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Research Article

A LEOPARD'S KOPJE BURIAL AT MATHANGWANE IN NORTHEASTERN BOTSWANA

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ABSTRACT

We report on a rare northern Leopard's Kopje grave in Botswana of a male from a small settlement, who, nonetheless, was buried with nine pots and many trade beads. The set of whole and decorated pots with traces of the contents give an indication of the quantity and nature of the funeral food and the customs surrounding this so-called 'pot burial'. The beads are similar to those at K2 and confirm trade with this region at 900 km inland from the east coast. Many of the beads were, however, devitrified. Skeletal analysis indicates unusual wear patterns of the teeth and enlarged clavicles, as well as a fused finger. These probably resulted from certain habits and activities. Comparison with contemporary Leopard's Kopje and Toutswe burials shows similarities in line with Central Cattle Pattern burial practices, yet the quantity of grave goods and the skeletal characteristics are indeed significant. Ethnography of Shona burial practices is used for insights into the meaning of location, orientation, position of the burial, and placement and nature of the grave goods.

Keywords: Leopard's Kopje, pot burial, glass beads, Central Cattle Pattern, Botswana.

INTRODUCTION

Excavation for a pit latrine in Mathangwane village led to the discovery of a skull with some pot fragments. At the request of the yard owner and the police, and with permission from the Department of the National Museum and Monuments of Botswana in Gaborone (DNMM), a salvage excavation was conducted. Mathangwane is a village on the west bank of the upper Shashe River about 15 km northwest of Francistown (Fig. 1). The grave was located in the kraal of a small settlement. The site (17-A2-30) is on slightly higher ground, which overlooks a valley through which a small tributary flows to the Shashe River, 1.25 km to the east. The area is underlain by gneiss, which produced shallow reddish-brown regosols, allowing for a moderately low yield of crops and a carrying capacity for cattle of 16 ha/unit under today's c. 450 mm annual rainfall. The natural vegetation is mopane (*Colophospermum mopane*) woodland with *Acacia nigrescens* and *Combretum imberbe*, part of the eastern hardveld.

Surface indications are of a cluster of at least five pole-and-dhaka structures with a livestock kraal to the north (Fig. 2). A concentration of potsherds to the southeast may be from a deflated midden. More structures may exist buried elsewhere on the site; the homestead itself was not further investigated. The pit latrine hole was dug into the kraal, with two previous attempts west of its ultimate position unsuccessful due to bedrock at 50 cm depth. The third attempt exposed the skull at 39 cm depth and some pottery. Altogether the holes went through 4 × 2.5 m of the kraal feature, which in section, showed a 24-cm-thick deposit over quartz gravel in red sandy loam. The kraal deposit is compact medium grey silty loam

near the surface, but loose, light grey silt near the bottom, probably the result of leaching minerals. Some prehistoric artefacts in the fill indicate that rubbish was thrown into the kraal. The greyish dung shows up at surface as a slightly higher feature surrounded by redder soil. It also stands out as a clearing with sparse grass surrounded by mopane, suggesting the kraal may have been 20 or 25 m in diameter, but this was not tested.

METHOD OF EXCAVATION

The entire grave (except for some toes) was exposed across the width of the last latrine pit. The skull seemed to have been removed, but then replaced. The mandible was broken and out of place, as were the atlas and a clavicle; two lower teeth were missing, and there was some damage to the pelvis. Excavation started with the skull and then revealed nine pots that, except for the head, chest and shoulder area, filled the grave (Fig. 3a). After documentation, the pots were removed to reveal the postcranial skeleton that was covered by fill before the pots were placed in the grave (Fig. 3b). The skull, mandible and clavicle made it difficult to excavate the chest area and were removed before the upper body was excavated (Fig. 3c). In the chest area some small glass beads were found, but most of the grave fill soil was taken to the lab for fine-sieving, and the fine soil fraction searched as many beads passed through the mesh. Upon refitting, we realised that some of the pots were incomplete. We returned to site and checked the dump adjacent to the grave and retrieved more pot fragments, but it is not clear whether these were removed from the grave, or from elsewhere in the latrine pit. During our revisit, we also obtained a sample of other artefacts from the kraal feature.

THE GRAVE

The grave pit was dug through the kraal deposit and into the red gravelly substratum. The grave, in contrast, was back-filled with loose, light grey silty dung with some mineralised dung nodules, gravel and prehistoric rubbish. The pit had an oval plan and was probably open over its entire length. The eastern profile of the latrine pit was bowl-shaped below the kraal deposit, but could not be distinguished in the kraal deposit, hence it is not known from which level the grave started or whether the kraal continued to be used. The grave pit was 122 × 93 cm at the top of the substratum and sloped inward to 97 × 60 cm at the bottom, 61 cm below the kraal deposit, and 85 cm below surface.

The body of the deceased was aligned with the head to the west-northwest. The face was turned to the right, looking south. The lower body lay flexed on the right side, but the upper body was on its back with the right hand under the chin and mouth, and the left arm across the waist with the hand over the right arm just above the elbow. Charcoal from the grave fill, likely from the rubbish that became mixed into the

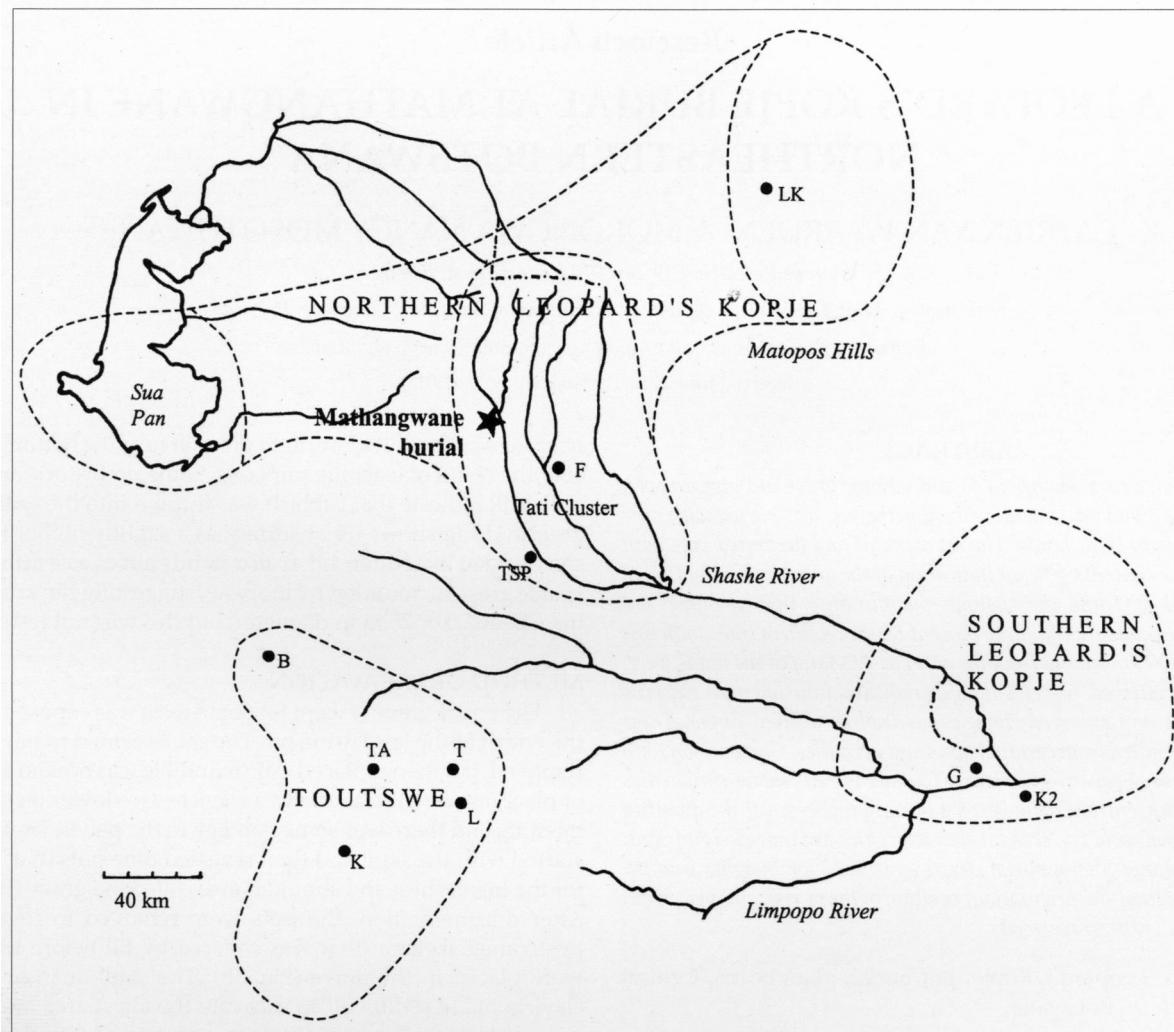


FIG. 1. Location of the Mathangwane Burial and contemporary sites in the Northern Leopard's Kopje, Southern Leopard's Kopje and Toutswe culture areas with graves. F = Francistown Watertower, TSP = Tonota Sewage Ponds, LK = Leopard's Kopje Main Kraal, G = Glennel, T = Toutswemogala, TA = Taukome, L = Lechana, K = Kgaswe B-55, B = Bosutswe.

kraal deposit, was dated to 920 ± 30 bp (Beta-298612), calibrated to AD 1152–1212 (1-sigma) and AD 1046–1085, AD 1111–1117, AD 1131–1225 (2-sigma) (SHCal04). These dates are consistent with the pot fragments found in the kraal deposit, and with the pots and glass beads of the burial, indicating that the grave was contemporary with the occupation of the settlement.

SKELETAL ANALYSIS

The skeleton was complete bar two teeth and a few phalanges. The bones were well preserved, but some damage was noted on the pelvis. Although the use of cranial sutures and dental wear for age estimation is discouraged by some researchers (e.g. Falys & Lewis 2011), we used these criteria and pubic symphysis to estimate the age of the individual because of lack of reference casts of older age indicators. Cranial sutures were generally closed but visible to obliterated, and medium sized patches of dentine were exposed on occlusal surfaces of posterior teeth. According to these morphological characteristics (İşcan 1989; Loth & İŞcan 2000a), the individual was estimated to have been between 40 and 60 years old at time of death, fitting the bracket of older adults (see Falys & Lewis 2011). The sex of the individual was estimated on the basis of known sexually dimorphic characteristics (Krogman & İŞcan 1986; Loth & İŞcan 2000b; Bruzek 2002). The skeleton presented a narrow greater sciatic notch and a narrow subpubic angle.

These characteristics are associated with males (Krogman & İŞcan 1986; Loth & İŞcan 2000b; Bruzek 2002). Furthermore, the mastoid processes on the skull were large which is typical of males (Krogman & İŞcan 1986; Loth & İŞcan 2000b).

Three small lesions, commonly known as button osteoma, were identified on the frontal bone. These are generally benign tumours of unknown etiology (Aufderheide & Rodríguez-Martin 1998; Roberts & Manchester 2007). The acromial ends of both clavicles are unusually large, with small bony growths surrounding the articular surfaces, and the sternal ends of the clavicles have porotic arthritic lesions, while those of the first ribs have large bony growths. On the shoulder joints, glenoid cavities on both scapulae are surrounded by small bony growths but there are no related lesions surrounding the heads of the humeri. It seems possible that the lesions on the scapulae were associated with osteoarthritis (Aufderheide & Rodríguez-Martin 1998). Taken together with lesions on the sternal area, however, it is possible that the lesions are activity or lifestyle related. The hypertrophy of bones strongly suggests strong muscle attachments resulting from chronic and excessive use of the associated muscles. This suggestion is further supported by the dental modifications. The individual also had small vertebral osteophytes on some of the major joints. These lesions were probably due to age-related degeneration. The first and second phalanges of the left middle finger were fused at a right angle, probably caused by trauma, so that the finger could not be

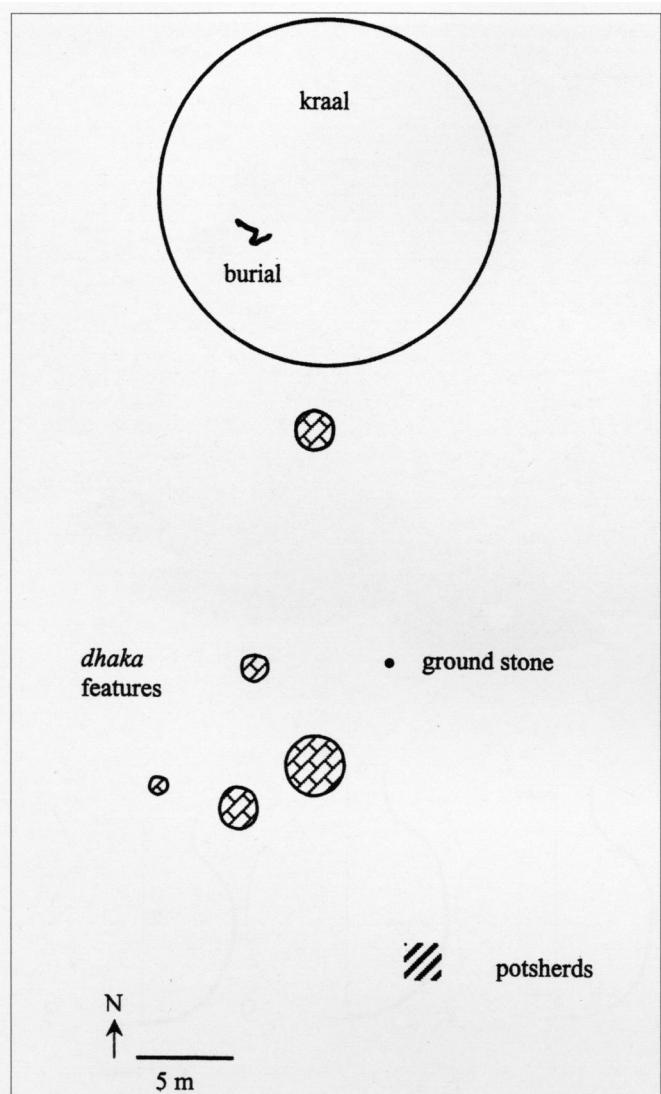


FIG. 2. Plan of the site and location of the grave

straightened. The head of the associated metacarpal had developed bony growths. The fifth lumbar vertebra was partially fused to the sacrum.

The maxillary left second incisor was lost ante mortem. The alveolus had completely healed at the time of death. Slight alveolar resorption (Brothwell 1981) was observed on both the mandible and maxilla. An inter-dental carious lesion is present on the buccal surface of the right maxillary third molar. Mandibular condyles show early stages of attrition indicating the onset of arthritis on the temporo-mandibular joint. There was little dental wear and hence the arthritis on the temporo-mandibular joint cannot be associated with such wear. The corresponding mandibular fossa had no lesions. The lateral sides of teeth on the maxilla have interesting wear patterns. The canines, premolars and first molars on both sides, and the second incisor in the right side have been worn on the lateral surfaces to a smooth, shiny appearance. Wear on the canines and first premolars especially was so severe that dentine was exposed (Fig. 4). Similar polishing of labial surfaces was observed on all mandibular teeth from the left second molar to the right first molar. Although dentine had not been exposed on mandibular teeth, the 'polishing' on incisors and canines occurred on the entire enamel surface. In contrast, the polishing on all other teeth affected partial surfaces, resulting in 'shiny spots'. It seems that this unusual wearing appears to have started later in the individual's life, because the tartar

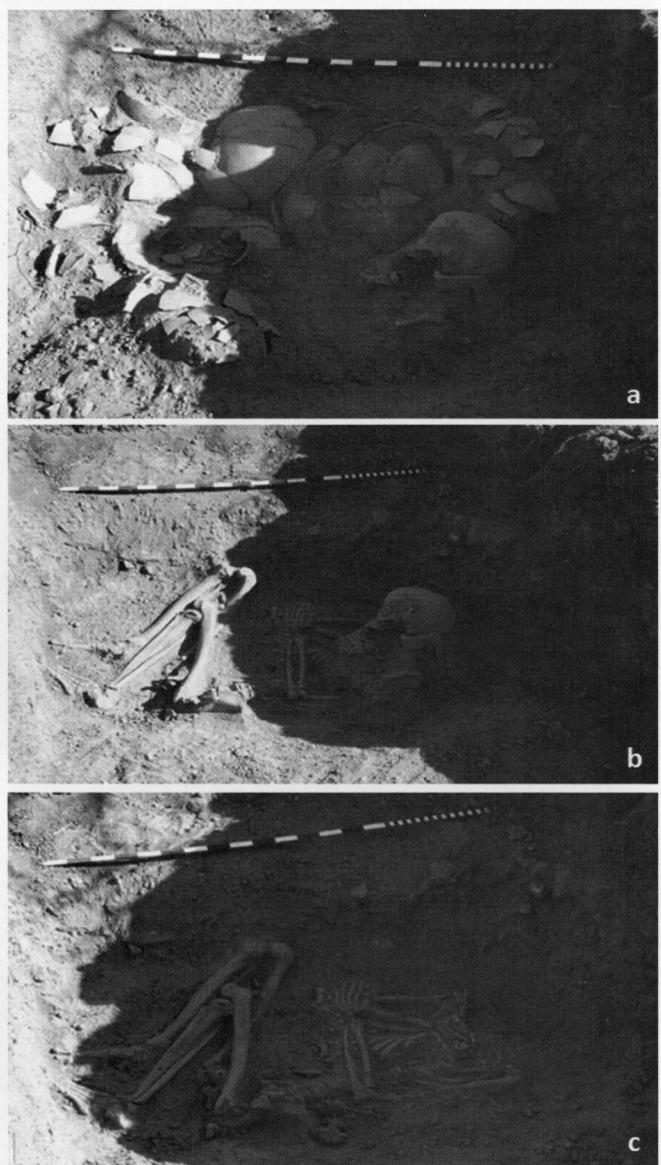


FIG. 3. (a) Grave with pots, seen from the north; (b) the skeleton; (c) upper body below the skull.

deposits on the affected teeth have signs of gradual smoothing and polishing on the edges similar to that on the enamel. This wear pattern was likely caused by something hard being rubbed across the teeth.

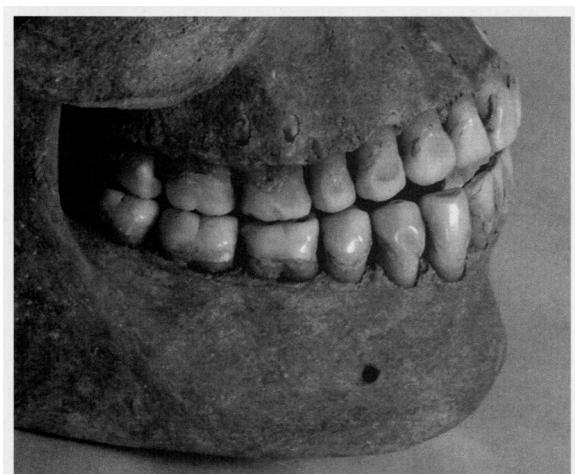


FIG. 4. Worn enamel on labial surfaces.



FIG. 5. Reconstructed pots.

GRAVE GOODS

This burial is remarkable, not only because of the curious skeletal wear patterns, but also because of the many pots and glass beads found with the deceased.

THE POTS

USE, WEAR AND BREAKAGE PATTERNS

The reconstructed pots are shown in Figures 5 and 6. Figure 3a shows that the pots were broken. The initial impression was that the vessels were placed in the grave whole and that they broke *in situ*. However, graves at the K2 Leopard's Kopje site contained pots that were deliberately broken with the pieces arranged over and around the body. This burial practice was referred to as a 'pot burial' by Gardner (1963: 8 and chapter VIII). Was this also the case with the Mathangwane burial?

There was evidence of some *in situ* breakage, as pieces were still in their proper place relative to adjoining fragments. This could have happened during backfilling the grave, by the weight of the overburden, or by subsequent livestock trampling the grave. Some pots broke, collapsed or slipped, but mostly they were found as originally placed. Upon refitting, diameters were measured and a reconstruction (Fig. 7) shows that the pots were initially possibly tightly fitted in the grave, placed right side up and complete.

There is, however, evidence of deliberate breakage. Some jars were broken at the neck-shoulder inflection in a distinct zig-zag pattern, indicating forceful impact down onto the rim. Four of the jars had one or more holes punched into the base or body from the outside; stains indicate that liquid had poured through the holes, and the two holes of vessel 3 were positioned towards the bottom of the grave. The punctures can thus not be ascribed to post-depositional damage from backfill or excavation events. Conical fragments that broke off from the inside were found with the pots, suggesting that the punctures were made during the last use of the pots. Our interpretation is that these holes were made on purpose to either drain the contents into the grave and/or render the pot unusable. Upon reconstruction we found that portions of pots were missing: five were nearly complete, one had half the base missing, one had $\frac{1}{4}$ missing,

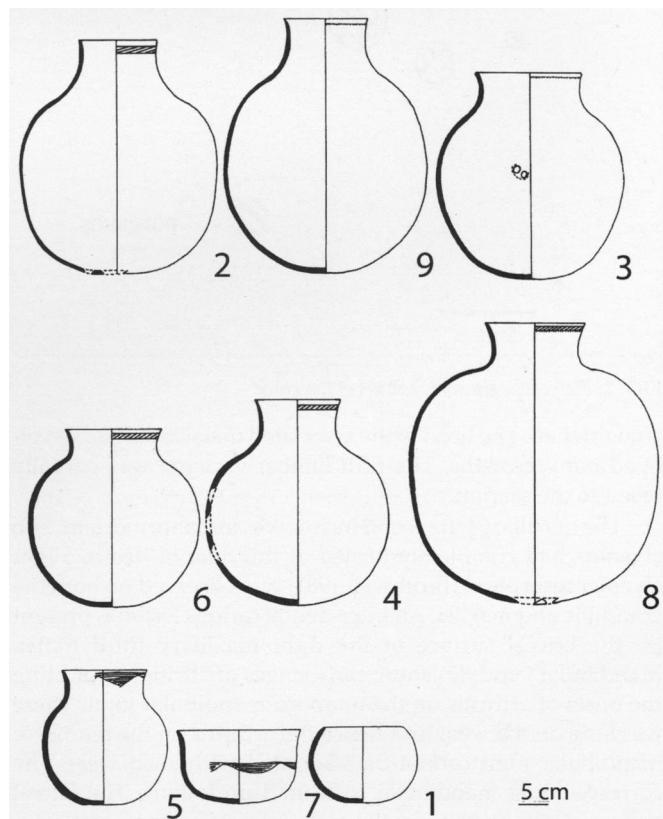


FIG. 6. Vessels from the Mathangwane burial: top row: madila jars; middle row: beer jars; bottom row: cooking pot, beaker-bowl and sub-spherical bowl for serving.

three c. $\frac{1}{3}$ missing. Some of these sherds may have been removed during the digging of the latrine hole, but vessel 3, for example, lay undisturbed on its side with the upper portion complete, yet a third of the deeper part missing.

There are some telling stains and deposits on the pots, some post-breakage as the deposit did not continue across joining sherds, or the deposit continued around a fragment and

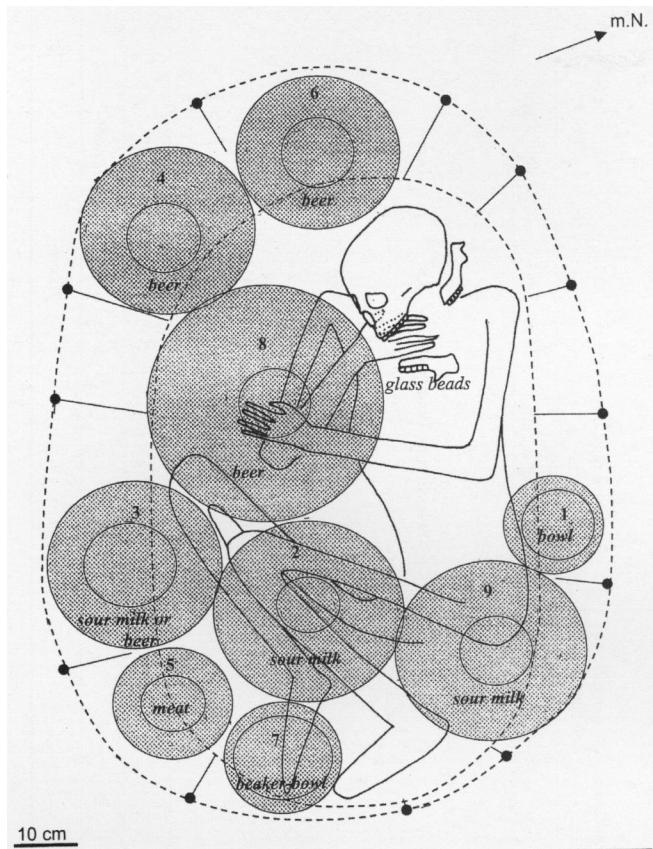


FIG. 7. Location of pots (reconstructed) relative to the body.

coated the broken edge. Some light mineral deposit was due to the dung. Three jars were partly coated in a thick cream- and orange-coloured deposit. In the case of jar 2 the coating was present on the exterior of the base around two puncture holes (of respectively 10 mm and 27 mm in diameter), as though a thick liquid was pouring through them. Jar 9 also had a thick cream-orange deposit spilled from the mouth over the neck and part of the body. The interiors of jars 2 and 9 are quite corroded. In jar 9 half of the wall thickness over large sections was 'eaten' away, leaving it only 2–3 mm thick in places, as compared to the 8-mm-thick base. It is likely that the thick liquid was soured milk, known as *madila* in Botswana, and fermented through lactic acid bacteria. This may have been due to a chemical reaction with the acid, suggesting that *madila* was made in the pots as opposed to being served in them. The latter may have been the case with jar 3, where the interior surface is only pitted. Note that recent containers (pots or gourds) for fermenting milk may have a hole for draining the whey either on the shoulder (Van Waarden, pers. obs. among Kalanga in Botswana) or in the bottom (Ellert 1984: 103).

Several jars have a thin reddish deposit (likely beer made from red sorghum) in part of the interior and exterior of the body, some post-breakage. For example, on jar 4 this occurred around the exterior of a vertical line of three puncture holes at the widest part of the body, as well as elsewhere on body and base, and on jar 6 it was present on the exterior from rim to base. Jar 5 was heavily blackened by fire and probably used for cooking. Some of the soot on this, and some other pots, appears 'fresh', as if placed from the fire into the grave. Underneath all these deposits, the exterior surfaces of the large jars are smoothed and burnished to a glossy, dark brown shine. As the clay was red-brown, pigment or sealant, such as soot or charcoal mixed with fat, may have been used to create the colour. However, it is also reminiscent of the resinous finish from

boiled roots of the *mzizi* tree, put on pots by Zezuru potters in Botswana to harden and make them look beautiful (Josephina Manzanyane, Moroka, pers. comm. 1994). The highly burnished finish would also have made the pots more waterproof, closing the clay pores.

Wear patterns of the exterior surface of the bases suggest that, apart from jar 8, these pots were not newly made for the funeral. The use, wear and breakage patterns thus suggest that food and drink were prepared in the vessels. Some liquid was poured out of the mouth (for the mourners), some through punctured holes (into the grave). Immediately afterwards (while the liquid was still flowing) the pots were smashed from the top and broken, after which they were placed in the grave, where some subsequent *in situ* breakage occurred.

FUNCTIONS OF THE VESSELS

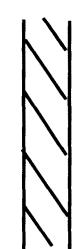
Table 1 is a summary of the funerary pots and their likely functions. *Madila* jars (Fig. 6 top row) with thick creamy-orange deposits and corroded inner surfaces were likely used for making and storing *madila*. The insides of these pots would not be cleaned before the next batch of *madila* was made, as the remnants would have the necessary bacteria for the souring process. The tall straight necks prevented spillage and aided in keeping the liquid cool. Jars 2 and 3 have holes that may have been for draining whey, but not jar 9, and the presence of puncture cones makes it more likely that the holes were punctured during the funeral. The neck of jar 3, although tall, is recurved and also has some thin red beer deposit, suggesting that it may have been a beer pot used to bring *madila* to the funeral. These jars could hold up to 36.4 l of sour milk.

Beer jars 4, 6 and 8 (Fig. 6 middle row) have thin reddish deposit, smooth inner surfaces and tall, recurved necks with flaring rims. The necks would have facilitated pouring thin liquid. Up to 40.1 l of beer may have been in these jars. Other vessels include those in Fig. 6 bottom row. Jar 5 is considerably smaller than the *madila* and beer jars, with a volume of 2.5 l compared to the 7.3–24 l of the other jars. It too has a tall, slightly recurved neck, but the neck is wide relative to the size of the pot, facilitating stirring. The heavily burnt surface indicates that something had been cooked and presented in it at the funeral. As the deceased was an adult man, it is likely that it held meat rather than porridge or a vegetable relish. Vessel 1 is a sub-spherical bowl, with some soot, suggesting something was heated, but not cooked in it. It also has some thin reddish deposit on the exterior over the soot on the base and body, as well as inside, but post-breakage, possibly from beer from an adjacent pot. Alternatively, meat may have been heated and served in the bowl and beer subsequently. This is the only vessel that was not decorated apart from its brown burnished exterior. Vessel 7 is a beaker-bowl with some burning on the body and heavy burn with soot around the base. It may have been used to heat up and serve something, and was made of fine clay, smoothly finished in and out and burnished on the exterior. The total volume of the pots is estimated to have been 81.6 l of which 76.5 l was liquid, 36.4 l sour milk and 40.1 l beer.

DECORATIONS AND OTHER STYLISTIC FEATURES

All the vessels have smooth curves; bases are round, except for a somewhat flat base of jar 5. The jars are all spherical and have well-developed, round shoulders. Rims are simple. The beaker-bowl is a typical shape for the 12th–13th century, featuring in both Leopard's Kopje and Toutswe pottery. Eight of the funerary vessels are decorated; only the sub-spherical bowl is plain. The *madila* and beer jars have a simple band around the upper neck, starting at 6–10 mm below the lip. Three have a

TABLE 1. Summary of funerary pots from the Mathangwane burial.

No.	Shape	Height × Max. diameter (cm)	Decoration	Location of decoration	Deposit	Interior corrosion	Punctured holes	Volume (litre)	Function
BOWLS									
1	Sub-spherical bowl	11.2 × 15.8	—		some soot and some thin reddish deposit	—	—	1.1	serving
7	Beaker-bowl	10.7 × 17.8		shoulder	some burn, some soot			1.5	serving
JARS									
5	Jar with tall, slightly recurved neck	19.6 × 18.3		upper neck	heavy burn with soot		2.5	cooking pot (meat?)	
2	Jar with tall, straight neck	34.9 × 30.0		upper neck	thick liquid cream + orange colour	corroded	2 holes in base	11.9	sour milk
9	Jar with tall, straight neck	38 × 31		upper neck	thick liquid cream + orange colour	corroded		14.4	sour milk
3	Jar with tall, recurved neck	31.1 × 28	○ ○ ○ ○ ○ ○ ○ ○ ○	upper neck	thick liquid cream + orange colour some red deposit	corroded in base and neck	2 holes at max. diameter?	10.1	sour milk (or beer)
Subtotal								36.4	sour milk
4	Jar with tall, recurved neck	30.9 × 27.5		upper neck	thin reddish deposit	3 holes at max. diameter		8.8	beer
6	Jar with tall, recurved neck	26.6 × 26		upper neck	thin reddish deposit			7.3	beer
8	Jar with tall, recurved neck	37 × 42		upper neck	thin reddish deposit	2 holes in base		24.0	beer
Subtotal								40.1	beer
Subtotal								76.5	liquids
Total all vessels								81.6	

grooved bordered band of oblique lines up to the right, and a fourth the same, but with additional vertical ticks below that. The grooves are narrow, in places more incisions, and the patterns generally regularly executed. The bands are relatively narrow, 6–8 mm wide. But, two of the *madila* jars have a single horizontal line of small punctates, possibly made by grass stalks, on a shallow groove for guideline.

Jar 5 has a 2 cm band of pendant triangles filled with horizontal lines made with fine grooves or incisions, starting 4.5 mm below the lip. The beaker-bowl has a band of pendant arcades on the 'shoulder', also hatched with horizontal lines, also executed with fine grooves or incisions. The suite of vessels and their decorations are consistent, as they have well-finished surfaces, fine grooves and punctates regularly executed, and all diagonal lines are up to the right. It is possible that they were made by the same potter.

OTHER DECORATED POTTERY

Fifteen sherds of other pots were found in the grave fill, two of them decorated. An additional 337 sherds were collected from the latrine pit dump next to the grave, eleven with decoration. These are mostly thick-walled and unburnished and likely rubbish thrown into the kraal. Decorations consisted of eight neck sherds with grooved oblique bordered bands and five shoulder sherds with horizontal lines or hatched shapes (incomplete). The decorations are consistent with the motifs and patterns on the funerary vessels, indicating the contemporaneity of grave and homestead.

GLASS BEADS

A total of 948 glass beads were found in the chest to neck area of the grave fill. Some were clinging to the bottom of the skull, suggesting that they had been worn as necklace/s, rather than woven or sewn onto something. All but one are 'minute' tubes of <2.5 mm in diameter, and short (< diameter) or standard (c. = diameter) in length ratio; some are slightly longer (see Wood *et al.* 2009). The ends are slightly heat-rounded. One 'small' bead is c. 3.5 mm in diameter and short in length ratio.

Colours are as follows: opaque-translucent 'white' ($n = 758$), translucent 'white' with hints of green-blue and cream ($n = 108$), transparent-translucent turquoise to greenish-blue ($n = 63$), translucent greenish-blue ($n = 1$, the 'small' bead), translucent bluish-green to green ($n = 4 + 4$ fragments), opaque black ($n = 10$), transparent-translucent dark or cobalt blue ($n = 3$), and translucent yellowish ($n = 1$).

The minute white beads are dull in colour reminiscent of shell. Under $\times 10$ magnification, they were identified as glass beads, many with corroded surfaces, but 108 still have remnants of initial colouring. The copper oxides that had produced the green-blue colour range were probably removed as a result of leaching and corrosion. It is unlikely that the chemical composition of the dung alone caused the damage, which would at most result in mineral deposition on the outside, leaving coloured glass below – which is not the case. More likely causes are the acidic *madila* and the alcohol of the beer. This means that (apart from the 'small' greenish-blue bead, 1 yellow, 3 cobalt blue and 10 opaque black minute beads) the bead assemblage likely consists of minute beads in the green-blue colour range, slightly heat-rounded, as found at the contemporary K2 site (Wood 2000). Opaque black beads, which appear towards the end of the K2 occupation, form 1.05% of the Mathangwane assemblage, consistent with its date. The origin of the green-blue beads from K2 is not yet known, but they are possibly from South-East Asia (Wood 2000). If the average length of the minute beads was 2 mm, then 948 beads, if strung together,

would have represented about 190 cm of necklace (= three strands around neck to chest).

OTHER FINDS

Two ostrich eggshell and four mussel shell beads were also found in the grave fill. An ostrich eggshell bead with unfinished outer edge, and a fragment of ostrich eggshell suggest that such beads were made on site. Large mussels (*cf. Unio caffer*) occur in perennial rivers (Appleton 1996), while rivers in northeastern Botswana today are seasonal, which suggests a wetter climate around AD 1200. A fragment of an iron wire-wound bangle (5 mm thick) also came from the grave fill. It is not known if this and/or the shell beads were worn by the deceased or were part of the kraal rubbish. Ten animal bone fragments were collected from the grave fill and 45 from the latrine pit dump, all unidentified and likely kraal rubbish.

CULTURAL AFFILIATION

Leopard's Kopje occupations occurred in northeastern Botswana, western Zimbabwe and around the Shashe-Limpopo junction. Huffman (1974, 2007) distinguished a northern and southern facies and two temporal phases. In the northern Leopard's Kopje facies there was first the Mambo phase (AD 1000–1250), followed by the Woolandale phase (AD 1250–1400). In the southern Leopard's Kopje facies, around the Shashe-Limpopo junction, the K2 phase (AD 1000–1200) was followed by a transitional phase (AD 1200–1250) and the classic Mapungubwe phase (AD 1250–1300). A number of northern Leopard's Kopje sites are known, and the evidence suggests that these may occur in three clusters (Fig. 1): the Zimbabwe Cluster north of the Matopos Hills (including the Leopard's Kopje type site; distribution after Swan [1994: fig. 4.7]), the Tati Cluster in northeast Botswana (Van Waarden 2011a), and the South Sua Cluster (Main 2008; Van Waarden 2011b, 2011c). Whether these are real clusters or merely reflect survey foci remains to be seen.

The Mathangwane burial site lies within the Tati Cluster, currently comprising 66 registered sites (DNMM; Van Waarden 2011a) with pottery and dates similar to the Mambo and Woolandale phases north of the Matopos. Most sites are associated with hills, have rough terrace walling and prominent kraal features, often with vitrified dung. Faunal evidence from excavated sites indicates the presence of cattle and ovicapines (Plug 1988). Ten are unwalled sites on high ground on the plain, five of which with a kraal feature visible at surface. The range in site sizes within the Tati Cluster suggests a socio-political hierarchy of which the Mathangwane burial is on a commoner site – a small family of farmers with livestock. Beer pots indicate that they grew sorghum to brew beer.

The previously described vessel characteristics of the Mathangwane burial are typical for the first phase of the Leopard's Kopje in both the northern and southern facies (Huffman 1974, 2007). None of the pots, however, have the more diagnostic Mambo phase decorations (simple bands of chevrons and loops), which distinguish the northern from the southern Leopard's Kopje facies (Huffman 1974, 2007; Van Waarden 1998). Yet, their presence at other phase 1 Tati Cluster sites, such as Selolwe and Golden Eagle 117 (Van Waarden 2013), at 14 and 30 km respectively southeast of Mathangwane, shows similarity with the Mambo phase pottery of the Leopard's Kopje Main Kraal type site, north of the Matopos. The date and glass beads furthermore confirm that the Mathangwane occupation was part of the northern Leopard's Kopje Mambo phase. A slightly raised, oblique bordered band in the neck, diagnostic of Toutswe pottery (Denbow 1982, 1983; Huffman

2007), is present on a single Mathangwane sherd possibly indicating contact with sites to the south (Fig. 1).

Stone-wall architecture of the Tati Cluster developed into the subsequent Zimbabwe-Tradition ruins (Van Waarden 2011a), which have links with Shona oral history (Beach 1994). More specifically, a development link between Tati Cluster retaining walls and stone platforms with those of the Khami phase of the Butua State (Van Waarden 2012), whose citizens were Kalanga and spoke Western Shona, makes the Kalanga likely direct descendants of the northern Leopard's Kopje population.

CONTEMPORARY GRAVES

NORTHERN LEOPARD'S KOPJE AREA

Few graves are known from northern Leopard's Kopje sites, including only two from the Francistown area and five from sites in Zimbabwe (Fig. 1). At the Francistown Watertower Site (17-B1-3) the flexed burial of an elderly female was salvaged by G.L. Guy, Bulawayo Museum, in 1967. Associated pottery was identified by Keith Robinson as Leopard's Kopje II (Mambo) phase (Parsons 1970: 20). The grave occurred within a terraced hilltop settlement with *dhaka* house remains.

Grave 3 at Tonota Sewage Ponds (Site 17-A4-2) is the partial skeleton of a c. 40-year-old individual, probably male (Mosothwane, in Van Waarden 2003). It was accidentally removed by machine along with a portion of a tall-necked jar with a grooved oblique bordered band and a plain bowl (Van Waarden 2003). This grave was associated with a homestead with a dominant kraal, which yielded similar pot shapes and decorations as at Mathangwane. The grave was downslope, north of the homestead in a soft calc-silicate deposit. The site is located 50 km south of Mathangwane and 1.4 km west of the Shashe River, on a rise overlooking the Shashe valley.

At Leopard's Kopje Main Kraal Huffman encountered two graves associated with the Mambo phase (Huffman 1971, 1974 with R.M. Hanson). Grave B2 in a white layer, possibly dung, was of an infant flexed on the right, with no grave goods. Grave B3 in the residential area is of a 20 to 25-year-old male. The spine is aligned with the head to the northwest and he is lying flexed on the right side. The right hand was placed at the chin and the left hand behind the left ear. Two small broken beakers were found in front of the deceased. Stature was 178 cm.

De Villiers (in Huffman 1974) reported on two skeletons from Woolandale Mound Number 2. Skeleton 174 is of a female, 20–30 years of age, with a stature of 160 cm. Skeleton 280 is of an adult of unknown sex. Tobias (in Huffman 1974) reported on a skeleton from Northlynn, a site which Huffman classified as of the Woolandale phase. This was a 30 to 40-year-old male, who was 175 cm tall.

SOUTHERN LEOPARD'S KOPJE, THE K2 PHASE

More graves are known from the southern Leopard's Kopje area, including the K2/Bambyanalo site, the southern capital at the time and main trade centre between the interior and the east coast with an estimated population of 1500 (Huffman 2000). Other graves are known from Glennel, across the border in Botswana. These sites are about 280 km down the Shashe River from Mathangwane.

At K2 most of the graves were from the residential zone south of the central cattle kraal, and from a trench through the large central ash mound associated with the court, which had subsequently engulfed the kraal. Gardner (1963) encountered 70 graves containing 89 individuals. Subsequently some more graves were excavated (Meyer 1998), bringing the total to

94 individuals (Steyn & Nienaber 2000): eight male adults, five female adults, five unsexed adults and 76 children. Gardner (1963) provided some details on location, orientation, position, an estimate of sex and age, and grave goods. The skeletal remains were initially studied by Galloway (1959), but have been restudied by Steyn (1994; Steyn & Nienaber 2000). The information from Gardner, Meyer and Steyn has been compiled in an updated grave list (Hattingh & Hall 2009: tables 1 and 3) with particular attention to associated pots and their placement relative to the bodies, confirming an association of beakers with children, especially newborns (Hattingh & Hall 2009: table 4).

Although two adults and two juveniles were found in the central kraal (Steyn 1994: 89, fig. 4.1), it is not clear which graves these were. In addition, one male adult, one female adult, three unidentified burials and one child were buried in the central ash midden, six children under a hut floor and one elsewhere in the residential area (Steyn & Nienaber 2000: table 2). There was no difference in orientation between males and females. For 54 individuals the alignment was such that 23 lay with heads pointing west, one southwest, nine northwest, six north, two northeast, two southeast and five south (Gardner 1963). If we combine southwest, northwest and west, 33 of these individuals were buried with heads pointing in a westerly direction. Six male adults were buried flexed and on the right side, two on the left side, one female adult was buried flexed on her right, one on the left, 23 children were flexed on the right, 20 on the left, three individuals were flexed but side unknown, one individual lay on the stomach and two on the back, while one infant was buried with the body in a clay beaker (Gardner 1963; Steyn & Nienaber 2000; Hattingh & Hall 2009).

There was a wide variety of grave goods, especially pots. Table 2 lists the number of pots per grave.

One male adult was buried with six pots: a jar below the pelvis, a jar below the knees, a bowl behind the pelvis and a possibly inverted bowl by the skull or neck, as well as a globular pot and a dish. In general, however, male and female adults were buried with one or two pots only. A baby of 9–12 months was buried with seven pots: five beakers, a jar and a globular pot; while another newborn was buried with six pots: four beakers, a bowl and a jar (Hattingh & Hall 2009: table 3). As mentioned, children especially were buried with beakers, whereas adults were associated with jars (*ibid.*: table 4), although beakers and bowls were also present. Pots were placed predominantly in the head (51%) and pelvis (34%) areas (*ibid.*: table 5).

Gardner (1963) provided fairly detailed information on glass beads and other grave goods. Table 3 is a compilation from 63 graves, showing that 27 had no beads and 26 fewer than 100. Of the ten individuals with more than 100 beads, all but one were youngsters, six of which were newborns or infants. In these graves green-blue beads were predominant. A male burial (KS.33/A1734), mentioned before as having been buried with six pots, included 2371 glass beads (2364 greenish-blue canes, seven Indian red), some threaded in three strands at the neck. He was 30–40 years old and buried in hill-wash or an old pit, flexed on the left side, head to the west, with his left hand on the right knee and right hand over the head. Gardner (1963: chapter VIII) also observed the presence in four graves of 'devitrified' beads resembling bone or paste with traces of greenish-blue colour. These are similar to those described here for Mathangwane.

Finally, mention must be made of the individual in grave KS.65, a 16 to 18-year-old of unknown sex (Steyn 1994). Accord-

TABLE 2. Number of pots in K2 graves (after Hattingh & Hall 2009: tables 3 and 1).

Sex and age	Number of pots in grave							Total burials
	0	1	2	3	4	5	6	
Male adult	2	1					1	4
Female adult	1	1						2
?Adult	2		1					3
Juvenile 9–14 years	2	1			1			4
Child 3–9 years	17	3	4	3	2	1		30
Infant ≤2 years	2	4	4	4	2		1	18
Total	21	12	12	7	4	2	2	61

TABLE 3. Glass beads in K2 graves (after Gardner 1963: chapter VIII).

Sex and age	Number of glass beads											Total number of individuals	
	0	1–100	101–200	201–300	301–400	401–500	501–600	601–700	701–800	801–900	901–1000		
Male adult	3											1	4
Female adult	1	1											2
?Adult	6												6
Juvenile 10–15 yrs	2	1		1									4
Child 3–9 yrs	8	15								1	1		25
Infant ≤2 yrs	10	6			1	2	1			1	1		22
Total	27	26		1	1	2	1		1	2	1	1	63

ing to Gardner (1963: 50–51), s/he was buried “on back, head turned to the right and [facing] south. Legs flexed. Left arm at side, forearm across the body. Right arm at right side and fingers near face” – just as the Mathangwane individual.

Eleven individuals were found buried at Commando Kop (Site 27-A1-30), subsequently called Glennel (Hanisch 1979, 1980). This is a K2-phase site in the Tuli Block, Botswana, on a hill 11 km west of the Shashe River and 23 km northwest of K2. The graves included three male adults, two female adults, an unsexed adult, a female juvenile, an unsexed juvenile, a female infant, two unsexed infants and isolated bones of an immature individual (De Villiers, in Hanisch 1980). Burials D36.1.1 and D35.1.1, east on the hill, were disturbed and partly looted. Hanisch (1979) uncovered eight more burials and isolated bones of a ninth individual in the northern residential area. In these graves the deceased were fully flexed on the left or right side, arms folded in, knees drawn up under the chin. Each was buried with one or more pots. Two adults had strings of *Achatina* shell beads around the neck, one with a garden-roller glass bead as spacer. Burial 35.1.1 was a female adult of unknown age, 1.6 m tall and buried on the stomach with her legs bent backwards at the knees. The pieces of three pots were placed around her body before the grave was closed. Burial 36.1.1, the most disturbed, was of a 10 to 12-year-old female buried with at least 12 pots, as well as numerous ostrich eggshell and *Achatina* disc beads. Hanisch (1979) concluded that Glennel was a single component site, although the pottery included Zhizo and Leopard’s Kopje A (K2) decorations. There are two radiocarbon dates for the site (Maggs 1984): 1115 ± 55 bp (Pta-1817) and 980 ± 40 bp (Pta-1957), calibrated to AD 898–920/944–1024 and AD 1043–1090/1101–1152, respectively (SHCal04, 1-sigma ranges), so likely a bit earlier than the Mathangwane burial, although their 2-sigma ranges overlap.

TOUTSWE GRAVES

The Toutswe chiefdom, Palapye-Serowe area of east-central Botswana c. 150 km south of Mathangwane, was contemporary with the Mambo and K2 phases of Leopard’s Kopje. It has a

distinct pottery tradition, characterised by combstamping and often a raised band in the lower neck. However, emphasising similarities rather than differences, similar pot shapes are present as in the Leopard’s Kopje Tradition of tall-necked jars with spherical bodies and continuous curves, beakers or beaker-bowls, and decorations of oblique bordered bands in the neck and bands of hatched triangles or arcades (Denbow 1982, 1983). Like Leopard’s Kopje, Toutswe people were agro-pastoralists whose settlements had prominent cattle kraals and include both hilltop elite sites (e.g. Toutswemogala and Bosutswe), and commoner villages on the plain (e.g. Kgaswe B-55 and Lechana). Thus, there are broad cultural similarities with regional differences between contemporary Leopard’s Kopje and Toutswe societies. The one sherd at Mathangwane with a raised band suggests some contact with the Toutswe cultural area from which 90 burials have been excavated (Mosothwane 2004, in press; Mosothwane & Steyn 2004).

From the upper levels of Taukome (Site 26-B2-6), where the pottery is transitional Zhizo-Toutswe, dated to 995 ± 75 bp (I-11409), calibrated to AD 1023–1161 (SHCal04, 1-sigma range) Denbow (1983) excavated three burials. Feature 4 was an infant buried in a complete vessel. Associated with this, under several stones, were fragmentary remains of six more pots. Feature 5 was a child’s burial, flexed on the right side with the head to the west. The head and feet were covered by large stones and another stone was under the right scapula. There were no grave goods. Feature 9 was a disturbed grave under a small pile of stones at the north edge of the kraal accompanied by a complete pot and a large beaker fragment.

Thirty-one burials are known from Toutswemogala (Site 27-A1-1), of which only four are adults (De Villiers 1976; Lepionka 1977, 1978), but further information was not accessible. Eight burials (No. 5–11, 13) were found in the Toutswe levels at Bosutswe (Site 16-D3-1), four from the later Lose level and one of uncertain affiliation. These two levels were separated by a thick kraal deposit (Denbow & Mathibidi 2002). The Toutswe level burials are listed in Table 4.

TABLE 4. Burials from the Toutswe levels at Bosutswe (after Denbow & Mathibidi 2002).

Burial no.	Sex	Age	Orientation	Position	Grave goods and comments
5	M	adult	head to N	fully flexed on R	large chunk of iron by feet
6	?	juvenile	head to N	flexed on R	died from broken neck? Covered with stones
7	?	infant	head to NW	on R; legs straight to head, not flexed	a strand of OES beads around neck, 2–3 strands around waist. Copper bead by pelvis
8	M	juvenile	head to N	flexed on L	small undecorated beaker
9	?	newborn			small broken pot
10	?	newborn	head to W	flexed on R	no grave goods
11	?	juvenile	head to W	flexed on R	fragments of a jar and a beaker. Many large stones
13	M	12–16	head to W	flexed on L	small broken undecorated jar between legs. Large stones on feet

Kgaswe B-55 (Site 26-B4-55) is a commoner village excavated more or less in its entirety with the help of a machine (Denbow 1984, 1986). There were 27 graves, containing 29 individuals, of whom six were male adults, five female adults, five adults of unknown gender, one male juvenile, one male/?juvenile and eleven unsexed juveniles to infants. Most were buried flexed with the head to the west or northwest. Five of the six male adults, the male juvenile, the male/?juvenile and an infant were buried in the kraal, the rest in the residential zone. All male adults and the male juvenile lay flexed on the right side. Women were buried in front or behind the houses and lay flexed on the left side (Denbow 1984, 1986; Murphy 1996; Huffman & Murimbika 2003). No grave goods were found with the men, but the women and some children were buried with cooking and water pots, while new-born babies were buried in pots under house floors (Denbow 1984: 18). No information is available on any beads with the deceased, but a pot containing 2500 red, black, yellow and blue glass beads and an iron necklace was found in a dwelling (Denbow 1984).

Two burials were excavated at the Lechana (Site 27-A3-16) commoner site (Denbow 1983: 180–183). Burial 1 in the east side of the kraal, in the dung, was a male adult, buried head to the east and flexed on the left, without grave goods. Burial 2 along the west side of the kraal, was of a child, head to the east, flexed on the left, and buried with an undecorated tall-necked jar by the chest.

BURIAL PRACTICES AROUND AD 1200

The eight burials from the northern Leopard's Kopje area (including the Mathangwane burial), 105 burials from the K2 phase of the southern Leopard's Kopje area and 90 from the Toutswe area collectively form a considerable sample. Though there is often limited information on context and grave goods, some burial patterns are evident (Table 5). Excavations at Leopard's Kopje sites generally targeted residential areas, and at K2, the large ash midden associated with the court, which replaced the cattle kraal at the centre of the settlement (Gardner 1963; Meyer 1998). This bias is somewhat balanced by the fairly complete excavation at Kgaswe-B55, Toutswe area. At the commoner villages on the plain, Kgaswe and Lechana, the pattern is of male burials in the kraal and female burials in the residential zone (Table 5a; Huffman & Murimbika 2003). For the southern Leopard's Kopje area, information on the gender of the four kraal burials and seven residential-area burials is not available. Together the three areas show a tendency towards male burials in the kraal (nine of 16), whereas females were buried in residential areas and ash middens.

In the northern Leopard's Kopje area the Mathangwane burial and the male individual at Leopard's Kopje Main Kraal were buried with the spine such that the heads pointed to the west-northwest and northwest respectively. In the southern Leopard's Kopje area 33 of 54 individuals had heads pointing

westerly (southwest, west or northwest), while in the Toutswe area 20 of 25 individuals had heads westerly. Overall there is no distinction between males and females and 55 of 81 individuals (68%), were buried with heads pointing in a westerly direction (Table 5b). For burials with known body position, 94 of 99 were lying flexed on a side (Table 5c). There was a tendency for males to be buried flexed on the right side (15 right, five left) and females flexed on the left (four left, one right). These patterns are trends rather than rules. Burial trends of children and infants do not necessarily follow those of adults, and variation occurs with unexpected deaths, or deaths of outsiders who may not be buried within the family's homestead and/or may be buried with the head pointing to their own home (Huffman & Murimbika 2003).

Other northern Leopard's Kopje burials have at most two pots. In the Toutswe area eight males had no pots buried with them, two males had one pot, and from one to two pots were present in female and child graves. Exception is one grave at Taukome of an infant with seven pots. At K2 one male is buried with six pots and two infants with six or seven pots, but the majority of individuals are with no pots or one or two vessels (Table 2). The 11 to 12-year-old female at Glennel was buried with 12 pots; the other burials had unknown numbers of pots.

No glass beads have been reported in other northern Leopard's Kopje burials, nor in the Toutswe graves. They were present in the southern Leopard's Kopje area, especially at the main trade centre K2, although the majority of K2 individuals were buried with no or less than 100 beads (Table 3). Exceptional were two children and two infants with more than 700 glass beads each, and a single male adult with six pots who was buried with a large number of beads. The location, orientation and position of the Mathangwane burial were thus usual for the 12th–early 13th century Leopard's Kopje and Toutswe areas, but being buried with so many pots and glass beads seems unusual, and not associated with age, gender or status.

DISCUSSION

The location of the Mathangwane burial in the kraal, head to the northwest and flexed on the right side is in line with other Leopard's Kopje and Toutswe burials, and societies following the so-called Central Cattle Pattern (CCP). CCP settlements are organised around a central cattle kraal with associated men's meeting place or court, around which is an arc of circular houses and other domestic features, laid out in both concentric rings and along cardinal axes, reflecting values and beliefs (re. oppositions of gender, seniority, cosmic movement, private vs public, sacred vs profane), which guide people through their life cycle and normalise societal relations (Kuper 1982; Huffman 1982; but see Badenhorst 2009, 2011). In the CCP, men are generally buried in their domain, the central kraal, but women and children are buried in the surrounding houses with new-borns often buried below the floor. People are buried

TABLE 5a–c. Summary of Leopard's Kopje and Toutswe burials (MB = Mathangwane Burial).**Table 5a. Location of burials**

Gender	Kraal	Ash midden	Residential	Elsewhere	Total
<i>Northern Leopard's Kopje</i>					
Male	MB		1	1	3
Female			1		1
?	1				1
Subtotal	2		2	1	5
<i>Southern Leopard's Kopje – K2 phase</i>					
Male		4			4
Female		2			2
?	4	9	7		20
Subtotal	4	15	7		26
<i>Toutswe</i>					
Male	8		1		9
Female			5		5
?	2		15		17
Subtotal	10		21		31
Total	16	15	30	1	62
Total male	9	4	2	1	16
Total female		2	6		8

Table 5b. Orientation of head

Gender	SW	W	NW	N	NE	E	SE	S	Total
<i>Northern Leopard's Kopje</i>									
Male			MB+1						2
Female									
?									
Subtotal			2						2
<i>Southern Leopard's Kopje – K2 phase</i>									
Male		4		1			1	1	7
Female		2	1	1				1	5
?	1	17	8	4	2	6	1	3	42
Subtotal	1	23	9	6	2	6	2	5	54
<i>Toutswe</i>									
Male		5	2	2		1			10
Female		3							3
?		7	3	1		1			12
Subtotal		15	5	3		2			25
Total	1	38	16	9	2	8	2	5	81

Table 5c. Position of burials

Gender	Flexed on right side	Flexed on left side	Flexed, side unknown	Other	Total
<i>Northern Leopard's Kopje</i>					
Male	MB+1				2
Female			1		1
?	1				1
Subtotal	3		1		4
<i>Southern Leopard's Kopje – K2 phase</i>					
Male	6	2	3		11
Female	1	1	1		3
?	23	20	7	4	54
Subtotal	30	23	11	4	68
<i>Toutswe</i>					
Male	7	3			10
Female		3			3
?	8	5		1	14
Subtotal	15	11		1	27
Total	48	34	12	5	99
Total male	15	5	3		23
Total female	1	4	2		7

flexed with the head to the west, men generally on the right side, women on the left. This structural model gives archaeologists a means to interpret settlement patterns and gain insights in the values and beliefs which underlie the archaeological/material expressions.

The CCP was widespread throughout southern and eastern Africa among patrilineal, pastoral or agro-pastoral peoples who spoke languages of the Eastern Bantu language group. In contrast, Western Bantu-speaking matrilineal horticulturalists in central Africa buried their dead in communal cemeteries outside the settlement in extended or seated positions (Huffman 1989). The CCP appears to have persisted into modern times, still evident in some Sotho-Tswana and Nguni settlements (Kuper 1982). Even Kalanga and other Shona, who now no longer lay out their settlements around a central kraal, retain much of the values and beliefs of the CCP (Werbner 1989; Huffman & Murimbika 2003; Van Waarden 2012).

Questions have been raised by Badenhorst (2009, 2011, 2012) on the relevance of the CCP model to sites prior to the Late Iron Age and whether the large central kraals were only for cattle, which would have implications for the significance of the settlement arrangement. The Leopard's Kopje and Toutswe periods are considered to be Middle Iron Age (Huffman 2007) and goats and sheep often outnumber cattle in the faunal assemblages of such sites, e.g., 290 ovicaprides vs 226 cattle (MNI) at K2 and 46 ovicaprides vs 29 cattle at Glennel (Plug 2000). Through XRF analysis of dung samples Huffman and colleagues (2013) have shown that the central kraal at K2, however, was for cattle. They also demonstrated that vitrified dung, a common feature of central kraals at Toutswe sites (Butterworth 1979; Denbow 1979) is the result of burning cattle kraals. This is relevant to northern Leopard's Kopje Tati Cluster sites where many had a prominent kraal with vitrified dung. The faunal remains from the Mambo occupation level C at Leopard's Kopje Main Kraal also included teeth of 14 cattle and four caprines (Wilson, in Huffman 1974: 48, 67–73), and 15 cattle figurines were found, none of caprines, confirming the centrality of cattle in that culture area around AD 1200.

Huffman and Murimbika (2003) have also shown the applicability of the burial pattern of the CCP to Toutswe sites, using Kgaswe-B55 as example. They argued that modern Shona ethnography about death and burial can be used to suggest meaning to the CCP burial pattern because of the Eastern Bantu-speaking connection (Huffman & Murimbika 2003), and there is a historical link between the Leopard's Kopje people and modern Shona. This is important, as there is rich ethnographic information on the meaning and symbolism of recent Shona burial practices, especially from the Karanga and Korekore (Ashwanden 1987; Bourdillon 1987; Murimbika 1999, 2004) that applies to the interpretation of the Kgaswe-B55 burials (Huffman & Murimbika 2003), and Hattingh and Hall (2009) illustrated its interpretative value in understanding infant pot burials at K2.

There is, however, little ethnographic information about burial practices of the Kalanga, the likely direct descendants of northern Leopard's Kopje people. Werbner (1989) did an extensive study on Kalanga religion and rituals, but made only cursory remarks on burial customs. Observations and discussions at a Kalanga headman's funeral in Kalakamati, northeast Botswana (Van Waarden 1984), showed many elements in common with burial practices of other Shona. For example, he was buried in his cattle kraal as the owner, while his widow would be buried behind her granaries. Differences, however, exist among Kalanga and other Shona groups, serving as a caution in the use of ethnography as direct analogy for past behaviour.

Bourdillon (1987) reported, for example, local and family variation in the direction which the head should point in burial. Among Korekore the dead lay with heads to the west or setting sun, while the living sleep with their heads to the east (Murimbika 1999; Huffman & Murimbika 2003). For the Kalanga in Botswana Werbner (1989) noted burial with the head to the east associated with the Mwali Cult, which was introduced in the early 19th century (Beach 1994: 148–9).

Another difference is that Kalanga until recently prayed to ancestral spirits at the *shumba nlume* shrine in the front yard (west) of the house of the clan elder (Werbner 1989; Van Waarden 1984, 2012), while the Korekore pray to ancestral spirits at the *chikuwa* pot bench in the kitchen. Similarly, it is likely that northern Leopard's Kopje burial practices, and significance ascribed to these 800 years ago, were to a greater or lesser extent different from those of modern Kalanga and Shona, and may have been different from those of the southern Leopard's Kopje and Toutswe area. It is thus important to compare the Mathangwane burial to other northern Leopard's Kopje graves and to contemporary graves of related groups to establish patterns, and to consider relevant recent ethnographies that draw attention to certain features and practices and suggest meaning due to the underlying cognitive and historical connections.

Shona believe that death is part of a cycle: birth, life, death, rebirth as ancestral spirit. These phases are linked, through a complex symbolic relationship between the womb, the grave and containers such as houses and pots. Death is a temporary phase, during which the body is laid to rest in the grave in a sleeping or foetal position, as in the womb. Hence the flexed body, as if ready for rebirth, while the person's spirit is in the process of becoming an ancestral spirit or *ndzimu* (in iKalanga; *mudzimu* in Shona). Libations of beer are made into and onto the grave, symbolising the beginning of the life-cycle. Just as pots symbolise the womb and hence fertility and birth, an inverted pot or a broken pot symbolises death; the act of breaking a pot would represent an ending, transformation and death. Shona custom is to place a dish and a small pot on the grave to accompany the deceased for their use; it is punctured to prevent theft (Bourdillon 1987: 203). Kalanga were also buried with their plate or bowl (Van Waarden 1984).

Shona consider death a dangerous state for the family, and aspects of the funeral are meant to 'cool' or calm the spirit of the deceased. For example, white substances such as ash (cold ash vs hot fire), damp soil, or water sprinkled over the grave are 'cooling' and purifying (Bourdillon 1987; Murimbika 1999; Hattingh & Hall 2009). Two calabashes with water were smashed on the Kalanga headman's grave to placate his spirit and avoid drought (Van Waarden 1984). Among Kalanga and other Shona cattle are generally associated with men and have more ritual and social significance and prestige than small stock, which is kept for utilitarian purposes (Bourdillon 1987; Werbner 1989). Hence, men are buried in the cattle kraal and women behind the houses and granaries (the women's domain). Burials are placed towards the back of the settlement, which is private and more sacred, and even men buried in the kraal are buried towards the back rather than the front. We have noted the recent ethnographic variation regarding the orientation of the heads of the deceased. There was a tendency, however, in Leopard's Kopje and Toutswe burials, of orientation in a westerly direction, to the setting sun, similar to Korekore. The variations of burial orientation from northwest through west to southwest can then be explained as the changing axis of the sun, depending on the time of year the burial took place (Huffman & Murimbika 2003).

Men are buried on the right side to indicate their senior status and so that the right hand can be placed under the head to prevent its use to cause harm (Murimbika 1999), whereas women are buried on their left side, befitting a more junior status. Hattingh and Hall (2009) explain that Shona perceive the body as divided into the lower reproductive area and the upper body including the head, the core of life, and that there is symbolic significance and ritual involved with this division, particularly with children and juveniles. They suggest that this structure may also have been reflected in the placement of pots around the head and pelvis.

Below we interpret the Mathangwane burial ceremony. The deceased was an older male individual of a small commoner settlement associated with northern Leopard's Kopje. We do not yet know the full extent of the settlement, only the kraal and a few house remains are evident at surface. He died probably between AD 1152 and AD 1212. The cause of death is unknown, but he suffered from osteoarthritis and his left middle finger was fused at an awkward right angle. His bones have evidence of activities that placed strain on shoulders and chest, and caused wear and polish of his teeth. His grave was prepared in the kraal befitting his status as a man and livestock owner. It is unclear whether the kraal was for cattle or small stock, whether it was in use when he was buried in it, and if so, whether it continued to be used. An oval grave pit was dug through the kraal deposit into the substratum. If the kraal was still in use, the dung would have been damp, otherwise a light grey silty matrix with some ash from dumped rubbish. This would have been a suitably cooling place for the man's spirit.

The grave was oriented along the sun's axis, the deceased with his head to the setting sun toward the ancestral spirits. As this was in a west-northwesterly direction it is likely that he had died and was buried in winter, June–August. His lower body and head were laid flexed in foetal or sleeping position on his right side, befitting his senior male status, while the upper body was on its back, right hand under the mouth to prevent his spirit from causing harm. The left arm was across the waist, with the hand over the right arm above the elbow. A potentially practical reason for a flexed position could be that the body would require a smaller grave and fit more easily in a *kaross* or cow hide. He was laid in the grave wearing a large number of glass beads, most probably green-blue in colour. The number of glass beads is unusually high compared to contemporary burials, even of elite at K2, probably representing considerable wealth.

His body, except for his head, was covered with manure backfill to cool his spirit. Pots filled with *madila*, beer and possibly meat were prepared for the funeral. Much of the large quantity of liquids was potentially consumed by the mourners, accounting for liquid stains along the jar mouths. The large volume of liquids suggests a sizeable group of mourners. At least some of the liquid was poured into the grave through the puncture holes as libation, to 'feed' the deceased and cool his spirit. The whiteness of the sour milk would have also been considered to have cooling and purifying properties. Sour milk represented his livestock, whereas the beer, probably made from sorghum, would have represented agricultural success.

While still containing some liquid, the pots were smashed from the top, to mark the end of his life, symbolising death, and to prevent theft. The pieces were gathered and placed in the grave, beer pots placed to his right in front of the upper body, *madila* pots over the legs and pelvic area, a beaker-bowl on the left foot, a cooking pot in front of the right leg and another bowl behind the pelvis. The contrast between the beer pots by the upper body and the *madila* pots by the lower body probably represent the produce of the fields *versus* that of the livestock,

contrasting female and male domains. Alcoholic beer affecting primarily the head, may have been considered properly placed by the upper body, whereas milk associated with reproduction and offspring more with the lower body. This was a 'pot burial' of entire pots rather than of sherds of a few pots placed spread out around the body. The number of pots in the grave is unusually high and the significance of that is not clear, as the few other burials with many pots showed that this was not related to age, gender or status. The grave was then backfilled, possibly causing further *in situ* breakage of the pots. It would have been protected by the kraal fence against scavengers and possibly even against witches and wild spirits. We do not know if the kraal was used after the burial and whether livestock continued to walk over the grave, potentially causing further breakage to the pots.

CONCLUDING REMARKS

This is the first undisturbed burial from the northern Leopard's Kopje period in Botswana. Future burial discoveries will hopefully shed further light on burial practices and the health of the population. We showed that there is more than just stylistic, chronological information in pots, as evidence may exist also of use, wear and breakage that give insight into their intended functions, actual usage, and cultural habits. Similarly, more information than sex and age may be present in the bones. Apart from indications of disease and aging, the unusual wear patterns on his bones suggest some activities involving particularly the muscles of the shoulders and chest, as well as unusual use of his mouth and teeth. These may indicate his potentially special position in his society, how he obtained such wealth in trade beads and why he was buried with these rather than their being inherited by his family.

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