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The Visibility and Invisibility of Herders' Kraals in Southern Africa, with Reference to a Possible Early Contact Period Khoekhoe Kraal at KFS 5, Western Cape



François-Xavier Fauvelle-Aymar, Karim Sadr, François Bon & Detlef Gronenborn

Abstract

The Europeans who landed on the shores of the South African Cape from the late 15th century onwards encountered local herders whom they later referred to as the Hottentots (now known as the Khoekhoe). There are written references to the settlements and livestock of these pastoralists, but archaeologists have not had much success in discovering any such sites. This absence of archaeological evidence for recent Khoekhoe kraals has been interpreted by some scholars as an indication for a general archaeological invisibility of nomadic pastoralist sites. This article reports on the archaeology of an extensive, low density surface spread of artefacts, KFS 5 (Western Cape), which possibly represents a Khoekhoe kraal dating to the time of the first contact with Europeans. Data are compared to other archaeological evidence of cattle pens in southern Africa and the issues of the visibility of prehistoric and historic kraals are re-addressed.

Résumé

Les Européens qui accostèrent en Afrique du Sud à partir de la fin du XVe siècle rencontrèrent des éleveurs qu'ils appelèrent Hottentots (et qui sont aujourd'hui connus sous le nom de Khoekhoe). Nombre de sources écrites évoquent l'habitat et le bétail de ces éleveurs, dont aucun site n'a cependant été clairement identifié par les archéologues. Cette absence de documentation archéologique a parfois permis de conclure à l'invisibilité archéologique des pasteurs nomades. En jaugeant les faits à l'aune des recherches archéologiques conduites en Afrique australe sur les enclos à bétail, cet article livre l'étude d'un site présentant une nappe de matériel étendue et de faible densité, KFS 5 (Western Cape), qui constitue peut-être la trace matérielle d'un kraal khoekhoe datant de la première période de contact avec les Européens. Cette découverte suggère que de tels kraals sont donc bel et bien visibles archéologiquement.

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Keywords: Herders, Southern Africa, historical archaeology, kraal, Khoekhoe, lithic industries, vitrified dung

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Introduction

The question of the archaeological visibility of herders' kraals in southern Africa has become an important element in discussions about the origins of herding and food production in southernmost Africa. The majority view among researchers, based mainly on faunal remains and linguistic studies, is that domesticated livestock first reached the Cape about 2000 years ago with a migration of herders (equated with the Khoekhoe of the much later historical sources) from what is now northern Botswana (*e.g.,* Elphick 1985: 12–13; Ehret 1998: 215–217; Smith 2005: 175–185). Although no solid archaeological evidence for such a migration has ever been found (Kinahan 1994–1995; Sadr 1998, 2003) and although epistemological criticisms have been cast on the equation between the early (archaeologically-known) herders and the late (historically-known) Khoekhoe (Fauvelle-Aymar 2004), the point is made that since even historic Khoekhoe kraals remain archaeologically invisible, the absence of Khoekhoe sites of some 2000 years ago can hardly be taken as evidence that they did not introduce herding to the Cape. Contrary to these propositions, however, the authors of this present article believe that there is no reason as to why the archaeological remains of nomadic pastoralists should be more invisible than those of highly mobile hunter-gatherer groups, whose many open air sites are well recorded on the South African west coast and elsewhere (*e.g.,* Sampson 1985; Manhire 1987; Sadr *et al.* 1992).

Since part of the problem may come from the resolution of archaeological observation, one way of dealing with this question may be to resort to written sources that may help to locate archaeological sites. In the first part of the present article we construct possible settings for pastoralists' sites drawing on historical sources. The second part of the article is devoted to the description of a certain site, KFS 5 on the Vredenburg peninsula (Western Cape, South Africa), which is located within this possible setting: A detailed surface examination of this location revealed a low-density scatter of artefacts which could represent a pastoralist kraal. Data are further discussed against other archaeological evidence related to kraals in southern Africa and elsewhere.

Historically visible, archaeologically invisible herders

In a striking sentence, Richard Elphick (1977: 71) captured the essence of the first encounter between navigators from the westernmost tip of the Eurasian continent and the people of the southernmost tip of Africa: "By a trick of geographic fortune the Khoikhoi [Khoekhoe] found that their peninsula [the Cape of Good Hope] lay athwart one of the most important trade routes in the history of mankind." Despite the economic and military significance of the Cape region of South Africa in the years following da Gama's circumnavigation in 1497–1498, the early history of European-African interaction in this area remains poorly understood as written sources from this period are scarce (Raven-Hart 1967: 1–13). It is only after the 1580s, when the first British and Dutch fleets bound for the East Indies rounded the Cape, that the written evidence becomes more comprehensive (Raven-Hart 1967). By then the phase of the initial encounter between Europeans and the coastal southern Africans had already passed. Because of the scarcity of early records, most information on the Cape coast African societies at the time of first contact has to be extracted from much later sources, on the assumption that no major cultural changes or developments had occurred in the 16th century. All we can currently say with some certainty is that the Africans met by the Portuguese were Khoesan-speaking, that at least some were cattle and sheep herders (somehow) related to the Khoekhoe groups known from the 17th century, and that they exchanged their livestock for European metal (Elphick 1977: 71–76). A similar pattern of exchange is known from 19th century and perhaps earlier coastal Namibia, where Europeans obtained cattle for glass beads (Kinahan 2000).

A cautious re-reading of some early written sources, however, may shed some additional light on the contact-period African communities living along the Cape coast. An example is the account of the 1510 massacre of the Portuguese force led by the Viceroy Francesco d'Almeida at Table Bay, now Cape Town, then called *aguada de Saldanha*. The account of this event does not come from the diary of the expedition (which is probably lost), but is encountered in the works of several Portuguese historians published decades later, including João de Barros' generally reliable *Décadas de Asia* (1552–1563). The mentioning of the incidence in this contemporary compendium of the Portuguese expansion testifies to the enormous impact the massacre must have had on their national pride (Fauvelle-Aymar 2002: 37–48). Although the printed passages are not eyewitness accounts, the various versions are in good agreement with one another save in some minor details, most probably because the writers recorded the story directly from the expedition's survivors in Lisbon. Particularly Barros' version (Barros 1945–1946: 146–151; Fauvelle-Aymar 2002: 37–40; Raven-Hart 1967: 9–11 for an abridged English translation) has recently been used to document a remarkable cattle husbandry technique practiced among the Table Bay inhabitants, where oxen were commanded with whistles and trained to gore

the enemy (Fauvelle-Aymar 2004: 4). Incidentally, the record of this technique is also the most powerful (if not the only) argument that allows the identification of this sixteenth-century African community as highly-specialized cattle pastoralists like the Khoekhoe of colonial times after the mid-17th century. The same account is also of some interest for an investigation of the settlement pattern of the Khoekhoe at the time of first contact with Europeans.

Following a first episode of bartering between Portuguese and the "Blacks" (*os negros*), some Portuguese were given permission by their captain to follow the Africans to their "villages" (*ás suas aldeas*), which were about a league (*una légua*= 6.2 km) distant from the shore. For unclear reasons, an altercation took place at the said villages (note the plural, which could well indicate a loose concentration of kraals), in which some Portuguese were injured, and the Viceroy thus decided to retaliate. The day after, a Portuguese party went ashore at another landing place, "so as to go less distance on foot". Again, what happened in the villages is not clear, but it seems that the Portuguese captured children and stock. This was clearly unforgivable. While retreating on a narrow path across a hill, the Portuguese were harassed by war oxen and found themselves defenceless "in that manner of warfare". The story concludes as follows:

"And when they began to reach the sands of the shore they became altogether unable to make a step, whereas the Blacks went over the sand so lightly that they seemed birds or tormenters of the Devil, who came down on the gentlefolk who were holding out for love of the Viceroy, the common folk having run ahead […], until at last death laid the Viceroy low, with a lance through his throat, he being already wounded by the stones and the fire-hardened sticks" (Raven-Hart 1967: 9–11; translation modified by F.-X F.-A. after the original).

From the information given by Barros, it is obvious that the Africans' uncommon "manner of warfare" comprised a very judicious use of the local topography. The Portuguese were attacked not in the open inland plain where the kraals were situated and where indeed the Europeans would have had the advantage, but rather in a more hilly and bushy terrain closer to the coastline that seriously limited their tactical movements; the final assault was then launched in the soft sands on the shore.

A detailed examination (Fauvelle-Aymar & Guillaume 2001) of the account of Vasco da Gama's call at Mossel Bay (then called *angra de Sam Bras*) on his first circumnavigation of Africa in 1497–1498 reveals the same spatial pattern (Da Gama 1945, II: 3–6; Raven-Hart 1967: 5–7): while the Portuguese favoured a bartering place situated on the open shore in order to guarantee a peaceful contact and an easier retreat in case of necessity, most of the African warriors remained hidden and armed "in the bushes", with the women and cattle observing the scene from the top of the first line of hills inland. The Portuguese word generally meaning "bushes" (*o mato*) is actually closer to the French word and concept of the *maquis*. In the Mediterranean vegetation pattern this is an area densely covered with short trees and thorn bushes, in which it is quite difficult to move but to where it is possible to retreat, or from where attacks may be launched while under cover. This very word of *mato* is used by several Portuguese diarists and indeed describes very well the *fynbos* vegetation that prevails along the South African Cape coastline. It is very likely that the fatal encounter of 1510, as well as most of the other similar encounters, took place in just such a landscape. Thus, we may infer or at least suggest that most of the African "villages" were situated several kilometres inland (the Portuguese league equals 6.2 km), that is over the first line of hills inland, with the intermediate zone being used for cattle pasture… and for trading opportunities with casual visitors. An interesting point of comparison comes from the dozens of contact-period pastoralists sites surveyed by John Kinahan (1991; distribution map p. 89) in the !Kuiseb River delta in Central Namibia, between Walvis Bay and Sandwich Harbour, where the sites (interpreted as individual homesteads) are for the most part situated 5 to 10 km from the shore, but this time the cattle was apparently kept several kilometres inland along the river (Kinahan 1991, 1994–1995: 216). It can be asked whether this difference with the Cape pattern reflects ideological difference between Namibia and Cape pastoralists, or ecological factors (the *fynbos* is absent in the Namib desert) or differences between an early and a late pattern of contact with European (the livestock being in the meanwhile removed away from the foreigners' temptations).

Although thus documented in the records of early European travellers (***Fig. 1***), the archaeological remains of the Cape "African villages", or more specifically the kraals inhabited by the pastoralist Khoekhoe and others, have largely eluded researchers. Some claim that such kraal sites are archaeologically invisible since their occupation was brief and nomadic pastoralists generally leave little behind (Deacon *et al.* 1978: 57; Robertshaw 1978: 29; Deacon 1984: 275; Smith 2005: 44–50). This argument may be substantiated by one of the earliest accounts of Khoekhoe land use patterns given by Kolbe (1719) relating to sites further inland along the Berg River: "However, these people [the Khoekhoe] may get along much better [in this landscape] than the Europeans since

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Fig. 1. A Khoekhoe kraal as depicted by Peter Kolbe (1719).

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they do not have any permanent habitations and may be met in one location today and elsewhere tomorrow, where again good pasture grounds and sufficient water is to be found; indeed, they often move far away with their herds so the grass may grow again" (Kolbe 1719: 386, translated by D.G. from the original German edition).

Referring to observations by an earlier writer, a certain Herr Boeving (most probably Böving 1712), Kolbe (1719: 504) further explains: "Would he have lived in this country among them [the Khoekhoe in the Berg River region], he would have seen villages [orig. *Dörffer*] in which 15 houses would not have been a solid estimate. He would have seen only few villages whose number of houses would have been less as in this country most villages were large and the people are many so that 10 or 20 houses could have been easily overlooked. Because the circle [the kraal] is quite extensive and the central place filled with many thousands of sheep, and outside a great number of cattle is stalled, it is quite easy to miscount and one cannot say with certainty how many houses compose these villages. Also, such a great kraal [orig. *Crall*] may not stay for long at one location as, because of lack of foodstuffs and pasture, the inhabitants are quickly hindered and are forced to move away." However, elsewhere (*ibid.*: 386), Kolbe underlines that group size varied and he specifically notes that some of the bands in desiccated areas were comparatively small in size with fewer cattle.

In sum, what we are allowed to assert from these written testimonies is that the 15th to 17th century herders' kraals of the Cape region were mainly loose concentrations of huts roughly forming circles. That the huts may not necessarily have been evenly distributed along the circle but did in fact form small clusters of huts, or that several circles could have formed clusters of kraals, may be inferred from the use of the plural word "villages" both in Portuguese and in German. As for the regularity of these circles (which could at some point be a fine archaeological feature on the ground), John Kinahan (1994–1995: 221–223), using an historical iconographic documentation, has shown that these "circles" were rather "circuloid" layouts of clustered huts defining a central place for keeping sheep (and cattle?). That these kraals could be of various sizes is obvious from Kolbe and other writers. But it can also be hypothesized that early kraals were larger than later ones, due to the impact of trade and plundering in the meanwhile. As for the spatial pattern of kraal location, it appears that they are not to be found on the sandy and hilly coastline but rather some kilometres inland, on spots that would provide pastures and protection from the winds, as well as an easy access to marine resources. No clear information is available as for the preferred location of kraals for inland herders, apart from possibly the close proximity to perennial rivers.

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Challenging the invisibility: the site of KFS 5 (Vredenburg Peninsula, Western Cape)

In order to challenge the invisibility of Cape herders' kraals, the "*Archives Khoesan*" project, partly funded by the French Institute of South Africa (IFAS), is trying to relocate and map historically recorded pastoralists' kraals by resorting to published sources and archaeological survey as well as other evidence such as archives, historical maps and toponymy.

The site in question is KFS 5, on the Vredenburg peninsula (***Fig. 2***), a hundred kilometres north of Cape Town; it is located behind the first line of hills overlooking Saint Helena Bay, where Vasco da Gama first touched South African soil in 1497. An examination of the records preserved in Cape Town (Deeds Office and Archives) by Kathleen Schulz (2006) revealed that from the early 18th century the entire Vredenburg Peninsula was divided in two loan farms granted to European farmers, and that they were subsequently divided into smaller properties whose boundaries were formally registered in the 1830s. The very name of one of the original farm (Boebezakskraal) is a compound name associating a proper name and the word *kraal*, a very common feature in South African toponyms and farm names, and a strong incentive to consider that pastoralists' kraals had been seen – or were remembered – at the time when farms were allotted to settlers. It is possible that in some case such kraals belonged to European-African semi-nomadic Frontier settlers, but in most instances such names seem to refer to indigenous kraals. It is especially the case when the proper name preceding the word kraal is met among local Khoekhoe, which is the case of Boebezak or Boevezak (*e.g.,* Moodie 1860: III, 73).

Sadr, Gribble & Euston-Brown (1992) carried out an archaeological survey on the Vredenburg peninsula in late 1991 and early 1992. Among the more than 100 sites recorded, there were a number of diffuse artefact scatters in sandy terrain towards the northern end of the peninsula (***Fig. 2***). Here, at the southern base of a low hill, next to a stream fed by a spring, an extensive but low-density scatter of marine shells and artefacts was designated site KFS 5. The original surface collection recovered stone tools, ceramics and marine shells, but failed to reveal many chronologically diagnostic elements. Among the potsherds was a decorated piece of a type similar to those found at the site of Kasteelberg A, probably dating to the late first millennium AD (Sadr & Smith 1991; Sadr *et al.* 2003). During the 1991/92 survey, marine shell was collected from all the recorded sites for eventual dating. These samples were supplemented with more shell collections in 2003, when funding for a radiocarbon dating project was generously provided by the Wenner-Gren Foundation and the Deutsche Forschungsgemeinschaft project SFB 389. In 2004, a part of this collection of marine shells was submitted to the Quaternary Dating Research Unit in Pretoria. The Beta Analytic laboratory in Florida dated a few additional samples. ***Table 1*** and ***Figure 2*** show that many of the marine shells deposited at KFS 5 and at neighbouring artefact scatter date to the early and mid-second millennium AD. Thus, at least parts of site KFS 5 appear to have been formed during the late pre-contact and early contact periods.

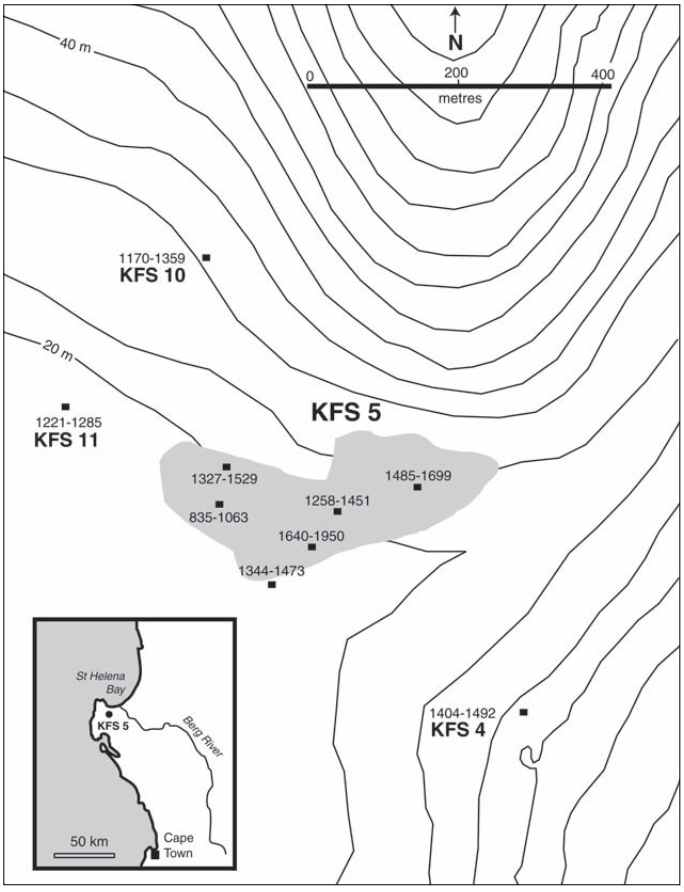

Fig. 2. The location of KFS 5. Surrounding radiocarbon dates expressed as 2 sigma range calibrated AD.

Lab	Number	Sample	MATERIAL	δ13C	yrs bp	SD	Calibrated 2 sigma range			CAL*
							From	Midpoint	To	
BETA	208156	KFS 5	Vitrified Dung	-23	210	40	1640	1660	1950	INTCAL 98
BETA	201494	KFS 5	Marine shell	0.5	1060	70	1327	1441	1529	WC 93
BETA	201492	KFS 5	Marine shell	0.4	1180	70	1258	1344	1451	WC 93
BETA	201493	KFS 5	Marine shell	-0.2	860	60	1485	1633	1699	WC 93
PTA	9006	KFS 5	Marine shell	1	1090	45	1344	1426	1473	WC 93
PTA	9106	KFS 4	Marine shell	0.2	1050	40	1404	1446	1492	WC 93
PTA	9039	KFS 12	Marine shell	0.4	1600	60	835	982	1063	WC 93
PTA	9017	KFS 11	Marine shell	0.6	1320	20	1221	1258	1285	WC 93
PTA	9045	KFS 10	Marine shell	-0.5	1290	60	1170	1279	1359	WC 93

*INTCAL 98 (STUIVER *et al* 1998); WC 93 (TALMA & VOGEL 1993)

Tab. 1. Radiocarbon dates from KFS 5.

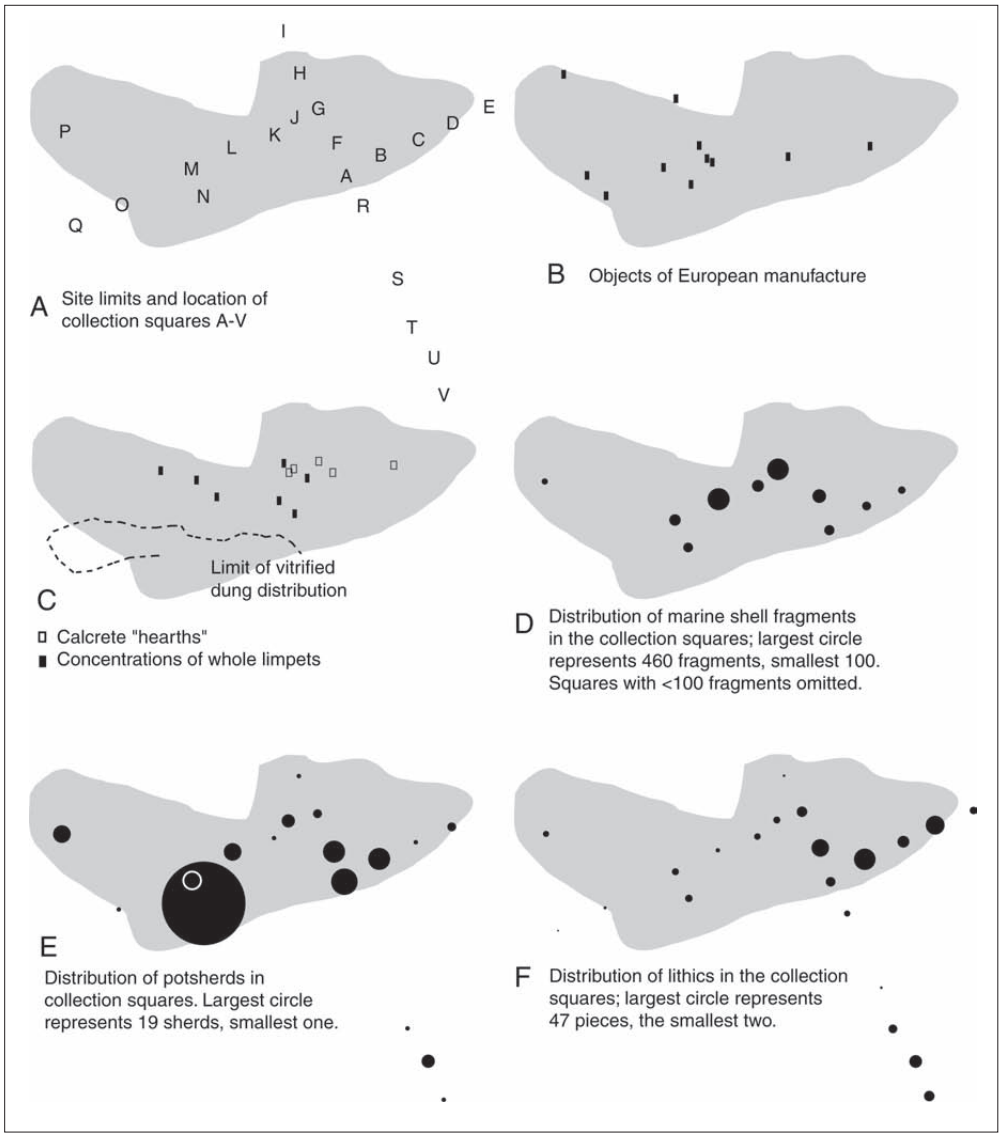

Fig. 3. Distribution of collection squares and various cultural materials at KFS 5.

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Mapping KFS 5

In April 2005 the authors spent two weeks mapping KFS 5 and examining surface finds in close detail. The first step was to try and define the site limits and to find discrete artefact concentrations that could give us an idea of different phases of occupation. This was not an easy task, considering the low density and patchy distribution of artefacts in a sandy and much ploughed field. Next, using a handheld GPS, we plotted the distribution of certain features. These included diffuse scatters of generally burnt calcrete cobbles, which probably represent the remains of large stone hearth features (see *e.g.,* Sealy *et al.* 2004): it is possible that these hearths were used in the processing of marine resources. At KFS 5 their distribution is slightly offset from concentrations of whole limpet shells, which were also plotted using a GPS (***Fig. 3c***). Other objects so plotted include fragments of portable grooved stones (***Fig. 4***). These resemble the grooves made in the bedrock at Kasteelberg (Smith 1986; Boonzaier *et al.* 1996: 21), and also in the granite bedrock close to the site KFS 4, except that they are on portable cobbles. The fragments of grooved stones were scattered along the whole length of the site, much like the distribution of the European objects shown in ***Figure 3b***. Many of the European objects are in the form of glass shards, porcelain fragments, as well as fragments of brick and concrete. Some of these recent objects may have originally come from the now ruined remains of a rectilinear calcrete structure located on the higher ground to the northeast of the site. The most diagnostic artefact of European provenance found was produced in the 17th century: it is a stoneware fragment with a facial mask applied to the shoulder, a so-called Bartmann jug (***Fig. 5***). The design and make of the shard suggest that the vessel, a rare subtype, was manufactured between 1600 and 1650 in Frechen near Cologne (D. Gaimster and A. Jürgens: pers. comm.). Indicative is the floral motif appearing as a little star-like decoration in the beard (Jürgens 1995a: 32, fig. 27) and the spiked frame of the facial mask (Jürgens 1995b: 16, fig. 9). Such and other stone ware was produced in Cologne and its vicinity and, during the 17th century, traded from there by mainly Dutch merchants to Great Britain but also overseas (Gaimster 1997: 210).



Fig. 4. Portable grooved stone, KFS 5.



Fig. 5. Fragment of a Bartmann jug, KFS 5.

	Collection Squares																				
	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**N**	**O**	**P**	**Q**	**R**	**S**	**T**	**U**	**V**
Lower GS	1					1						1	1	1	1							
Cobble frag.	7	2	4	8	2	1	3				2		1	3	1			2	2	3	7	3
Quartz debitage	8	27	16	22	12	25	13	2		7	1	4	10	6		7		4		9	13	12
Non-quartz flakes	2	12	2	5	1	5	4	1		3	5	1	1	1	1	2			1	5	2	4
Retouched	2	1		1		1	1	1		2	1				1	1					1	
Cores			1	1		2	1			2	1	1		1		1		3			3	1
Granite frag.		1		1							2	1		3	1	1	2	2	1	1	1	2
Bladelet		1		1														1				
Flake blade		1				1							1									
Chips			1	2																		
Calcite		1																				
Quartz crystal frag.		1																				
Cobble			1			2					1											
Total Stone	**20**	**47**	**25**	**41**	**15**	**38**	**22**	**4**	**0**	**14**	**13**	**8**	**14**	**15**	**5**	**12**	**2**	**12**	**4**	**18**	**27**	**22**
Limpets	59	35	17	4	2	24	3	8		52	26	107	25	39		21	1	1	1	9	4	6
Mussel	4	2	3		1	5	1	1		9	2	6	8	4		1		1		2	4	4
Whelk	6	6	8			4		2		5	3	6	5	2	1					3		
Shell frag.	190	160	130	35	20	270	59	72	3	449	230	460	220	180	9	100	1	12	9	80	60	90
Pottery	6	5	1	2		5	2	1		3	1	4	4	19	1	4				1	3	1
Bone	4	6	9	6	2		2			1	6	7	3	3		3				4		1
Ostrich egshell	1	1								1			1							2		
Ochre	2	3				1						1	1	1	1			1			1	1
Glass	1																1					
Iron													1									
Porcelain		1											1	1	1							
Brick													1									
Vitrified dung frag.													1	97	15		3					

Tab. 2. Artefact distribution in collection squares, KFS 5.

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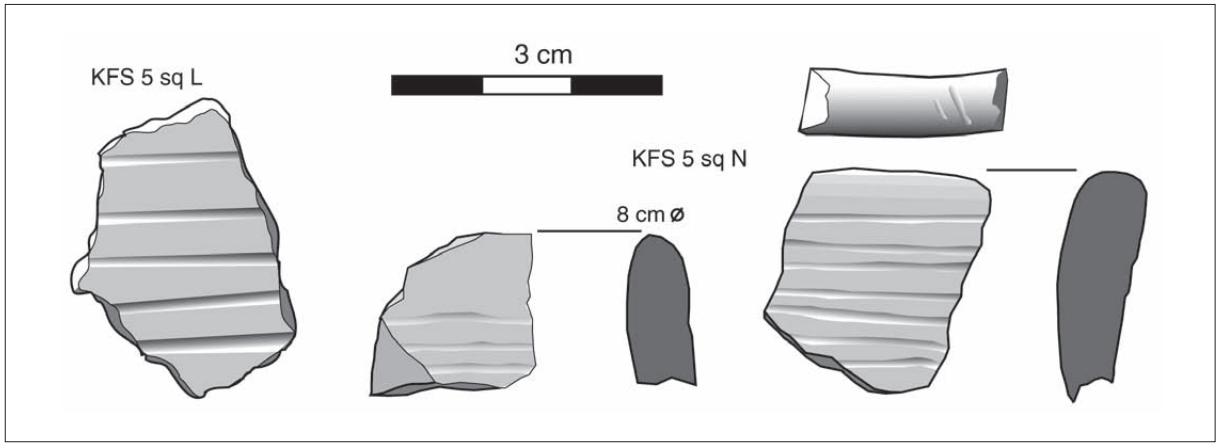

Fig. 6. Decorated potsherds of local origin, KFS 5.

To get a clearer view of artefact distributions, a number of 10 by 10 meter collection zones were placed across the length and breadth of the site (***Fig. 3a***). The four authors spent ten minutes recording artefacts in each of the squares, and one of us (F.B.) analysed on the spot and in some detail the stone tools from each square (***Tab. 2***). All materials were subsequently left in place. The density distribution of stone tools is shown on ***Figure 3f***. It is interesting to note that the highest densities of stone tools, which are found on the southeast corner of the site (squares F, B and D), are set apart from the zones of highest shell distribution as well as that of the calcrete "hearths". The distribution of indigenous, thin-walled earthenware potsherds shows clusters just to the west of the lithics concentrations, and a "dump" of 19 potsherds in square N. Here, two incised rim shards were found, which judging by the lip profile, rim diameter and lip top incisions on one example (***Fig. 6***), probably come from spouted, incised (SPINC) pots, similar to the type often found on Kasteelberg A and dating to the late first millennium AD. Another incised shard came from square L. It is

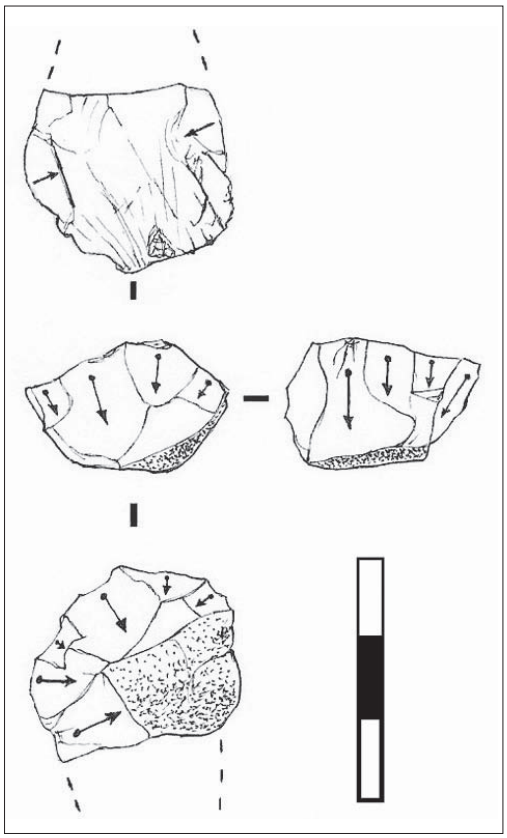

Fig. 7. Core on little milky quartz pebble, KFS 5 (drawing: F. Rivat).

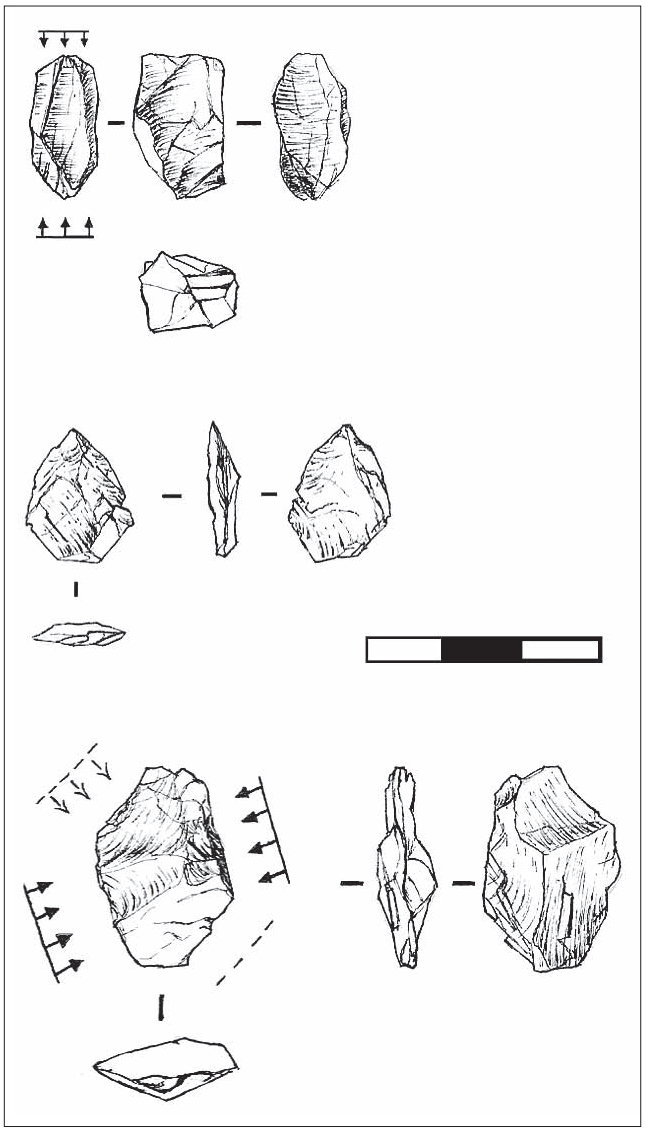

Fig. 8. KFS 5: Bipolar cores in quartz reduced on anvil (top and bottom); little flake in quartz produced by bipolar technique (centre) (drawings: F. Rivat).

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impossible to tell whether this example was from a SPINC pot or from a lugged, incised (LINC) pot, which represents the immediately pre-colonial pottery style of this area. Three fragments of ceramic lugs, diagnostic of the second millennium indigenous earthenware, were found in each of the squares D, F and M; that is to say on the central and eastern part of the site.

All lithic artefacts occur in very low densities on KFS 5, and the average count for stone tools is only one piece per 6 square meters. Among the stone tools, flakes of quartz, shale, quartzite and sandstone are the most frequent artefacts. In view of their similarity to the débitage from the upper layers of the site Kasteelberg B, which date to the early and mid second millennium AD (Smith 1987; Smith *et al.* 1991), such flakes may belong to the recent pre-colonial occupation of KFS 5. Older débitage is also present. A small amount of Levallois débitage is identified on coarse-grained silcrete, as well as débitage associated with bladelet production and microliths on fine-grained silcrete. The latter may date to older phases of the Later Stone Age (LSA), while the former probably dates to the Middle Stone Age. The very low density of these artefacts and their extensive dispersion reveals no particular concentrations. Besides the débitage, there is also a notable collection of non-flaked stone tools such as anvils, lower and upper grinding stones, grooved stones and bored stones. Granite and porphyritic quartz were the preferred raw materials for these tools (for more detailed account, see Bon *et al*. *forthcoming*).

The most frequent lithic artefacts are débitage from small "milky" quartz pebbles (***Fig. 7***). The analyses indicate that most of these small pebbles were smashed between hammer and anvil, a suitable method for dealing with this kind of raw material (Barham 1987). The resulting cores resemble *pièces esquillées*, and are often classified as bipolar cores (***Fig. 8***). This method of core reduction allowed the production of

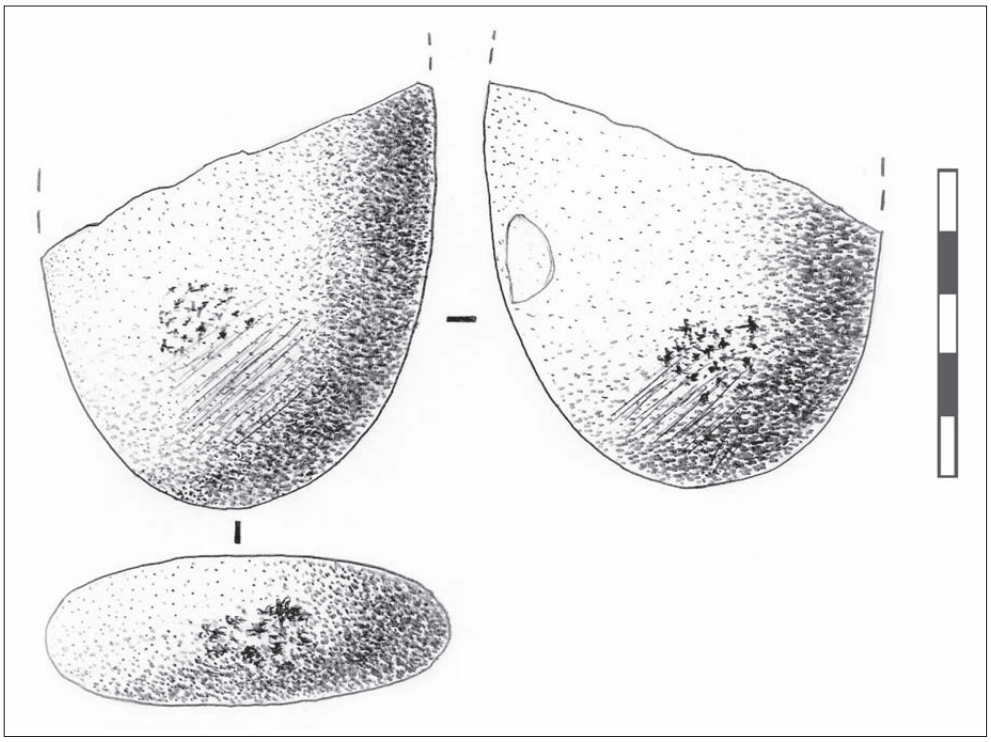

Fig. 9. Anvil on pebble, KFS 5 (drawing: F. Rivat).

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small thin flakes, a few of which were retouched to create bifacial points and backed bladelets. These and even the un-retouched flakes of quartz could have been used as projectile points. Presumably associated with this débitage are many hammers and anvils, the latter being mainly in the shape of small flat pebbles and cobbles (***Fig. 9***), but also fragments of grooved stones (***Fig. 10***). The other débitage on quartzite, shale and sandstone pebbles (***Fig. 11***) represents a very simple reduction process, which resulted in fairly robust but un-standardised flakes that were hardly ever retouched. A rare exception is an adze. It would appear that quartz pebbles reduced by the bipolar technique were intended to produce projectile points, while the larger pebbles of quartzite and sandstone were reduced to provide cutting tools. Both reduction strategies are extremely simple, but suit the different raw materials. This industry reflects an appropriate use of raw materials (*sensu* Perlès 1991): depending on the morphology and quality of the raw materials, different techniques were used to produce different products. The non-flaked stone tools also reflect the choice of different raw materials for different tasks. Upper and lower grinding stones are of a diverse selection of very hard and heterogeneous stones such as granite and porphyritic quartz. Bored stones, on the other hand, are made of other raw material, for instance softer rocks such as sandstone, calcrete and "soapstone" (chlorite) (***Figs. 12 and 13***).

To summarize the main aspects of this lithic industry, one could point to a fairly rigorous selection of raw materials, which contrasts with the simplicity of the reduction techniques utilized. In effect, the simplicity of the reduction process is, in part, a response to the chosen raw materials. A corollary to simple reduction techniques is the lack of standardization in the end products. Interestingly, retouch was hardly ever used at KFS 5 to create a more standardised stone tool form. Thus, formal tools are lacking: a characteristic that also has been noted in other recent assemblages from this region. The absence of formal tools, of course, does not mean that the KFS 5 flakes could not be used perfectly well for a variety of tasks. Nonetheless, one might wonder about the absence of common formal tools such as scrapers, which are practically ubiquitous in southern African Later Stone Age (LSA) lithic assemblages. Was hide-scraping an activity that was not carried out at KFS 5? Or were more informal tools used for this activity, as they are in modern Namaqualand, near the border with Namibia (Webley 1990)? We could add that the informality of the assemblage applies only to the flaked stones; polished stone tools are clearly more formal.

In general, historical sources are of little use for a better understanding of the LSA lithic industry. There are few useful ethnographic and ethno-historic descriptions of stone tools utilized by southern

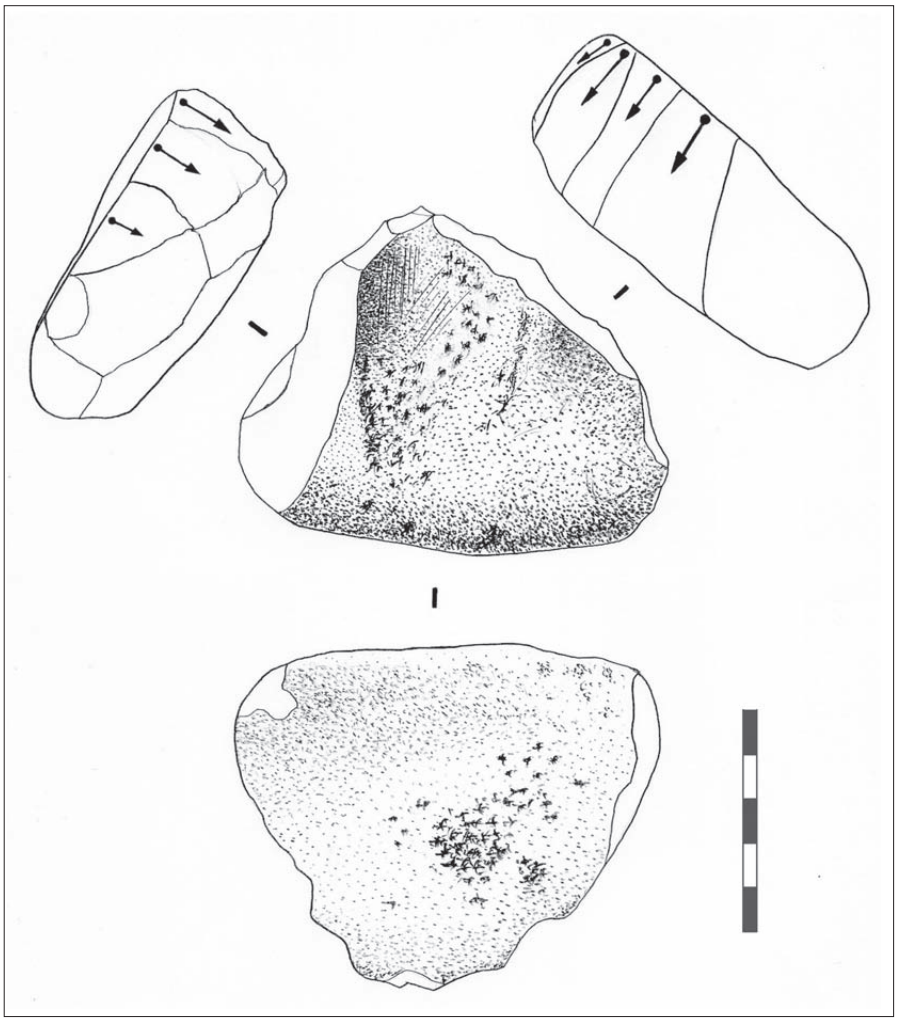

Fig. 10. Anvil reusing a grooved stone, KFS 5 (drawing: F. Rivat).

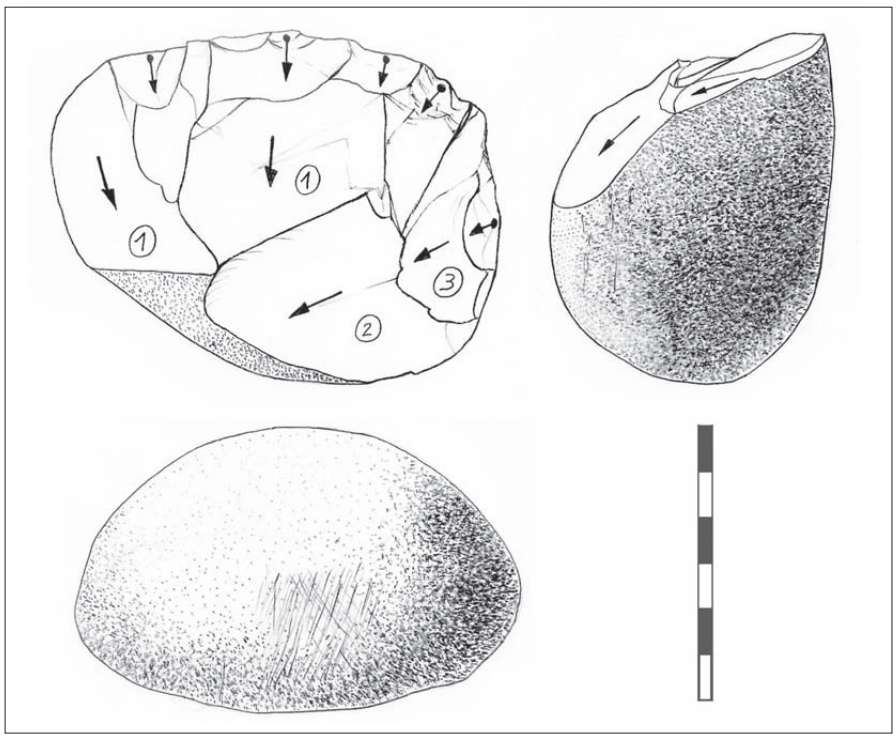

Fig. 11. Core on a shale pebble, KFS 5 (drawing: F. Rivat).

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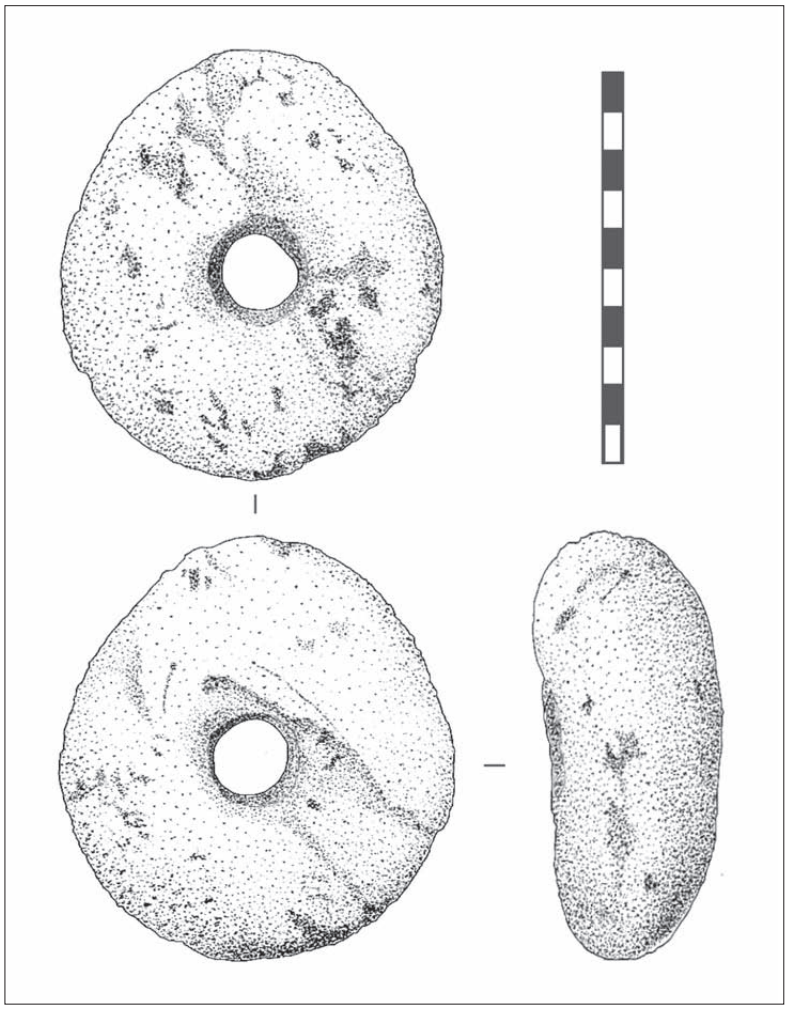

Fig. 12. Bored stone in calcrete, KFS 5 (drawing: J. Morin).



Fig. 13. Bored stone in chlorite ("soapstone"), KFS 5 (drawing: J. Morin).

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Africans during the past few centuries. Nonetheless, these meagre records do indicate that quartz was often used for arrowheads (Goodwin 1945; Rudner 1979; Deacon 1992; Binneman 1994). Such sources generally mention clear quartz crystals (which are rare but also found at KFS 5), and "white stone" or "Witteklip" (milky quartz?) is also mentioned. Some sources specifically mention that the arrowheads were made of small un-retouched flakes. Indeed, in recent times, the use of retouched stone projectiles, such as segments, is poorly documented. Other published observations concern the elements identified as bored stones, grooved stones, upper and lower grinding stones.

Clearly, there are many similarities between the lithic industry of KFS 5 and the (middle and upper levels of the) nearby site of Kasteelberg B. These are visible in the abundant use of quartz mostly flaked in a bipolar percussion technique ("sur enclume") and flakes from different kinds of raw materials which are almost never retouched further (Smith 1987; Rivat *in prep.*). In both cases the flaked industry is associated with polished artefacts, particularly grooved stones with the groove resembling a hollowed-out canoe.

These assemblages of informal character contrast sharply with those encompassing retouched pieces and silcrete blades, equally dating to the recent pre-historic period in southern Africa. The question then arises, why did such different industries develop: are there temporal differences, or functional, or cultural? For some authors (Smith *et al.* 1991) this distinction reflects two contemporaneous populations where the informal industries would have been produced by pastoralists and the formal one by hunter-gatherers. Other authors (Schrire & Deacon 1989) abstain from such "ethnic" distinctions: for them either industry may have been produced by either population: "it is the context of the artefacts rather than their form or typology that will inform on who made them" (Schrire & Deacon 1989: 112). Unfortunately, in the case of KFS 5 the context will not be clearly revealing, as we are dealing with a surface collection. However, it is interesting to note that a site, for which a series of arguments allows to interpret it as a pastoral camp-site, produces an informal industry very similar to Kasteelberg B.

This discussion shows the methodological difficulties in finding adequate comparisons for the KFS 5 assemblage. In this part of Western Cape the analysed sites are located principally in two distinct geographical and/or topographical contexts. The majority of the sites are located close to the Atlantic shoreline, *e.g.* in the vicinity of Saldanha Bay (Drie Sisters, Vlaeberg, Kreeftebaai or Oudepost 1; see Schrire & Deacon 1989; Smith *et al.* 1991), near Paternoster or close to Elands Bay (Dunefields Midden; see Parkington *et al.* 1992). These locations, economically determined as marine sources, were exploited intensively which is also evidenced by a series of shell middens. Inland we find occupations of caves or rock shelters like De Hangen (Parkington & Poggenpoel 1971), Voëlvlei or Driebos (Smith *et al.* 1991). What has been little documented so far, however, are sites in between these two distinct groups of water-front and inland shelters, namely open-air sites comparable to KFS 5. To find those it would be necessary to undertake further surveys in the way Hart (1987) has done. This type of open-air sites would have the closest archaeological resemblance to the "villages" described in the historical sources as being typical for the recent pastoral populations of this region. In the future particularly those sites will allow more precise conclusions about the archaeological preservation of pastoral material culture which eventually may be ascribed to the historic Khoekhoe.

KFS 5 as a pastoralists' kraal: evidence of a livestock pen

A curious and late discovery provided a key to identifying KFS 5 as a probable kraal. Small lumps of a grey, partially vitreous, highly porous, lightweight material resembling volcanic pumice were found scattered in a more or less linear pattern across the south-western edge of the site (***Figs. 3c** and **14***). This unassuming material, overlooked until late in the survey, looks like vitrified dung (glassy biomass slag). Andy Smith (University of Cape Town), Tom Huffman (University of the Witwatersrand) and Nicolas Valdeyron (Université de Toulouse-le-Mirail, France), three specialists with field expertise in South African pastoralist sites, Iron Age sites and the European Neolithic, agreed with this visual identification, although positive identification would of course require deeper analyses. There are not many known archaeological occurrences of vitrified dung. Mainly they are known from the South Indian Neolithic context (Allchin 1963) and from the East-Central Botswana Toutswe culture (Denbow 1979; Thy *et al.* 1995), with some scattered occurrences coming also from the French Chalcolithic (after J.E. Brochier: Valdeyron, *pers. comm*.). Specialists debate how dung middens start to burn (Thy *et al.* 1995; Peter 2001), but there is general agreement that the melting process of organic material (manure and/or straw ashes in this case) requires temperature far higher (>1100° C) than those generally produced by accidental or intentional open fires. It must also be noted that we found at KFS 5 no artefacts testifying to high temperature activities such as fragments of ore, metal, slags, tuyères, charcoal, *etc.*,

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Fig. 14. Fragments of vitrified dung, KFS 5.

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that might have indicated metal smelting or pottery kilns. This inclines us to eliminate the possibility of dry dung having been used as fuel in furnaces. It may thus appear that the pieces of vitrified dung found at KFS 5 are the scattered relics of a burnt livestock pen.

This draws our attention to some documentary evidence, such as the following one, found in Henry Lichtenstein's account of his travel (1803–1806) across South Africa. It concerns a *trekboer* winter outpost located between the Cederberg and the Roggeveld, less than 200 km from the Vredenburg peninsula:

"The next day we had another hill to ascend, which lies also in the Karroo [Karoo], and bears the name of the Windheuvel, or Wind Hill. It has a very flat and widespread summit, on which was an empty winter habitation, without any trace of water near it. While we were yet at some distance, we saw a thick smoke ascending from it; and, as we approached, we perceived that the dung of the cattle, in all the kraals about the house, was burning. Probably some travellers had thoughtlessly made a fire in one of them, and neglected to extinguish it at quitting the place. This dung, which is often two feet in thickness when trodden down and dry, burns like turf for months, nay, for a year together; and it is very difficult, nay, almost impossible to extinguish it. Even after a heavy rain, a kraal, which has thus been set on fire, will only smoke the more violently; and, with every change of wind, the fire revives again more briskly than before" (Lichtenstein 1930, II: 211–212).

It must be noticed that this historical reference is to a kraal burning, not to the vitrification of the dung accumulation it contained. But this example emphasizes the existence of historical sources overlooked by archaeologists, and which could provide the necessary (if perhaps not sufficient) requirements for dung vitrification. As experimental archaeology and informants testify, kraals burning over long periods of time (several months to several years) may lead to the vitrification of manure (Peter 1999, 2001).

Here several points remain questionable. First, one could ask whether a simple surface hearth may have set a kraal on fire, or whether lightning played a role, as it is argued to be the case in East-Central Botswana (Thy *et al.* 1995). Second, one can ask if burning kraals are only cattle dung (as it is generally assumed to be the case in the Toutswe culture in Botswana) or if a sheep dung/urine component is not required to make the process of vitrification possible, as experiments and oral traditions (Peter 2001), as well as European archaeological examples from sheep pens (Valdeyron, *pers. comm.*) seem to indicate. This latter question is

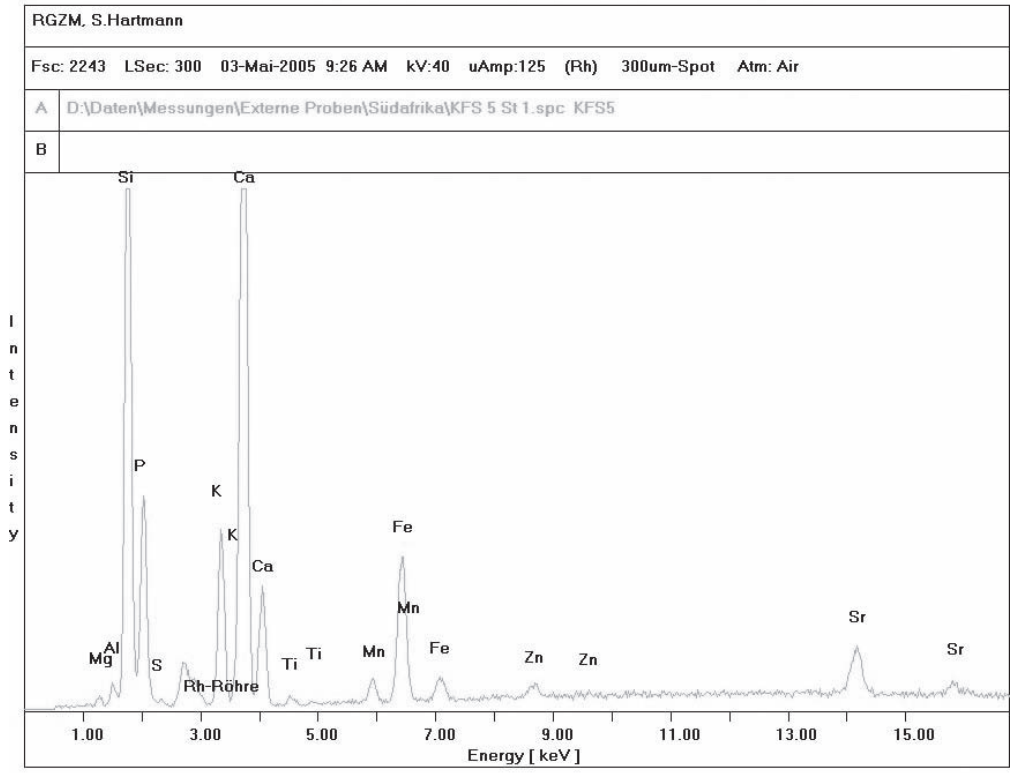

Fig. 15. X-ray diffraction analysis of a sample of vitrified dung from KFS 5 (Römisch-Germanisches Zentralmuseum Mainz, Germany).

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particularly relevant when one consider the case of KFS 5, for it is known from historical sources that the pastoralists inhabiting this area were both cattle and sheep herders. An X-ray diffraction study of a small sample of the alleged vitrified dung from KFS 5, carried out in the Römisch-Germanisches Zentralmuseum in Mainz (Germany) revealed a composition dominated by silica (Si) and calcium (Ca), with smaller quantities of phosphorus (P), potassium (K) and iron (Fe) (***Fig. 15***). The relatively small proportion of phosphorus is striking as more might have been expected in the case of dung. But the composition obtained is quite similar to the biomass slags reported from Botswana, which seem to be mainly composed of straw ashes (Butterworth 1979; Thy *et al.* 1995). Anyway, despite the low phosphorus content, it is still possible that the sample from KFS5 is vitrified dung, if the grass was very tough and with a high content of silica (Susanne Greiff, *pers. comm.*). As for the distribution of the alleged vitrified dung at KFS 5, the rather linear dispersion follows the prevailing ploughing pattern of the field. It is probable that the dispersed fragments were originally more tightly clustered in an area towards the centre of its current distribution. That the highest count of potsherds was encountered in the spread of vitrified dung suggests the possibility of a midden around square N, which may also represent the original centre of the dung distribution. The negative correlation between the spatial distribution of vitrified dung and other artefacts categories such as shell and lithics (***Fig. 3c, d*** *and* ***f***) suggests that the dung is probably associated with the main occupation of KFS 5. An AMS date of 210 ± 40 bp (Beta-208156) on a small fragment of the dung is rather inconclusive as the calibration of this date at two standard deviations places it anywhere from 1640–1950 (***Tab. 1***).

Discussion

The question of the archaeological visibility or invisibility of pastoralists has reached a climax in western and central Southern Africa due to the relative scarcity of elevated stone or earth structures easily recognisable as pens compared to historical evidence testifying for numerous indigenous "villages" or kraals in the recent centuries. In the case of Eastern and Southern Africa Iron Age farming communities, the presence of stone structures of kraals (homesteads or villages) visible in survey or on aerial photographs have led to the mapping of site distributions and to typological studies of settlement patterns (*e.g.,* Maggs 1976). Walled structures are also known from areas in southern Africa where

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no Iron Age populations are found today. Some stone structures are thus known from southern Namibia, the Northern Cape and western Free State Province of South Africa, for instance along the Middle Orange River valley, where these structures as well as archaeological and anthropological evidence suggest a late influence from Iron Age and European communities on local hunters-gatherers or herders (Maggs 1971; Morris 1992; Kinahan 1996). Other stone circles are also found in the Southern Cape, for instance along the Breede River in the district of Swellendam (Charlie Arthur, pers comm.). But here the archaeology has failed so far to confirm the attribution (permitted by locally-known oral sources) of these "kraals" to 18th or 19th century Khoekhoe herders; the focus on existing structures has not done much to raise the curtain of obscurity behind which the pastoralists' settlements have been confined due to their lack of visible structures. Had we not written sources at our disposal, we would be left with the wrong impression that the pastoral economy never reached the south-western coastal fringe at the tip of the continent.

There are exceptions. In south-eastern Botswana, despite the absence of surface structures, some 250 sites were found thanks to a particular grass (*Cenchrus ciliaris*) that grows on (mainly vitrified) dung middens, visible as bright spots on aerial photographs. These kraals were surrounded by pole-and-plaster huts, the foundations of which were revealed in excavations (Denbow 1979, 1984; Hall 1987: 85–88). This Toutswe culture flourished from the 9th to the 13th century on the eastern margins of the Kalahari Desert. Though mainly pastoral, it is thought to be economically and culturally linked to the Iron Age polities that developed by the same time in the Limpopo River valley. Other instances of pastoral settlement in an arid environment come from the Hungorob Ravine in the Brandberg, and from //Khauxa!nas in southern Namibia (Kinahan 1991, 1996). In the Hungorob Ravine, the archaeological evidence allows the interpretation that these clusters of stone huts represent pastoral encampments and homesteads of semi-nomadic sheep herders who had developed locally (during the second millennium CE) among earlier hunters-gatherer communities (Kinahan 1991). These examples from Botswana and Namibia of large ensembles of sites have permitted attention to be focussed less on the structures proper than on distribution patterns: in Botswana it is thought that the important variation in size of the sites reflects political and social stratification (Denbow 1984); in Namibia the differences in size between the sites and in proximity of the settlement units are perceived as illustration of a pattern of seasonal aggregation and dispersal (Kinahan 1991), which is known to be in general use among Khoisan peoples (Barnard 1992: 223–236, *passim*). There is also evidence that, in the Hungorob Ravine, the livestock was kept at outposts located near distant waterholes, a pattern reminiscent of the !Kuiseb Delta (Kinahan 1991, 1994–1995: 216), and which is partly determined by the ecological constraints of an arid environment.

This close combination of ecological conditions and patterns of territoriality may well have a predictive value in the search of ancient herders' kraals where these herders have left no visible structures. As Jill Kinahan (2000: 96) put it, "It is worth considering that sites of semi-permanent settlement did exist in the Cape [during the contact period], and that they might be located still. The !Kuiseb Delta model would predict a strategically situated central site, not close to the beach, but commanding the route to the interior. An examination of historical maps and charts, together with descriptions of relations between Dutch settlers and the Khoekhoen might suggest possible locations".

As for KFS 5, the historical sources perfectly match the hypothesis. As we have seen, the indigenous "villages" seen by the Portuguese travellers at the Cape coast were constantly located several kilometres inland. Following a pattern of seasonal aggregation and dispersal, the inhabitants of KFS 5 would have been able to use the well-watered banks of the perennial Berg River, some 20 kilometres further inland (and which flows into Saint Helena Bay), as a summer aggregation site. Actually, this transhumant pattern corresponds to what can be inferred from historical sources about the seasonal movements of one 17th century Khoekhoe tribal cluster, namely the Cochoqua (Smith 1992: 195). It is interesting to note that a similar pattern of alternate (if not necessarily seasonal) use of the river banks and the coastal pastures was practiced by the European owners of the farm during the first years of the 19th century (August de Mist 1802, cited by Schulz 2006).

Of course, there are no material remains at KFS 5 which can be unquestionably attributed to people who spoke Khoekhoe and who considered themselves Khoekhoe, and thus it remains impossible to categorically state that the occupants of this site were the Khoekhoe pastoralists known from an abundance of historical sources. However, a bundle of converging arguments can be put forward to help us secure such a cultural identification. First, the predictive pattern hypothesized by Namibian archaeologists is confirmed by the site location and our findings at KFS 5, of which the date of the main occupation clearly straddles the period of first contact with Europeans. Furthermore, the Portuguese records and the subsequent written records dating back to the colonial period are also suggestive of a continuity of land use all through recent centuries, which

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again is an incentive to the identification of the site as a pastoral settlement. Although some are right in stigmatizing the use and abuse of ethnographic comparatism in southern African archaeology (*e.g.,* Lane 1994–1995), it remains legitimate to think these pastoralists were Khoekhoe. Additionally, it is clear from the spread of radiocarbon dates, as well as the incised late first millennium decorated ceramics and the European objects, that KFS 5 represents a palimpsest of occupations rather than a single component site. Nonetheless, the pre-dominance of mid-second millennium radiocarbon dates, the informal character of the stone tool industry, and the coherent and complementary distribution of features, such as the stone hearths and limpet scatters in relation to the spread of vitrified dung (the latter feature being reminiscent of Botswana kraals), all support the idea that KFS 5 may indeed represent, in large part, a kraal occupied during the mid second millennium and early contact times. Although we cannot definitively claim to have identified a Khoekhoe kraal in the Western Cape, we do think that, given the nature of the terrain and of the evidence, it is perhaps not possible to go further than to provide this cluster of converging arguments toward such an identification. If this methodological assumption is right, then KFS 5 has taught us two salutary lessons as far as any planned survey for pastoralists' kraals in the western half of the sub-continent is concerned: 1) that without a predictive model of site implantation and good historical records it will be very difficult to identify low density scatters of contact-period Khoekhoe kraals; 2) that without some specific artefacts (such as shells and vitrified dung) it will be even more difficult to discover evidence of pre-contact pastoral sites.

Lastly, the question of the preservation of pastoralists' sites has implications beyond the debate in southern and eastern Africa. The methodological approaches applied in the Western Cape, with historical sources at hand, and their proposed results may eventually lead to a better understanding of similar economic adaptations in the Mediterranean but also in temperate Europe where pastoralists' sites date as early as the sixth millennium BC and where archaeological visibility is obscured by 7000 years of continuous agriculture (Gronenborn 1999, 2004).

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