelly layer is found. A grinding stone is positioned on the edge.

A number of midden deposits are situated outside the perimeter of the stone walls of the main royal area. These vary in size and have various objects of cultural significance on the surface.

The central plateau settlement and stone walling on the western boundary

The plateau on the hill shows a gradual incline and slopes from south to north and from west to east. The larger part of the settlement is found across this area and many low connecting stone walls and hut circles of stone can be identified. The most probable main access route to the central area seems to have been from the west and a number of huts are positioned on either side of this long, winding

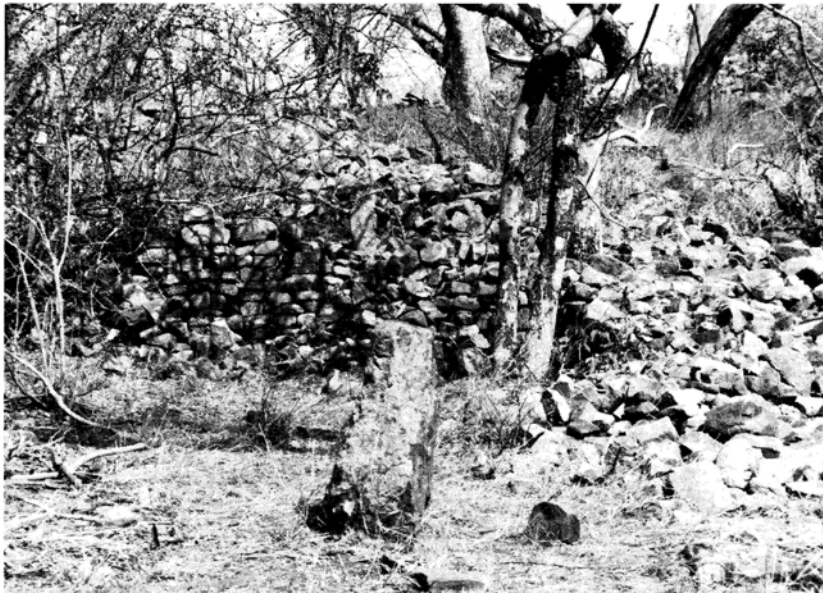


Fig. 3 Monoliths

access leading towards the assembly place and from there to the staircase at the great baobab and past the larger monolith towards the *muzinda*. Directly north of the stepped main entrance to the *muzinda* is a large circular stone structure with uneven stone coursing and a cross section of approximately 16 metres north-south and 13 metres east-west. A wide entrance is situated on the eastern side. A fragment of Chinese blue-on-white porcelain was found on a large midden east of this stone circle. This structure is representative of the general assembly area of a Zimbabwe Pattern settlement as distinguished by Loubser (1988) at Tshitaka-tsha-Makoleni and Tshaluvhimbini in Venda. To the north and south of this a number of hut circles can be seen and many of these have low connecting stone walls. From the preliminary investigations two types of hut structures can be positively identified. There are remains of *daga* hut structures, some with bevelled curbs, as well as a circular *daga* hearth. A number of upper and lower grinding stones in the plateau area, as well as a couple of lower grinding stones built into the southern boundary walls, were observed.

Access to the settlement

About 500 metres to the north-west of the settlement a short semi-circular stone wall is found on a lower lying koppie. This observation post overlooks the river valley and the main access route from the north-western baobab valley to the hill. Another possible access is on the eastern side of the settlement where a number of stone walls are found in conjunction with hut circles. The walls represent the only substantial stone walls in the central plateau area and their location indicates that they could have functioned as a vantage point. It is possible that different phases of building or settlement could still be identified at Thula Mela. A more detailed investigation of the layout is therefore necessary.

Stone cairn and other features

In the southern plain area at a distance of approximately 1,5 km from Thula Mela is a

large cairn of stones. The stones are much larger than the ones usually found in the stone cairns known amongst the Nguni as *izivivane*. A number of dolly holes were observed in sandstone slabs in the vicinity of the cairn. The cairn is similar to the one on the old trade foot-path north of the Malonga fountain, east of Thula Mela (De Vaal 1990). Although the precise function of these cairns is unknown, they probably are significant with regard to the old trade routes.

Surface Survey and Excavation

During the survey conducted in 1990 evidence of imported goods in the form of two different species of perforated sea shells and a piece of blue-on-white porcelain was found at Thula Mela. The perforated shells, used for decorative purposes, were identified as belonging to two separate species. The larger one, *Nassarius kraussianus* (Dunker 1846), is found from Namaqualand to Mozambique while the smaller is an Indo-Pacific species identified as *Natica gualteriana* (Récluz 1944) found between Natal and Port Alfred. The porcelain fragment was identified as provincial Chinese porcelain from the late seventeenth/beginning eighteenth century. According to Summers (1969) "Nankin" Blue and White was the most abundant of the imported ceramic wares found in Zimbabwe with the bulk of these identified at Khami and Dhlo Dhlo, dating to the sixteenth and seventeenth centuries.

During the investigation of Makahane it became evident that many similarities exist between the layout of this site and the settlement on Thula Mela. A test trench of 100 cm x 50 cm was sunk in a midden at Thula Mela to a depth of 1,2 metres. The deposit was excavated in arbitrary layers of 10 cm until sterile soil was reached. Preliminary investigation of the excavated fauna revealed the presence of a few species of game with domesticated animals represented by cattle (*Bos primigenius* f. *taurus* Bojanus, 1827) and *Ovis/Capra* (sheep/goat) remains. The pottery sample from the test trench is too small for classification purposes. Some of the potsherds found are decorated and others are

highly burnished. Slag from metal production, clay spindle whorls (used as weights for spinning cotton thread for weaving), the remains of iron and copper wire bracelets coiled around a core of organic material, perforated sea shells, a cowrie shell, sections of a carved ivory bangle and different kinds of beads were amongst the excavated material. The beads include imported glass beads, ostrich egg shell (*Struthio camelus* Linnaeus, 1758) beads as well as some made from terrestrial snail shells (*Achatina* sp.). A pottery sherd with gold-containing slag was found in layer 5. One gold bead originated from layer 6 and two gold beads and another fragment of a pottery crucible with a number of gold nodules came from layer 7 (see Figs. 4 and 5). The gold and slag are presently being analysed with a view to determining the composition and possible origin of the gold.

Gold in the Iron Age of southern Africa

Three different types of gold beads, gold wire and bracelets made from gold wire, and foil and nails used to cover wooden objects were found at Mapungubwe in the northern Transvaal (Oddy 1984). Gold ornaments were also found during excavations at another level-4 site, Machedema, in the northern Transvaal (Huffman & Hanisch 1987). In 1983 a large globule of gold was found at Makahane by a National Parks Board official (see Fig. 6). According to analyses undertaken the techniques used in the manufacture of the gold found at Mapungubwe and Great Zimbabwe

are typical of indigenous workmanship (Oddy 1984). The same techniques were used to manufacture the gold objects from Mapungubwe, Great Zimbabwe and other sites in Zimbabwe, but only at Great Zimbabwe was a crucible fragment with remains of gold on it found (Oddy 1984). Apart from this, Thula Mela is the only other site where direct archaeological evidence has been found that gold was melted and worked on the site. Most of the gold artefacts from Mapungubwe and Great Zimbabwe came from unstratified contexts and Thula Mela is the only known undisturbed site with evidence of gold processing. Before the finds at Thula Mela, archaeological evidence suggested that after the abandonment of Mapungubwe in the mid-thirteenth century gold was of little importance to local groups.

It would appear from De Vaal's (1990) reconstruction of early trade routes that the settlement at Thula Mela was located near one of the important early trade routes from the interior to the coast. Archaeological data indicate that trade connections existed between India, Arabia, and, at a later stage, Portugal and the East Coast of Africa (Hall 1987; Summers 1969).

The dates obtained for Thula Mela (Table 1) place this site in an important trade period in southern Africa. From archaeological excavations it is evident that Mapungubwe was an important link in the interior and East Coast trade from the tenth to the twelfth century AD

Table 1
Radiocarbon datings on selected samples from the test trench in the southern midden

Analysis no.	Sample designation	¹⁴ C age (yrs BP)
Pta-5676	Layer 1 Thula Mela 1 - 10 cm in midden (bone collagen)	370 ±50 BP
Calibrated date 1516, 1584 or 1624 in the AD 1474-1643 range		
Pta-5658	Layer 7 Thula Mela 70 - 80 cm depth in midden (charcoal)	420 ±50 BP
Most probable calibrated age AD 1474 in the AD 1447-1516 range		
Pta-5659	Layer 11 Thula Mela 100 - 110 cm depth in midden (charcoal)	390 ±50 BP
Most probable calibrated age AD 1502 in the AD 1461-1636 range		

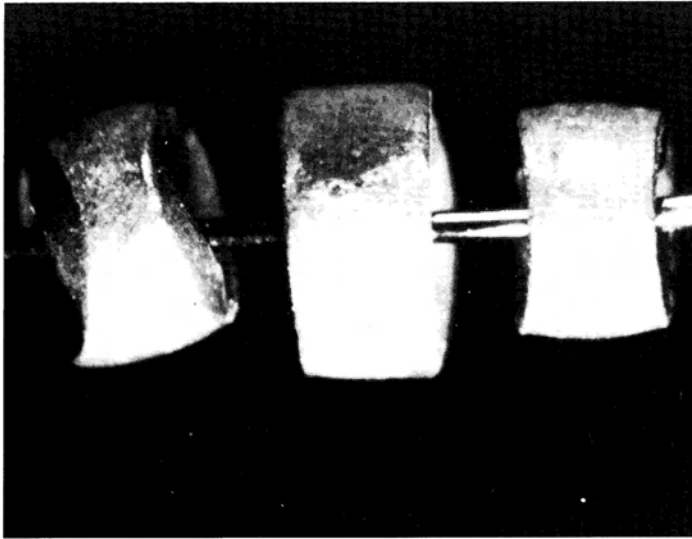


Fig. 4. Gold beads from Thula Mela: magnification 5x (Photographed by D. Miller)

(Eloff & Meyer 1981). For some time now it has been recognised that Mapungubwe is the place of origin of the Zimbabwe culture (Huffman & Vogel 1991). The decline of Mapungubwe was followed by the rise of Great Zimbabwe and its subsequent development into a main trading centre over a period

of two hundred years ending in the mid-fifteenth century (Huffman & Vogel 1991). After the decline of the Great Zimbabwe culture localised centres such as Khami and Dhlo Dhlo in Zimbabwe became politically and economically important and central in the Portuguese trade networks. According to

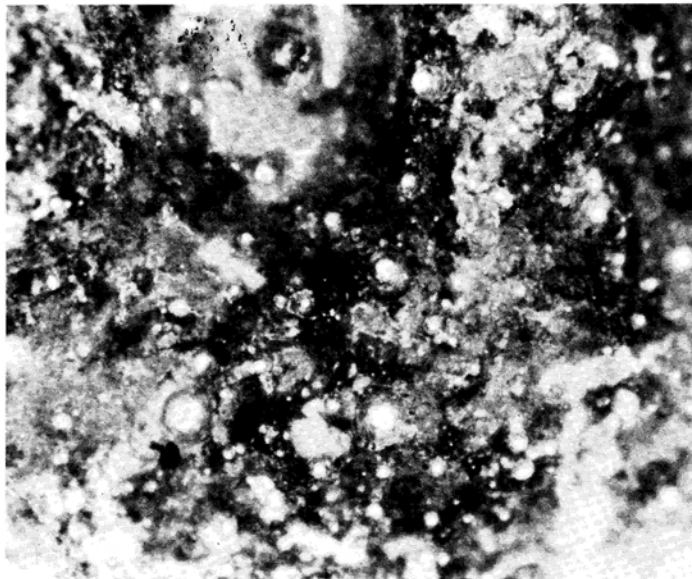


Fig. 5 Pottery crucible with gold slag from Thula Mela: magnification 3x (Photographed by D. Miller)

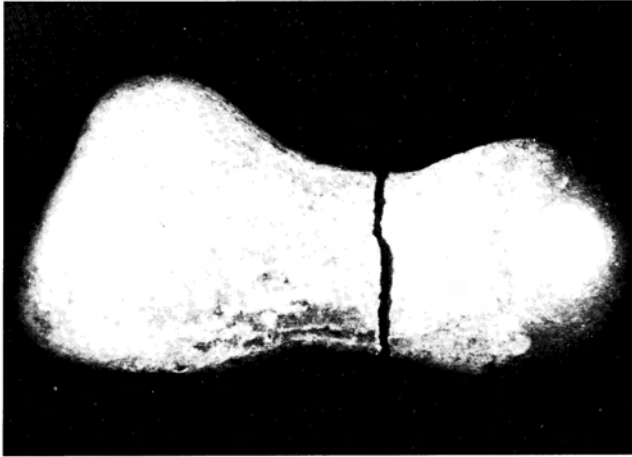


Fig. 6. Gold globule from Makahane: magnification 1,25x (Photographed by D. Miller)

an estimate by Summers (1969) between 15 and 25 million ounces of gold were mined in Zimbabwe. About the seventeenth century AD many of the gold mines in Zimbabwe became worked out, contributing towards the collapse of the gold trade by the end of the eighteenth century. Very little of this gold has been found at archaeological sites which means that the bulk of the gold was probably exported (Summers 1969).

Conclusions

From the investigations it is evident that Thula Mela, Matjigwili, Makahane and related sites represent politically and socially stratified settlements of the Zimbabwe Culture type. They are characterised by their elevated position and stone-walling demarcating the settlement into the residential areas of the ruler and the commoners. The spatial arrangement of these *mizinda* is not discussed as further detailed investigation is required. It would seem, however, that the stone-walled Iron Age sites in the Pafuri area of the Kruger National Park are very similar to settlements of the Zimbabwe Culture Pattern in Venda as described by Huffman & Hanisch (1987) and Loubser (1988). It is also probable that some of the stone-walled sites in the north of the Kruger National Park are related to Khami-

type sites in Zimbabwe. The state of preservation of the stone-walling of the *muzinda* at Thula Mela and Makahane suggests that the settlement of the former dates to an earlier period. This was confirmed by radiocarbon dating which positions Thula Mela in the earlier Khami period (from the fifteenth century onwards) whereas Makahane dates from the seventeenth to the early nineteenth century AD (Eloff 1990). The processing of gold in this region therefore extended over a period of at least three centuries. A number of gold beads and two pottery crucibles with gold-bearing slag indicate that the melting of gold took place at the site of Thula Mela. The gold globule found at Makahane could probably indicate that it too was a gold melting site. At Mapungubwe and Machedema in the northern Transvaal gold artefacts have been found, but Thula Mela and Makahane represent the only known Iron Age sites south of the Limpopo where indications of gold processing have been found. The presence of trade goods and the localities of these sites near ancient trade routes point to the significance of Thula Mela and related sites with regard to coastal trade. It is too early to draw any final conclusions but it is probable that the Torwa dynasty in Zimbabwe, who according to historic sources ruled from Khami (Loubser 1988), once extended to the south

of the Limpopo River and that Thula Mela represents one of its more distant outliers. On the other hand it may also be possible that Thula Mela was autonomous in its melting of and trading in gold. The archaeological investigations at Thula Mela, Makahane and related sites have demonstrated that more extensive and intensive research will have to be undertaken in this area. The sites of Makahane and Thula Mela are therefore important and can contribute towards our knowledge on the melting, working, utilisation and trading of gold in southern Africa.

Acknowledgements

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