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THE ARCHAEOLOGY OF PRECOLONIAL FARMING SOCIETIES  
IN THE SHASHE-LIMPOPO BASIN

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dominated the landscape. The first 900 years (the Early Iron Age) encompasses the initial expansion of these people. The second period from AD900 to 1300 (the Middle Iron Age) includes the evolution of the Zimbabwe culture, while the next 500 years (the Late Iron Age) encompasses the recent peopling of Southern Africa.

### **The Early Iron Age and the Spread of Bantu-speaking People**

We know from historical linguistics that the Bantu language evolved in the Nigeria/Cameroon border area in West Africa (Greenburg 1955). Although Greenburg's important classification has been refined, it has not been successfully challenged, and the debate now concerns how and when Bantu-speaking peoples moved from this linguistic homeland into the subcontinent.

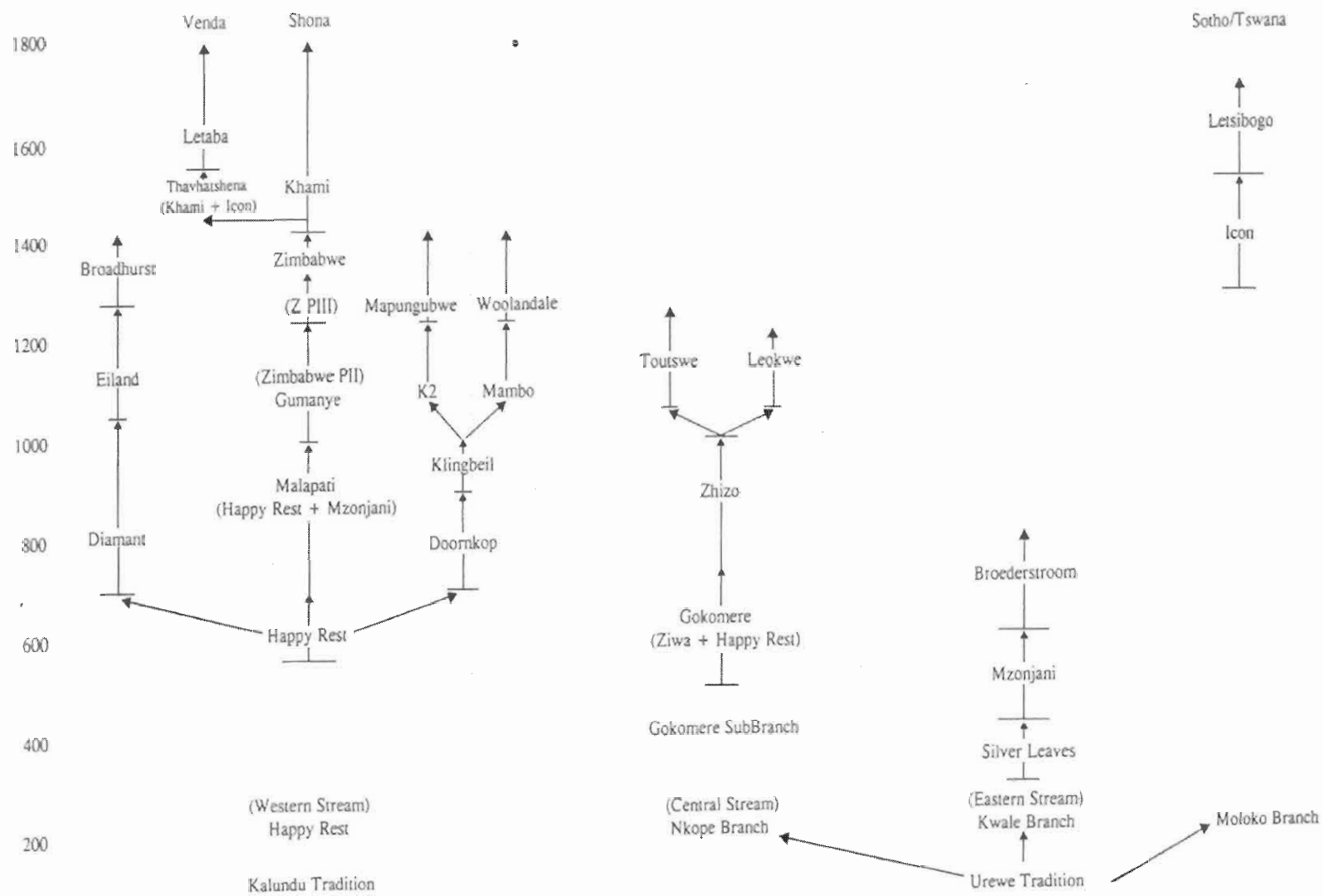
Generally speaking, at about 1000BC Western Bantu-speaking people moved into the Congo Basin as root crop agriculturists and oil palm horticulturalists (Vansina 1984). Sometime later, perhaps between 200BC and AD200, Eastern Bantu-speakers moved out of the Nigeria/Cameroon homeland as sorghum and millet cultivators, large and small stock herders and metal workers. Most of the Iron Age in Southern Africa involves groups of Eastern Bantu.

Archaeologists specializing in the Iron Age usually identify and trace the movements of these groups through ceramic style. On present evidence, two streams of movement of the Urewe Tradition represented by the pottery of the Kwale Branch (the 'eastern stream') and the Nkope Branch (the 'central stream') brought the first Iron Age people into Southern Africa (Fig. 1). A third stream, the Kalundu Tradition (or 'western stream'), characterized a slightly later movement (Phillipson 1979; Huffman 1989).

These three movements may have been originally caused, at least in part, by the increasing desiccation of the Sahara and consequent population increase in West Africa. Whatever the causes, climate played a role in the Iron Age prehistory of Southern Africa.

Because of their mixed farming way-of-life, Early Iron Age people chose to live in broken country with alluvial and colluvial soils that could be cultivated with iron hoes. Further, the local climate needed to be sufficiently warm and wet to allow domestic grains to

Figure 2. Iron Age culture-history sequence for the Shashe-Limpopo basin and adjoining areas.



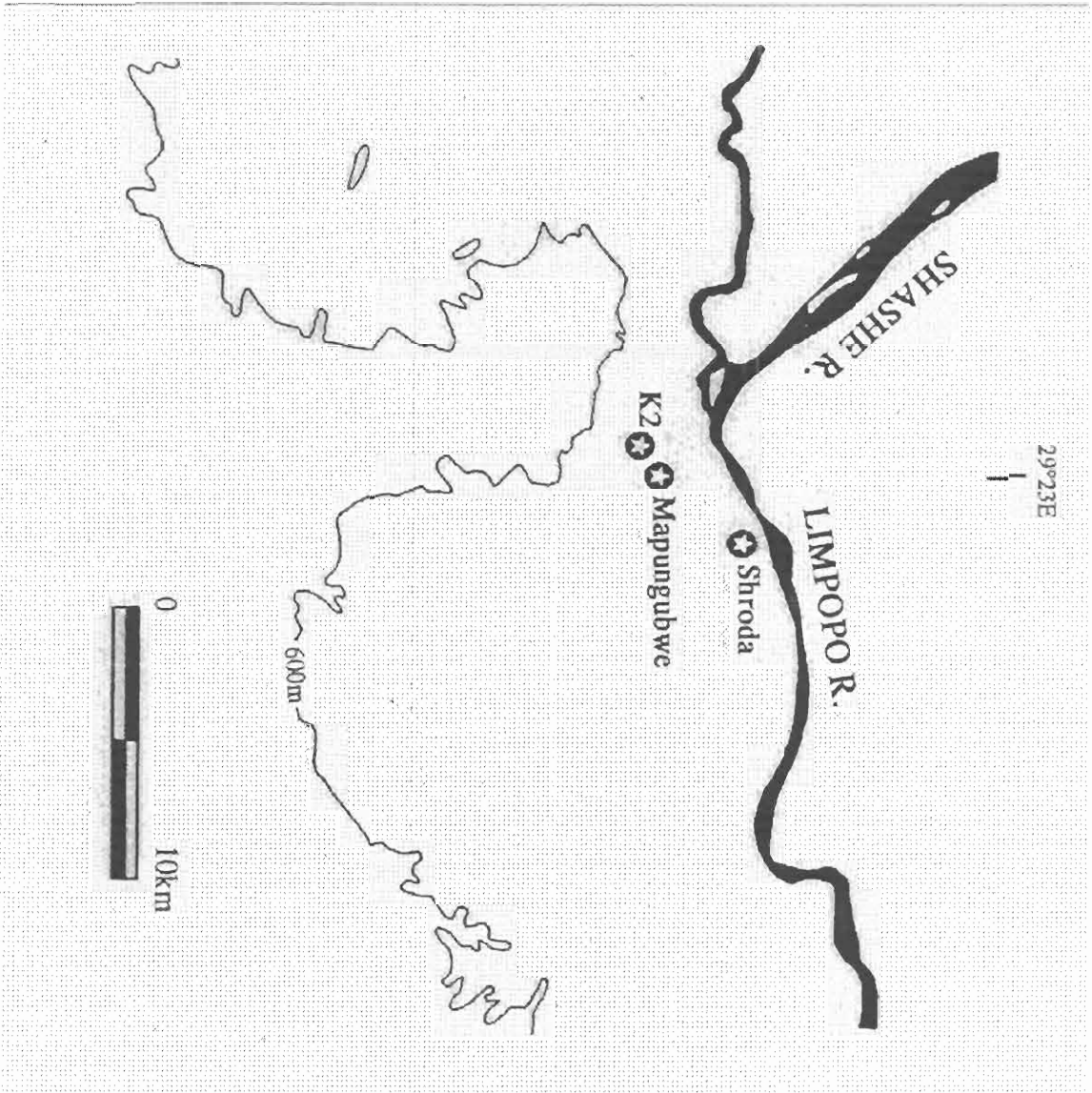


Figure 3. Location of Schroda, K2 and Mapungubwe.

glazed ceramics and cotton and silk cloths. The traders returned on the reverse monsoon to East Africa where they were taxed another time, and then they sailed down the coast to start the trade again (Fig. 5).

A recent study by S. Saitowitz *et al.* 1996, Saitowitz 1996) indicates that some of the glass beads found in the Shashe-Limpopo area probably originated in Egypt. The Red Sea must therefore be included in the Indian Ocean trade network.

Archaeologists in Mozambique have located some of the early coastal trading stations that supplied glass beads to the basin. Sinclair (1982) found sites in the Bazaruto Archipelago with Persian pottery as well as yellow, green and blue glass beads like those from Schroda. On present evidence, then, the Bazaruto area can be identified as the Sofala of early Arab documents.

### **The Middle Iron Age and the Origins of the Zimbabwe Culture**

According to the archaeological record, Schroda lost control of the interior portion of the trade at about AD1000 to a new group of people known as Leopard's Kopje. Among other things, this interpretation is based on the abrupt and massive introduction of Leopard's Kopje ceramics (Huffman 1978, 1984), the simultaneous abandonment of Schroda, and marked reduction of sites with Zhizo ceramics in the basin and throughout southwest Zimbabwe. In addition, a twofold increase in Zhizo-derived Toutswe ceramics date to this time further west in Botswana, the largest Toutswe sites were located on hilltops in defensive positions and the Motloutswé river became a boundary between the Toutswe and Leopard's Kopje areas (Denbow 1982, 1983, 1986). Clearly, these features of the archaeological record were the products of competition between two different groups of people. No disjunctions of a similar kind or magnitude exist in the archaeological record of southern Zimbabwe until the nineteenth century. Consequently, Leopard's Kopje can be identified with some of the ancestors of present-day Shona speakers.

The Leopard's Kopje people responsible for the takeover in the Shashe-Limpopo basin established their capital at K2 (Fig. 6), a settlement with the Central Cattle Pattern a few kilometres away from Schroda. At one time K2 was thought to have been a Hottentot settlement (Gardner 1955, 1958, 1963) and its affiliation with Bantu speakers was strongly

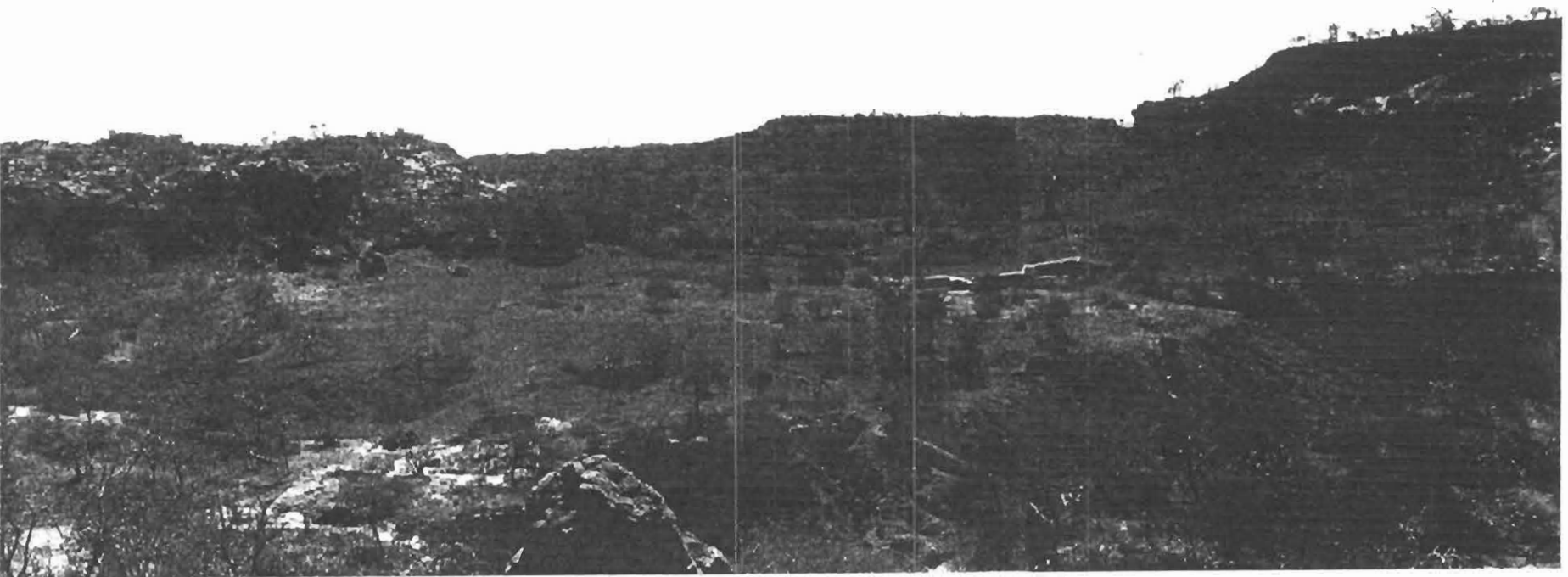


Figure 6. K2, the Leopard's Kopje capital from AD 1000 to 1220.

*Rattus rattus*, the common house rat, in the K2 levels at Pont Drift. Since the house rat is not indigenous to Southern Africa, Swahili dhows must have inadvertently transported it to the coast, and traders took it to the basin. Similar remains have been found in Late Iron Age sites along the Zambezi that were also involved with coastal trade.

As part of local dynamics, few trade goods reached the Toutswe area in Botswana, and K2 controlled the local network. Locally manufactured beads provide the best evidence for this internal trade. The people at K2 melted down some of the imported blue/green glass beads in clay moulds (Van Riet Lowe 1955; Davison 1973), fashioning them into a large cylinder known as a 'garden roller'. These distinctive items have been found in contemporaneous sites as far south as Moritsane near Gaborone (Denbow 1981 and pers. comm. 1981) and as far northwest as Tshaishe on the southern edge of Sua Pan (Fig. 7). In some cases, such as the Toutswe area, garden roller beads were the principal import. The wide distribution of these beads and limited distribution of others demonstrates the pivotal role K2 played in the trade network.

This pivotal role was also reflected in the large midden containing the external trade goods. Located next to the central cattle byre, it was associated with the men's court. The court midden in the Central Cattle Pattern comprises broken beer pots, ash from the council fire, remains of cattle slaughtered as fines or tribute, and the remains of wild animals shared among men or given as tribute to the chief. Alternatively, the central midden may be formed by refuse from all the families that use the court. Whatever the case, the magnitude of a court midden is directly due to the political following of the leader.

The great amount of trade items in the K2 midden shows that the leader's status had been enhanced by the trade wealth. At its peak, 1000 to 2000 people lived at K2, and it was two to three times the size of Schroda. This size represents another level of political authority (it was therefore a level-4 capital), and the leader at K2 was equal in status to a senior chief.

New work by J. Calabrese (1997, 1998, and in press) on Little Muck about 15 kilometres west of Mapungubwe indicates that the K2 chieftom incorporated some Zhizo people who remained in the basin. The Zhizo-derived pottery, called Leokwe, shows that, for whatever reasons, these people maintained their separate ethnic identity.

Besides the incorporation of other people, the general population of the basin increased during K2 times. This increase, in combination with the local control of the East Coast trade, helped to intensify social ranking and contributed to the development of a bureaucratic class. The evolution of this bureaucratic class and its associated worldview led in turn to the transformation of the Central Cattle Pattern into the Zimbabwe Pattern, best known at the famous site of Great Zimbabwe.

The Zimbabwe Pattern differs from the Central Cattle Pattern in that the organization of an ordinary village was distinct from that of a royal administrative centre. Within these centres the court was not associated with a cattle byre, elite people were buried on hills rather than in byres and prestige stone walls distinguished a hill-top palace where the leader lived in ritual seclusion. In comparison to the Central Cattle Pattern, this organization reflects a society with marked social distinctions (Huffman 1996b). Indeed, the essence of the Zimbabwe culture was class distinction justified by sacred leadership.

At one time the Zimbabwe culture was thought to have originated at Great Zimbabwe itself. Now, partly because of improvements in radiocarbon dating, we know that it originated earlier. The first radiocarbon samples from the basin were obtained by Gardner and submitted to the Yale Laboratory (Vogel in Meyer 1998). Two of them were run on charred seeds (either millet or sorghum), but the results were not corrected for isotope fractionation. If not corrected, however, tropical cereals produce apparent ages of over 200 years too young (Vogel 1969). For some years, then, archaeologists erroneously thought that Mapungubwe was contemporaneous with Great Zimbabwe and that it was probably an outpost.

Now we know that the Zimbabwe culture evolved in the Shashe-Limpopo basin and that Mapungubwe was the first Zimbabwe culture capital. Consequently, archaeologists now divide the culture into three chronological periods named after important capitals, starting with (1) Mapungubwe (AD1220-1290); then (2) Great Zimbabwe (AD1290-1450); and (3) Khami (AD1450-1820).

The evolution of the Zimbabwe culture is evident in a series of changes in the Central Cattle Pattern at K2 and Mapungubwe (Fig. 8). Most importantly, when the capital shifted to Mapungubwe, the leader moved on to the hilltop above the court while the majority of his people lived down below (Fig. 9). This is the first time in Southern Africa that a leader



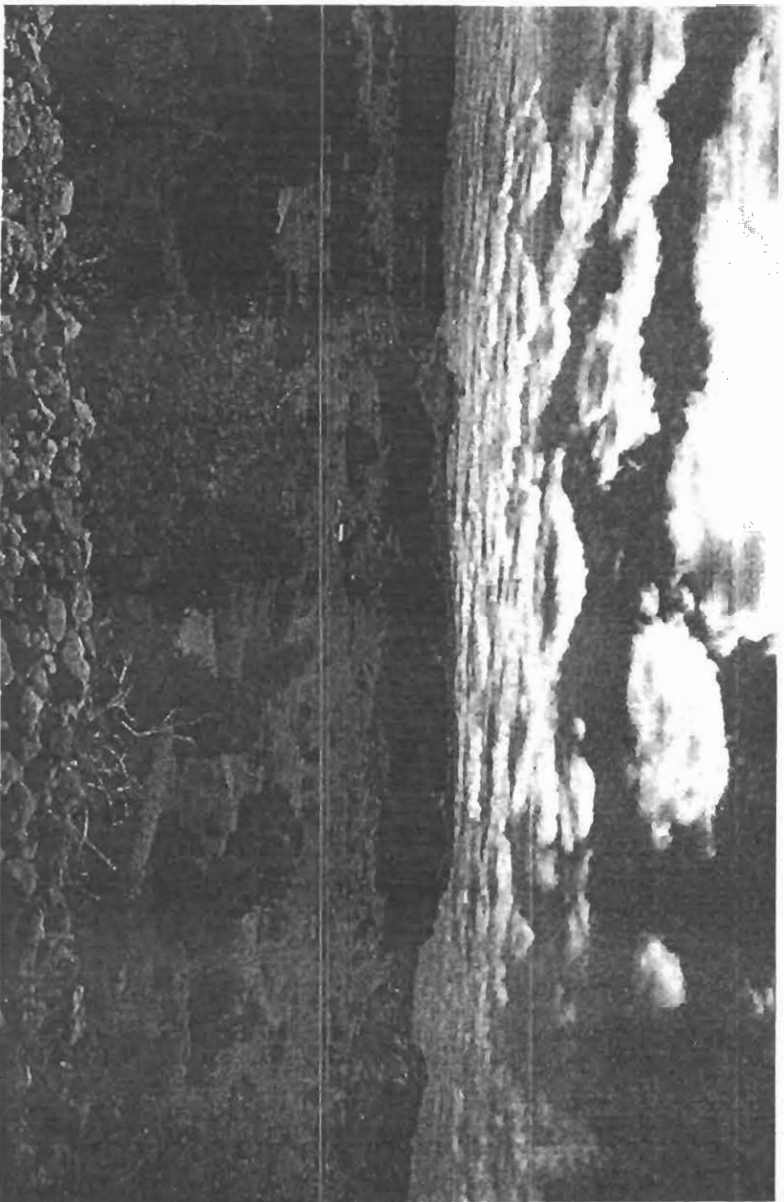
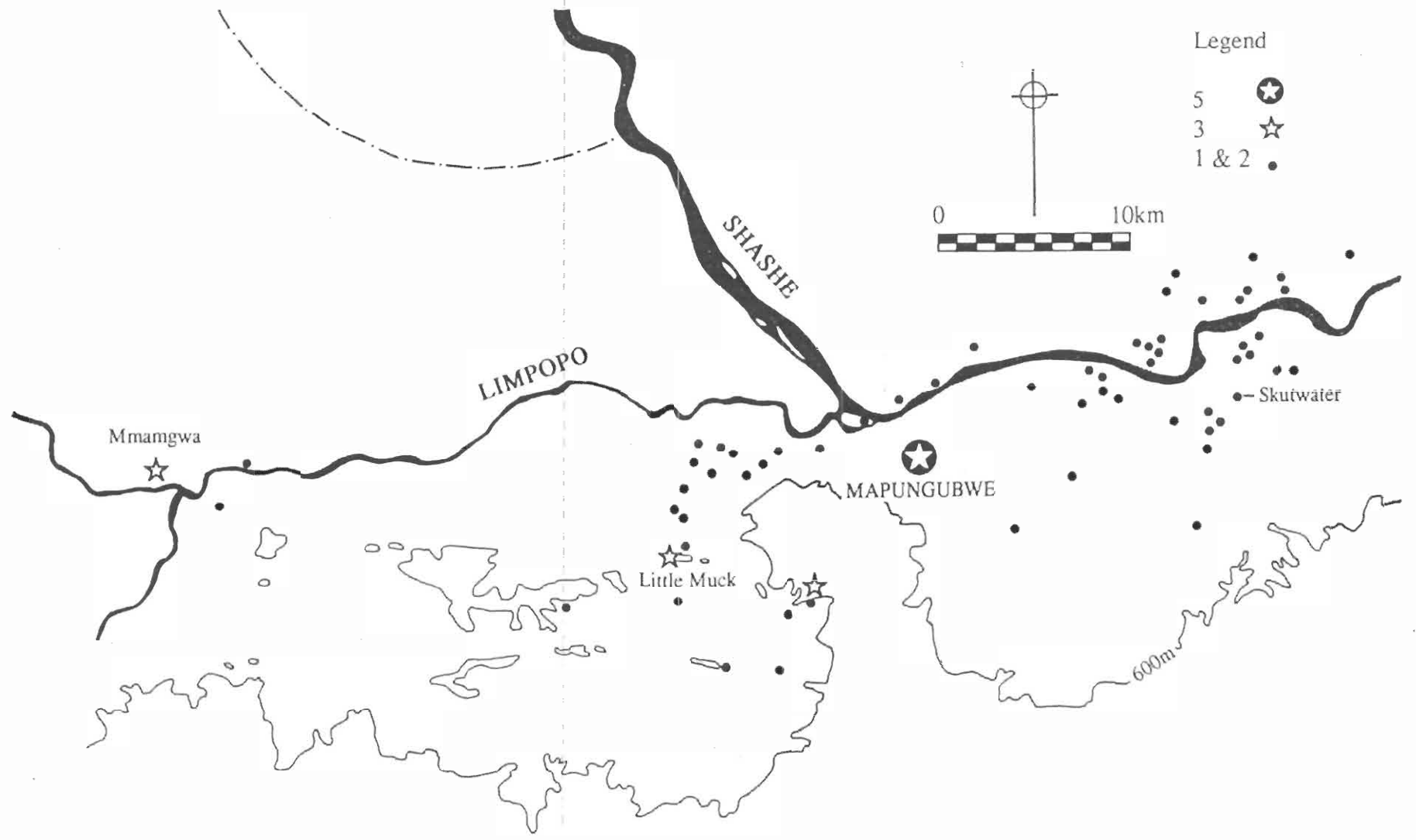


Figure 9. Mapungubwe, the Leopard's Kopje capital from AD 1220 to 1300



Figure 10. The Zimbabwe settlement pattern at Mapungubwe.

Figure 11. Part of the settlement hierarchy during the Mapungubwe period.



some areas it was no longer possible to cultivate traditional grain crops. As a consequence, Mapungubwe was abandoned, the entire basin was depopulated, and so was the Toutswe area further west in Botswana. Some Mapungubwe people moved south into the Soutpansberg (Loubser 1991), but the state disintegrated, and Great Zimbabwe became Mapungubwe's economic, cultural and political successor.

The particularly dry conditions at the beginning of the Little Ice Age help to explain the rise of Great Zimbabwe. Located along the south-east escarpment, Great Zimbabwe received whatever rain did fall, and it therefore had an ecological advantage over its competitors. With this advantage Zimbabwe people were able to seize the opportunity presented by the demise of Mapungubwe.

### **The Late Iron Age and The Recent Peopling of South Africa**

A short time later, for unrelated reasons, the first Sotho-Tswana and Nguni speaking people moved south from East Africa (Fig. 12). The ceramic clusters associated with each group, Moloko and Blackburn respectively, represent complete and abrupt stylistic disjunctions from Early Iron Age ceramic developments in South Africa (Huffman 1989). Further, there is some archaeological evidence for Sotho-Tswana and Nguni residence in East Africa during the Early Iron Age, and there is good independent corroborative linguistic support (Louw & Finlayson 1990; Huffman & Herbert 1994-5).

As a general pattern, Nguni speakers moved south into Natal and the Transkei, while Sotho-Tswana moved onto the plateau. The earliest facies on the plateau is called Icon after a farm south west of Mapungubwe (Hanišch 1979). Other Icon sites have been found on the nearby farm Armondale (Hall, pers comm), at Matoks on the Tropic of Capricorn (Fish, pers comm) and at Thavhatshena south of Louis Trichardt (Loubser 1991). Calibrated radiocarbon dates place this facies between AD1300 and 1500. At some sites Icon and Khami pottery occur together. To understand the significance of these occurrences, we must consider the wider Zimbabwe region.

Great Zimbabwe was abandoned between about AD1400 and 1450, probably because of political disruptions, and Khami near Bulawayo (Robinson 1959) became the next major power. It is not clear if the dynasty at Khami came from Great Zimbabwe or if a new dynasty

had taken over. Their competitors in the Mutapa state referred to them as the Torwa (stranger, foreigner), and Africanists have adopted this name (Beach 1980).

The Torwa state based at Khami was second in size only to Great Zimbabwe, and it must have controlled an area two or three times the size of the Mapungubwe kingdom (Fig. 13). Archaeological evidence indicates that the Torwa state controlled copper and salt deposits around the Makarikari pans to the west (Huffman *et al.* 1995) and that they traded for tin with Rooiberg, 500 kilometres to the south.

Archaeologists designate the Khami period by a few changes in material culture, most commonly by band and panel pottery (Robinson 1959) and check designs on stone walls. Zimbabwe and Khami commoner sites, however, are more difficult to separate because they both share the same few dominant ceramic types and the same settlement organization.

The distribution of pottery and stone walls with these characteristics show that several Khami groups moved south of the Limpopo River and established new chiefdoms in what is today the traditional Venda area. According to Venda oral traditions, various level-4 chiefdoms are associated with Khami-period palaces (Ralushai & Gray 1977; W. Fish. pers com ). These royal Zimbabwe settlements all have basal dates around AD1450, suggesting the chiefdoms moved south when Great Zimbabwe collapsed.

Oral traditions also indicate that these new chiefdoms were independent and of equal political status (Stayt 1931; Van Warmelo 1932, 1940). Significantly, the settlement evidence correlates with these traditions, for all the sites are about the same size, indicating independence and equal importance (Huffman & Hanisch 1987; Loubser 1991).

Many of these new chiefdoms incorporated the earlier Mapungubwe and Icon populations because ceramic evidence for interaction is present at a number of sites (Loubser 1991). Generally, Icon pottery occurs on Zimbabwe sites north of the Soutpansberg, while Zimbabwe/Khami pottery occurs on Icon sites south of the mountains. Significantly, provenance studies confirm this pattern based on style (Jacobson *et al.* 1995). Furthermore, at Thavhatshena, some vessels bore both Zimbabwe and Icon motifs. Somewhat later the two styles merged to form Letaba, the style associated with Venda-speaking people (Loubser 1991).

This is the ceramic evidence for the interaction that led to the creation of the Venda language. Within about 100 years, or three generations, Venda evolved out of Zimbabwe Shona, the Shona spoken by Mapungubwe people and the Sotho/Tswana spoken by the makers of Icon pottery (cf. Lestrade 1927; Wentzel 1983; Loubser 1991). The wide distribution of sacred leadership and class distinction, established by the earlier Mapungubwe people, must have facilitated the spread of this new language and identity. Presumably this new identity represented the desire of these people to separate themselves from the Zimbabwe culture north of the Limpopo River.

Several Khami-period ruins and associated commoner sites are also known in the Shashe-Limpopo basin. The ruins have been recorded on the farms Breslau, Pont Drift, Den Stat, Faure (Lathy pers comm.), Samaria, Schroda (Fig. 14), Weipe and on the island at the confluence of the Shashe and Limpopo (Huffman & Hanisch 1987). There are a few others on the north side of the Limpopo in Zimbabwe (e.g. Robinson 1960; Garlake 1967) and in Botswana. All were the palaces of sacred leaders at the level of petty chiefs (i.e. level 3). It is not clear, however, if they were district leaders under a senior chief elsewhere, for example to the south at Machedema (De Vaal 1943) near Waterpoort, or to the north at Khami, or if they were independent.

There are two small Khami-period platforms on Greefswald, one near K2 and the other near Mapungubwe. They represent a headman level of authority (level 2), and they would have been under the petty chief for the area.

Some other Khami sites in the area, such as the stone-walled complex on Faure and the commoner site on Edmondsberg in the Venetia Reserve (Lathy pers. comm.), contain Icon pottery. These sites then probably date to between AD1400 and 1500. Presumably, the basin did not participate in the formation of Venda identity, and therefore other Khami period settlements here could date later.

The various Khami states and chiefdoms were greatly affected by the European discovery of Southern Africa, especially north of the Limpopo. The Portuguese pursued a policy of divide-and-rule, introducing guns and changing the scope of warfare forever. In 1644 the Portuguese participated in a civil war in the southwest of Zimbabwe and helped to sack Khami. The new winner probably ruled from a new capital, now called Njanja, or Regina

(White 1903-4), near Fort Rixon, but the size of the capital suggests that the new leader's power was reduced to level-4 status. For some 40 years the chiefdom remained at this level. Consequently, if some of the Khami ruins in the Shashe-Limpopo basin date to this time, they would probably have been independent of Njanja.

A new royal dynasty known as the Rozwi began a military campaign in the 1680s and 90s under Changamire Dombolakonchingwango (Beach 1980) and for a while the Rozwi state controlled most of Zimbabwe. Their capital was located at Danangombe (better known as Dhlodhlo) near Fort Rixon (MacIver 1906; Caton-Thompson 1931). After this Changamire's death in 1696, his sons fought over the kingship. Normally in such succession disputes, the losers leave with their followers and establish a chieftainship somewhere else. In the case of the 1696 dispute, one son went to Wanke, near Victoria Falls.

Another son moved south across the Limpopo into Venda. Later known as the Singo, these former Rozwi conquered the area and formed a new level-5 state based at Dzata in the Njelele Valley (Stayt 1931; Van Warmelo 1932. This new state can be identified as the Thovhela kingdom mentioned in 1730 by the Dutch in Delagoa Bay (Liesegang 1977). Shortly after this time, the centre of trade shifted south from the Portuguese in central Mozambique to the English and Dutch in Delagoa Bay. This important shift coincided with the rise of the Pedi and northern Nguni and with civil war in Venda. At this time, the Thovhela state fragmented into three level-4 chieftaincies, and these divisions remain today. Thus, the Thovhela state only lasted for about 50 years.

Various Venda settlements are known in the Shashe-Limpopo area, most notably on Bambandyanalo Hill opposite Mapungubwe (Fig. 15). Some of these Venda settlements may have belonged to the Thovhela state, but most appear to date to the later *difaqane* period of unrest and even later.

## FUTURE ARCHAEOLOGICAL RESEARCH

Three domains of archaeological research contributed to this brief history: culture history, life ways and the explanation of change. It will be convenient to discuss future research in terms of these three domains.

## Culture History

The first kind of research determines which archaeological groups lived in which areas at what times. This basic work, where and when usually involves the excavations of relatively small trenches to retrieve decorated ceramics and charcoal samples. With a few notable exceptions, most Iron Age excavations in Southern Africa have been for this purpose.

The culture history sequence in the Shashe-Limpopo basin is relatively well known because of the site surveys by Hanisch and others. To clarify various aspects of the sequence further, the entire basin needs to be surveyed for all precolonial farming sites. This survey will first establish the number of homesteads in each period, and the extent of the core area during the rise of Mapungubwe.

Simons (1963) reported an unusual type of site at the junction of the Shashe and Shashani rivers that has not been reported in the basin. Marked by a field of stone cairns, recent research identifies this type as a circumcision lodge: the cairns represent permanent memorials to new age sets (Huffman 1996b). The age of this site is unknown, but it may well belong to the Khami period.

Next, the entire culture history sequence should be better dated to help improve the palaeoclimatic sequence. For this purpose radiocarbon samples should be collected from the same medium, namely wood charcoal rather than bone, and they should be dated by the same laboratory to eliminate variations in preparation and dating techniques. The analyses of the charcoal itself from each time period would provide an independent means of refining palaeoclimatic changes in the basin.

Pollen and phytolith analyses of dung samples provide another method to assess climatic fluctuations and to assist environmental reconstructions. Verified dung evidently seals pollen in an oxygen free environment, and preliminary studies (Carrion, *et al.* 1999) of samples from Schroda and Pont Drift indicate a relatively high rainfall.

Finally, rock paintings of fat-tailed sheep (Eastwood and Fish in Hanisch and Fish 1995) suggest that San hunter-gatherers remained in the basin during the Iron Age. Excavations in rock shelters on Little Muck and Balerno by S. Hall suggests that San were in



produced encouraging results, and further work is in progress.

To document political hegemony, a different kind of study is needed. For this other purpose, the farming settlements identified in the comprehensive survey need to be measured and dated. In this way archaeologists can establish political hierarchies in the Zhizo, K2, Mapungubwe and Khami periods. The extent of the first three political organizations is only broadly known, and political affiliations in the Khami period are not at all clear.

To study other aspects of life ways, archaeologists usually need to excavate relatively large areas. Denbow (1986), for example, used a bulldozer to uncover a virtually complete example of a Toutswe-period homestead with the Central Cattle Pattern. His example can be used as a datum for comparison with Zhizo and Leopard's Kopje equivalents.

Furthermore, the Central Cattle Pattern used by commoners during the Mapungubwe and Khami periods needs special attention. Since the commoners may not have owned their own cattle, some aspects of settlement organization may have been different. Skutwatter (Van Wyk 1987) provides some useful data, but more sites need to be excavated and on a larger scale.

Larger scale excavations should also yield good faunal samples. Slaughter patterns of domestic animals, among other things, may differ between capital and commoner homesteads as they did at Great Zimbabwe (Thorpe 1984), and they may have varied through time. Faunal samples should therefore be studied as a matter of course.

The full Central Cattle Pattern includes the location and mode of human burials, and both were largely the result of an individual's status. Such burial data needs to be combined with the skeletal analyses to help explain some of the dietary differences found in the K2 sample. Status also largely determined mode of burial in the Zimbabwe Pattern, but there are fewer examples. Indeed, few burials of either royalty or commoners have been uncovered from controlled excavations in Mapungubwe, Zimbabwe or Khami sites anywhere in Southern Africa (for an exception see Van Warden 1987). The burial pattern for commoners in a capital, in particular, is unclear: the Mapungubwe-period pot burial near K2 is an example (Steyn 1955). Large-scale excavations in the relevant areas at Mapungubwe would be an important project.

compares their patterns, identifies the differences that continue through time, and then seek explanations for the differences. Thus the explanation of change utilizes data derived from both culture history and life ways.

The most important change in the Shashe-Limpopo basin in precolonial times was the shift from ranked societies with the Central Cattle Pattern to class-based societies with the Zimbabwe Pattern. This change makes the Shashe-Limpopo basin of international interest.

In broad outline we know that the origins of the Zimbabwe culture was caused by a transformation in economy that resulted from the Indian Ocean gold and ivory trade in conjunction with an increase in population made possible by flood plain agriculture. Although this evolution is reflected in spatial changes at K2 and Mapungubwe, more detail is needed for a fuller understanding of each step in the process.

The amount and distribution of trade wealth could be investigated by comparing the number of glass beads and ivory fragments in a wide range of Zhizo, K2 and Mapungubwe sites. The distribution of traditional forms of wealth could be established by analysing faunal samples from the same deposits. Large-scale midden excavations would probably suffice for both purposes.

The development of the upper class is probably best seen in house architecture and settlement organization. As royalty evolved, their living area became separated from the homes of commoners, the internal arrangement of houses changed, and the palace shielded its own unique structures. Unfortunately, the chief's area at K2 was removed without adequate recording, but significant deposits remain in the area of his followers, and vast portions of the commoner area at Mapungubwe have not been investigated. Furthermore, provincial centres such as Little Muck and Mmamagwa probably underwent similar transitions, and their deposits are still intact. J. Calabrese's research at Little Muck should help clarify the sequence of changes.

Besides the transitions at K2 and Mapungubwe, there may have been changes from the Mapungubwe version of the Zimbabwe Pattern to that at Great Zimbabwe. A better record of the pattern at the Mapungubwe provincial centres will also help to answer this question. Differences between Zimbabwe and Khami palaces appear to be variations of the same

## REFERENCES

- Beach, D.N. 1980. The Shona & Zimbabwe 900-1850. Gwelo, Zimbabwe: Mambo Press
- Caton-Thompson, G. 1931. The Zimbabwe culture: ruins and reactions. Oxford: Clarendon Press.
- Campbell, A.C., Kinahan, J & Van Warden, C. 1996. Archaeological sites at Letsibogo Dam. Botswana Notes and Records 28:47-53.
- Carrion, J.S., Scott, L., Huffman, T.N. & Dreyer, C. 1999. Pollen analysis of Iron Age cattle dung in Southern Africa. Post presented at the INQUA Conference, Durban
- Calabrese, J. 1997. Report on the 1996 Field Season Shashe-Limpopo Archaeological Project. Prepared for DeBeers Consolidated Mines. Johannesburg: Archaeology Department.
- Calabrese, J. 1998. Report on the 1997 Field Season Shashe-Limpopo Archaeological Project Venetia Limpopo Nature Reserve. Prepared for DeBeers Consolidated Mines. Johannesburg: Archaeology Department
- Calabrese, J. In Press. Interregional interaction in southern Africa. Zhizo and Leopard's Kopje relations in northern South Africa, southwestern Zimbabwe and eastern Botswana, AD 1000 to 1200. African Archaeological Review.
- Chittik, H.N. 1974. Kilwa: an Islamic trading city on the East African Coast (two vols.). Nairobi: British Institute in Eastern Africa.
- Davison, C.C. 1973. Chemical resemblance of garden roller and M<sub>1</sub> glass beads. African Studies 32:247-257.
- Davison, P. & Harries, P. 1980. Cotton weaving in south-east Africa: its history and technology. Textile History 11:176-192.
- Denbow, J.R. 1981. Broadhurst - a 14th century A.D. expression of the Early Iron Age in south-east Botswana. South African Archaeological Bulletin 36:66-74.
- Denbow, J.R. 1982. The Toutswe tradition: a study in socio-economic change. In: Hitchcock, R.R. and M.R. Smith. (eds) Settlement in Botswana: 73-86. Johannesburg: Heinemann and the Botswana Society.
- Denbow, J.R. 1983. Iron Age Economics: herding, wealth and politics along the fringes of the Kalahari Desert during the Early Iron Age. PhD thesis, University of Indiana.
- Denbow, J.R. 1986. A new look at the later prehistory of the Kalahari. Journal of African History 27:3-29.
- De Vaal, J.B. 1943. 'n Soutpansbergse Zimbabwe. South African Journal of Science 40:303-327.
- De Villiers, H. [1976]. Human skeletal remains from Tautswemogala Hill, Botswana. Botswana Notes and Records 8:7-22.

- Hanisch, E.O.M. 1981. A Zhizo site in the northern Transvaal. In: Voigt, E.A. (ed) Guide to archaeological sites in the northern and eastern Transvaal: 37-53. Pretoria: Transvaal Museum.
- Hanisch E.O.M. & Fish, W. 1995. The Venetia-Limpopo Nature Reserve: its history and archaeological potential. Report to De Beers.
- Henneberg, M. & Steyn, M. 1994. A preliminary report on the paleodemography of K2 and Mapungubwe populations. Human Biology 1:105-120.
- Henneberg, M. & Steyn, M. 1995. Trends in mortality and health status in South Africa over the last thousand years and their implications for the opportunity for natural selection. Homo 46:27-37.
- Huffman, T.N. 1971. Cloth from the Iron Age in Rhodesia. Arnoldia (Rhodesia) 5(14):1-19.
- Huffman, T.N. 1974. The Leopard's Kopje Tradition (Museum Memoir 6). Salisbury: National Museums and Monuments of Rhodesia.
- Huffman, T.N. 1978. The origins of Leopard's Kopje: an 11<sup>th</sup> century Difaquane. Arnoldia (Rhodesia) 8:1-23.
- Huffman, T.N. 1982. Archaeology and ethnohistory of the African Iron Age. Annual Review of Anthropology 11:133-150.
- Huffman, T.N. 1984. Leopard's Kopje and the nature of the Iron Age in Bantu Africa. Zimbabwea 1:28-35.
- Huffman, T.N. 1986. Iron Age settlement patterns and the origins of class distinction in southern Africa. In: Wendorf, F. & Close, E. (eds) Advances in World Archaeology: 291-338. New York: Academic Press.
- Huffman, T.N. 1989. Ceramics, settlements and Late Iron Age migrations. African Archaeological Review 7:155-182.
- Huffman, T.N. 1996a. Archaeological evidence for climatic change during the last 2000 years in southern Africa. Quaternary International 33:55-60.
- Huffman, T.N. 1996b. Snakes and Crocodiles: power and symbolism in ancient Zimbabwe. Johannesburg: Witwatersrand University Press.
- Huffman, T.N. & Hanisch, E.O.M. 1987. Settlement hierarchies in the northern Transvaal: Zimbabwe ruins and Venda history. African Studies 46:79-116.
- Huffman, T.N. & Herbert, R.K. 1994-5. New perspectives on Eastern Bantu. Azania 29:30-27-36.
- Huffman, T.N., Van Der Merwe, H.D., Grant, M.R. & Kruger, G.S. 1995. Early copper mining at Thakadu, Botswana. Journal of the South African Institute of Mining and Metallurgy 95:53-61.

- Prinsloo, H. 1974. Early Iron Age site at Klein Afrika. South African Journal of Science 70:271-273.
- Purseglove, J.W. 1976. Millets. In: Simmonds, N.W. (ed.) Evolution of Crop Plants: 91-93. London: Longmans.
- Ralushai, N.M.N. & Gray, J.R. 1977. Ruins and traditions of the Ngoni and the Mbedzi among the Venda of the northern Transvaal. Rhodesian History 8: 1-11.
- Rightmire, G.P. 1970. Iron Age skulls from southern Africa re-assessed by multiple discriminant analysis. American Journal of Physical Anthropology 33(2):147-168.
- Robinson, K.R. 1958. Four Rhodesian Iron Age sites: a brief account of stratigraphy and finds. Occasional Papers of the National Museum of Southern Rhodesia 3A(22):77-119.
- Robinson, K.R. 1959. Khami Ruins. Cambridge: Cambridge University Press.
- Robinson, K.R. 1960. Archaeological report. Sentinel Expedition: 22-29. Bulawayo: Rhodesian Schools Exploration Society.
- Saitowitz, S.J. 1996. Glass beads as indicators of contact and trade in southern Africa ca AD 900-1250. PhD thesis, University of Cape Town.
- Saitowitz, S.J., Ried, D.L. & Van der Merwe, N.J. 1996. Glass bead trade from Islamic Egypt to South Africa c. AD 900-1250. South African Journal of Science 92:101-104.
- Schofield, J.F. 1938. A preliminary study of the prehistoric beads of the northern Transvaal and Natal. Transactions of the Royal Society of South Africa 26:341-371.
- Simons, H.A.B. 1963. Note on some stone piles near junction of the Shashe and Shashani rivers. Tshangula Expedition and Zhizo Expedition: 1-29. Bulawayo: Rhodesian Schools Exploration Society.
- Sinclair, P. 1982. Chibuenene - an early trading site in southern Mozambique. Paideuma 28:150-164.
- Steyn, H.A. 1931. The Bavenda. Oxford: Oxford University Press for the International African Institute.
- Steyn, M. 1994. An assessment of the health status and physical characteristics of the prehistoric populations from Mapungubwe. PhD thesis, University of the Witwatersrand.
- Steyn, M. 1995. Human pot burial from Greefswald. South African Journal of Ethnology 18(2):87-90.
- Steyn, M. 1997. A reassessment of the human skeletons from K2 and Mapungubwe (South Africa). South African Archaeological Bulletin 52:14-20.
- Steyn, M. & Henneberg, M. 1995a. The health status of the people from the Iron Age sites at K2 and Mapungubwe (South Africa). Rivista di Antropologia 73:159-164.

- Vogel, J.C. 1969. The radiocarbon time scale. South African Archaeological Bulletin 24:83-87.
- Voigt, E.A. 1980. Reconstructing Iron Age economies of the northern Transvaal: a preliminary report. South African Archaeological Bulletin 35(131):39-45.
- Voigt, E.A. 1981. The faunal remains from Schroda. In: Voigt, E.A. (ed.) Guide to archaeological sites in the northern and eastern Transvaal: 55-62. Pretoria: Transvaal Museum.
- Voigt, E.A. 1983. Mapungubwe: an archaeological interpretation of an Iron Age community (Museum Monograph 1). Pretoria: Transvaal Museum.
- Voigt, E.A. 1984. Iron Age herders of the northern Transvaal, South Africa, in the first millennium A.D. In: Clutton-Brock, J. & Grigson, C. (eds) Animals and archaeology: 3. Early herders and their flocks. BAR International Series 202.
- Voigt, E.A. & Plug, I. 1985. Archaeozoological studies of Iron Age communities in southern Africa. In: Wendorf, F. (ed.) Advances in World Archaeology: 4:189-238.
- Wentzel, P.J. 1983. The relationship between Venda and Western Shona 3. University of Pretoria.
- White, F. 1903-4. Observations on recent discoveries at ancient ruins. Proceedings of the Rhodesia Scientific Association 4:14-20.
- Young, S. & Miller, D. 1995. The chemical and metallographic analysis of Mapungubwe gold-work. Abstract. 10<sup>th</sup> congress of the Pan African Association for Prehistory and Related Studies: 47-48. Harare, 18-23 June.