

Excavating the ‘waterpits in the mountain’: the archaeology of Shashe-Limpopo Confluence Area rain-hill rock tanks

M.H. Schoeman

Department of Anthropology and Archaeology, University of Pretoria,
0002 South Africa; alex.schoeman@up.ac.za

ABSTRACT

Rock tanks on the hills of the Shashe-Limpopo Confluence Area (SLCA) were incorporated into rain-control rituals. Not only was their occurrence an important component in the selection of rain hills, they also acted as receptacles for rain-control material culture and fauna. Cupules that mark all the rain hills increase in density around rock tanks. This increase in cupule density indicates that encounters with rock tanks were not brief visits in order to discard rain refuse; rather they comprised longer encounters, during which repeated hammering engaged with and reconfigured both the rock tank and rain hill.

The ‘being’ and meanings of rock tanks were the product of hunter-gatherer and farmer knowledge about rain merging to form rain knowledge of the SLCA. Understanding of SLCA rain subsequently became entangled in the topographic features used in rain control, and the features and know-how merged into local rain wisdom. Simultaneously, rain control played an important role in K2-Mapungubwe ideology and state formation. In this place and context, rock tanks became symbols of rain, but also symbols of the multifaceted SLCA society of the early second millennium.

KEY WORDS: Southern Africa, Iron Age, K2, Mapungubwe, rain control, hunter-gatherer, farmer, interaction, ideology, rock tanks.

“History is about both the past and the present” (Barnard 2007: 2).

The interplay between the present and past shapes our understanding of the past. This relationship is visible in South Africa, where race, culture and ethnicity have been prominent in our national ideologies for at least a century. Ethnicity was crucial to the apartheid system (Dubow 1994: 358–60), but today these former categories of oppression have mutated into categories of self-identification (Barnard 2007: 126; Kuper 2003). These imaginings (cf. Anderson 1991) of self and nation are reflected in, and shaped by, labels of national identification.

The potential outcomes of this relationship between the present and the past underlay Maggs’s (1992) concerns about the term ‘iron age’. The challenge by Maggs (1992) was not only semantic, but constituted a fundamental challenge to how we portray the last two thousand years. The terms ‘iron age’ and ‘stone age’ manifest a view of the southern African past peopled by units of distinct and separate people. Hall (1984: 2) pointed out that “[t]his perception of the southern African past as peopled by distinct, separate communities, rather than as a complex pattern of intermingling traits, creates empirical frontiers in the archaeological record”. Archaeologists, unlike historians, have not given these contact situations considerable attention, but have rather focused on typical sites.

These set units, at one time fundamental to the progress made in southern African archaeology, are limiting when investigating ‘African frontiers’, that is, shared and shifting landscapes in which “African societies over the centuries, would move, reform, disappear, break up into pieces; the pieces would reassemble and new distinct areas would form; and the channels between them would expand, contract and shift” (Kopytoff 1989: 12). For Kopytoff (1989), frontiers were the norm. This pattern is also

reflected in precolonial chiefdoms in South Africa, which were characterised by mobility, overlapping networks, and flexible boundaries. Generally, chiefdoms comprised people from a range of origins, who were moulded together by a leader around a core group (cf. Delius 1983: 12–13; Kuper 1995: 2). Even in communities that are not viewed as frontier societies, regional economies operated across group boundaries (cf. Wilmsen & Denbow 1990). Still, many have viewed interaction and fluidity as the exception and separate societies as the norm. This approach was visible in elements of the Kalahari revisionist debate, in which Lee (1979) and Lee and DeVore (1968, 1976) argued that hunter-gatherer society was not reshaped or fundamentally affected by interaction with farmers.

Similarly, precolonial farming communities have been viewed as bounded and discrete units. Evers argued that “[c]ultures are basically discrete” (Evers 1988: 5) and correctly pointed out that different understandings of the nature and reality of cultural groups are due to theoretical and paradigm differences (Evers 1988: 1, 131). Kuper (1999a, b) would concur, but also argued that interpretations that foreground and reify ‘culture’ are deeply flawed. For him, the concept of culture, which social anthropologists at first used to challenge racial determinism, has become a euphemism for race (Kuper 1999a: 14; also see Dubow 1994: 356) and—similar to race—has become a source of explanation, rather than “something to be described, interpreted, even perhaps explained” (Kuper 1999a: xi). In this view, which shaped *Volkekunde* and is still prominent in American anthropology, culture becomes the prime identifier and is viewed as the system that controls behaviour (Kuper 1999b: 5). Consequently, national groups are perceived as homogenous and cultural difference as enduring (Kuper 1999b: 160). This model of the past (and present) discounts or ignores the internal diversity and fluidity between communities noted by precolonial historians and archaeologists (cf. Kuper 1999b: 172), and the fact that many ‘tribes’ were created by the colonial authorities (Mafeje 1971: 154).

Instead, groups have been viewed as ‘cultures’ (Kuper 1999a), so when a group of people—a culture—comes into contact with other ‘cultures’ they experience ‘culture contact’ (cf. Silliman 2005), and any changes resulting from the contact are interpreted as acculturation. The concept of ‘acculturation’ is closely linked to the notion of ‘detrribalisation’ which, like ‘acculturation’, implies that ‘traditional’ African communities are essentially passive, and that change is imposed from outside. Moore (1987: 86–7) demonstrated that ‘acculturation’ does not provide an adequate theoretical basis for an explanatory model of social change in studies of colonial or indigenous interactions and situations of contact. Rather, she proposed that we need to explore change as dynamic, strategic responses of communities, and seek to understand the historical conditions within which change takes place.

Theories that focus on social practice provide alternatives to acculturation. These approaches recognise that material culture production and use should be regarded as acts within a specific context and not repetitions within a structural constant (cf. Johnson 1989; Silliman 2005; Tilley 1990). Such approaches acknowledge that material culture style, symbols and uses are actively selected and manipulated in order to pursue specific goals, and that material culture is also used to rationalise social action, particularly in the context of interaction with other people (McAllister 1991; Swindler 1986). Recognising this recursive relationship between material culture and social reality allows us to access

not only the identity of the group of people who produced the objects (this could also be accessible through more traditional approaches), but also agency in the production process, since the focus is now on the active manipulation of material culture. This paper will argue that the meanings of rock tanks in the Shashe-Limpopo Confluence Area (SLCA) (Fig. 1) were shaped by society, but in turn helped to configure, or at least represent, society.

SLCA SOCIETY AND RAIN CONTROL

Most of the known rain hills in the SLCA (Fig. 1) were identified in earlier surveys. These hills are steep-sided and difficult to access, and are associated with places of water and with rock shelters or small caves. All the sites have **Leopard's Kopje** (comprising both *K2* and *Mapungubwe*) ceramics on the surface, but are too small to have been 'normal' farmer homesteads. Access onto the hilltops would have been difficult or impossible for cattle (Schoeman 2006a: 85–7, 2006b: 154; Schoeman & Murimbika 2006–07: 26).

My research on the archaeology of five rain hills¹ showed that SLCA rain control was not stagnant, and developed in tandem with other aspects of the society (Schoeman 2006a, b). This close relationship requires that changes in ritual should not be studied in isolation. Consequently, I now outline the SLCA settlement sequence that provided the framework against which SLCA rain-control practices were shaped and reshaped.

The first group of people of importance to my project were Later Stone Age (LSA) hunter-gatherers. LSA material-cultural signatures occur in shelters in the valley from at least 11 120 to 10 890 BC (van Doornum 2005: 162, 2008: 249). Most hunter-gatherer residential (cf. Hall & Smith 2000; van Doornum 2005, 2007, 2008) and ritual (cf. Eastwood 2003; Eastwood & Blundell 1999; Eastwood & Cnoops 1999) sites were located on the plateau (Schoeman 2006a: 254–7, 2006b: 161–2).

Hunter-gatherer rain control in the area has not yet been studied, but probably was structured around elements similar to rain control in other parts of South Africa, where rock art (e.g. Dowson 1998; Lewis-Williams & Pearce 2004a; Mallen 2005), historical sources (e.g. Bleek 1933a,b; Bleek & Lloyd 1969; Orpen 1874) and more recent ethnographic accounts from the Kalahari (e.g. Bieseke 1993; Marshall 1962, 1969) shed some light on precolonial practices. A key element is a zoomorphic embodiment of the rain. Southern San rain controllers ensured rain through capturing or killing a rain animal (Bleek 1933a: 308, 309; Lewis-Williams & Pearce 2004a: 207–10, 215–16). Whilst the northern Kalahari N/oi k'ausi did not talk about capturing the rain animal, they did say the rain left spoor (Lewis-Williams & Pearce 2004b: 138).

The appearance of *Happy Rest* and *Mzonjani* ceramics on hilltops indicates that farmers joined the hunter-gatherers in the middle of the first millennium AD (Huffman 2000: 16). These first farmers were followed by Zhizo farmers at about AD 900 (Hanisch 2002). The rainfall at this time ranged between 350 and 500 mm per annum (Smith 2005: 167; Smith et al. 2007: 121). These climatic conditions suggest that the choice to move to the SLCA was not based on agricultural logic; rather it was to take advantage of the East Coast trade (Smith 2005: 192).

Unfortunately, little is known about rain control in the Zhizo period. *Zhizo* ceramics are seldom found on hills, but ceramic concentrations do occur in shelters. This suggests that Zhizo people did not use hills for ritual purposes, but might have preferred

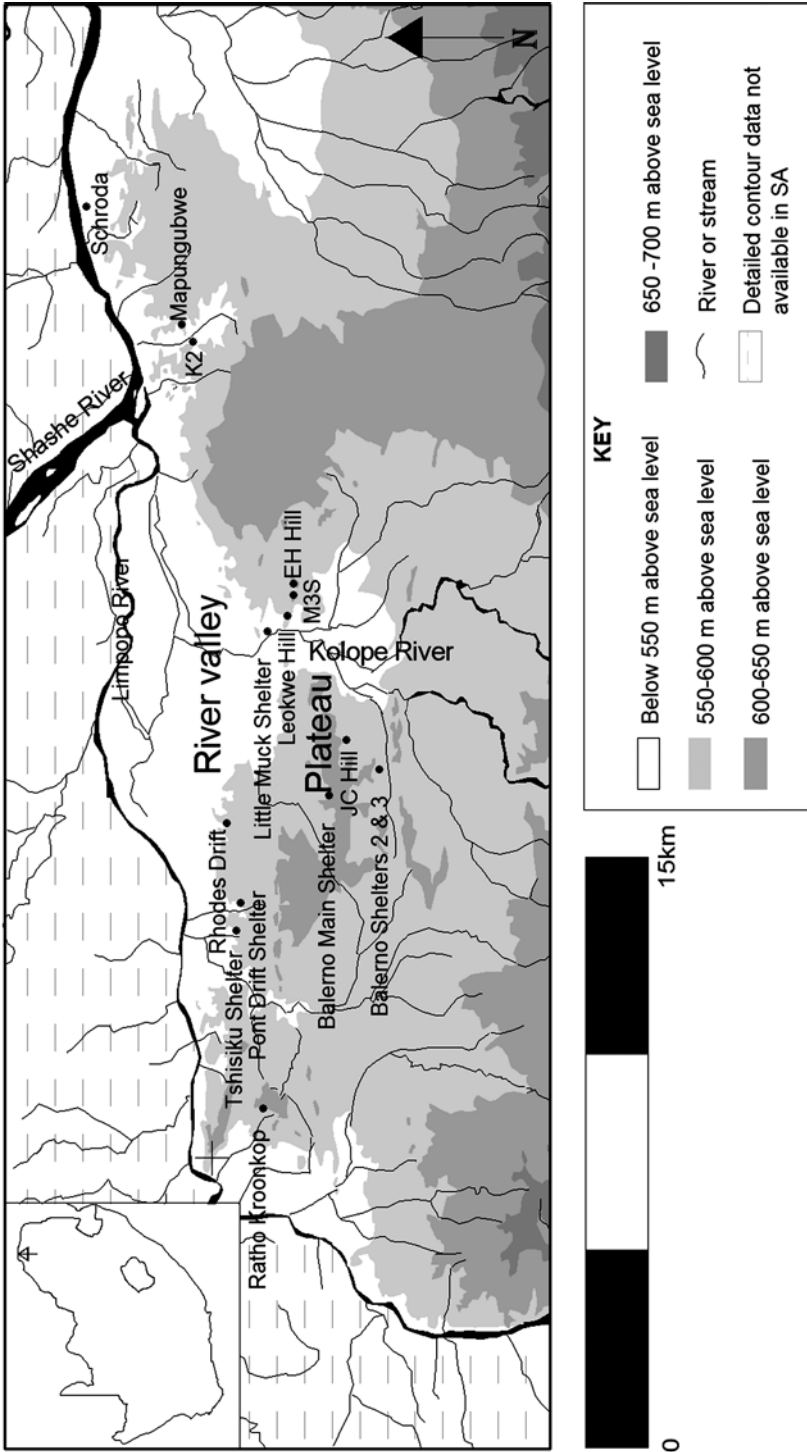


Fig. 1. Map of the Shashe-Limpopo Confluence Area, showing key capital sites, shelters and rain-control hills.

shelters. The ceramic concentrations in shelters, however, might have been the result of interaction between Zhizo farmers and hunter-gatherers, who, according to Hall & Smith (2000: 44) and van Doornum (2005: 174–9), responded in a range of ways to the arrival of farmers.

Leopard's Kopje ceramics first appeared at about AD 1000, at which time the capital, K2, was established at the base of Bambandyanalo Hill (Huffman 1986, 2000; Meyer 1980, 1998, 2000). K2 commoner sites were scattered in the river valleys and eventually spread into areas not previously occupied by Zhizo farming communities (Huffman 2000: 18). This spread also speaks to the intensification of food production through floodplain agriculture and cattle transhumance (Huffman 2000: 26; Smith 2005; Smith & Hall 1999; Smith et al. 2007: 123). The increase of rainfall for most of the K2 period to above 500 mm per annum (Smith 2005: 191; Smith et al. 2007: 122) probably facilitated agricultural endeavours.

Until recently it was believed that the Leopard's Kopje people had displaced the earlier Zhizo occupants (Huffman 1986, 1996). Calabrese (2000a, b, 2005, 2007), however, showed that a number of Zhizo people remained behind, and continued to produce *Zhizo*-style ceramics, now called *Leokwe*. The Leopard's Kopje and Leokwe communities engaged with one another in both economic and ritual spheres. The relationship was hierarchical, but not all Leokwe people were confined to subaltern positions (Calabrese 2000a, b, 2005, 2007).

Hunter-gatherers were also still present. Van Doornum (2005, 2007, 2008) found that, as in the Zhizo period, hunter-gatherer responses varied: some hunter-gatherers left the area while others chose not to. One of their reasons for staying related to rain control.

K2 period rain-control sites were located on the plateau and radiocarbon dates range between AD 1179 (915 ± 25 b.p.; Pta-9464) and AD 1277 (780 ± 20 b.p.; Pta-9459). Although radiocarbon dates are not exact, they suggest that the hills were used during the K2 and Mapungubwe periods. In addition to the rain-control material culture, the hills also contained evidence of pre-farmer use of the hills by hunter-gatherers, and four are embedded in hunter-gatherer ritual landscapes marked by rock art (Schoeman 2006a, b). A confluence of farming community and hunter-gatherer ideas about places of rain gave rain-control hills in the SLCA their specificity. The material culture on the hilltops indicated that the initial form of rain control was negotiated. This mixed signature included elements from both traditions, for example, hammering rock and sacrificing animals (see Schoeman 2006a: 254–77, 2006b: 160–4 for details).

Symbolic elements of the choice of rain places related to a Leopard's Kopje imagining of appropriate rain-control places, which focused on the link between hills, pools, caves and rain control (Schoeman 2006a: 257, 2006b: 161). These generally were places associated with unaligned spirits (Aukema 1989: 71; Hammond-Tooke 1974: 322–3).

The choices of rain places, however, were not only informed by beliefs about these features. The initial choice by Leopard's Kopje people of places to make rain also related to an association of the plateau with 'nature' and hunter-gatherers (Schoeman 2006a: 254–7, 2006b: 161–2). The core of my argument is related to the plateau being hunter-gatherer space and the widespread perception by African farmers of hunter-gatherers as 'outside' society and close to nature (cf. Cashdan 1986; Kenny 1981; Smith 1998). In addition, I have argued (Schoeman 2006a: 256, 2006b: 162), following Kopytoff

(1989), that newcomers frequently use First People to perform ritual functions, because they are regarded as symbolic owners of the land; to alienate them might cause drought (cf. Loubser 1991: 403 on First People in Venda).

K2 farmers also purposely included hunter-gatherers for political reasons. Calabrese (2000a, b, 2005, 2007) argued for a slow and deliberate marginalisation of Leokwe people and their ancestors. Consequently, I suggested that the need to exclude Leokwe ancestors from rain control further informed the initial choice of hunter-gatherers (Schoeman 2006a: 256, 2006b: 163). In this context, choosing hunter-gatherers—who do not invoke their ancestors in rain control—was a strategic choice.

During the following 200-year occupation, K2 society (comprising both farmers and hunter-gatherers) underwent political, economic and ritual changes. As the K2 farmer occupation expanded, and the valley had been occupied for more than one generation, direct K2 farmer ancestors increased, and the ritual need for First People and their material culture may have diminished. In addition, K2-period hunter-gatherers probably underwent change and consequently their material culture signature transformed (see Loubser & Laurens 1994 for a discussion of changes in Free State hunter-gatherer communities due to contact). I have argued (Schoeman 2006a: 282–3, 2006b: 163) that the increase in local farmer ancestors, combined with ideological shifts, resulted in changes in rain-control beliefs and practices. These changes included the construction of grain bins in the late K2 period, and the building of gravel-floored structures in the K2-Mapungubwe transitional period. It is possible that the floors first served ritual functions, but later might have become residential (Schoeman 2006a: 283).

These rain-control changes paralleled broader ideological changes, and new beliefs eventually became incongruous with the settlement pattern informed by the old ideologies. The new ideology was materialised when Leopard's Kopje people abandoned K2 for Mapungubwe, less than a kilometre away (cf. Huffman 1986, 2000; Meyer 1998). Huffman (1996, 2000) has argued that the move onto Mapungubwe Hill signalled the crystallisation of class distinction and the start of sacred leadership.

Smith (2005: 192; supported by Huffman 2008: 46) suggested the move onto Mapungubwe Hill may have been in response to the dry episode between AD 1200 and 1250. I have argued (Schoeman 2006a: 284, 2006b: 163–4) that Mapungubwe was a K2-period rain hill, and that the political and ideological implications of this step were probably neutralised somewhat by using the physicality of Mapungubwe Hill to symbolise continuity with old rain-control practices. It became part of a process that transformed and appropriated earlier social practices and attitudes (cf. Tilley 1996). The new ideology also involved attempts to centralise rain control (Schoeman 2006a: 283–5, 2006b: 163–4; Huffman 2008: 46) although this might have been contested (Schoeman 2006a: 287–8, 2006b: 164).

Mapungubwe Hill was abandoned at the end of the thirteenth century. Huffman (2009: 1004) argues that this was due to climatic factors, in particular a drop in temperature. On the other hand, Smith (2005: 193; Smith et al. 2007: 123) contends that the disintegration of the Mapungubwe state was not due to climatic factors, since rainfall was above 500 mm per annum and the temperature ranged between about 19°C and 22°C. After the elite left Mapungubwe Hill, the SLCA population dramatically decreased. The farmers, however, were not the only ones to leave—hunter-gatherers also departed. This simultaneous move by the hunter-gatherers suggests that they

had established an enduring, mutually beneficial relationship with the farmers. Consequently, there was no reason for them to remain in the valley (van Doornum 2005: 183).

To summarise, at the turn of the first millennium the SLCA was a frontier landscape, comprising hunter-gatherers (Hall & Smith 2000; van Doornum 2005, 2007, 2008) and farmers whose ceramic styles (*Zhizo* and **Leopard's Kopje**) suggested at least two different origins (Calabrese 2000a, b, 2005, 2007; Huffman 2000). These communities negotiated and embodied a range of shifting relationships. One of the areas of engagement was ritual (cf. Calabrese 2000a, 2005: 371; Schoeman 2006a, b) and rituals were spatially defined. The spatiality included the materialisation of rain-control ideology on plateau hills. The meanings of SLCA rain control and rain hills were shaped through interaction between hunter-gatherer and farmer ideas about rain, society and the specificity of the SLCA landscape (Schoeman 2006a, b).

THE ARCHAEOLOGY OF SLCA ROCK TANKS

An association with places of water was key in the selection of hills for rain control (Schoeman 2006a: 255, 2006b: 162). At four out of five studied sites these places of water were rock tanks. Some of these rock tanks contained archaeological deposit. In total, 34 visible rock tanks were identified on the rain hills. These range in length from 40 to 500 cm in length. The majority of rock tanks currently do not contain deposit and only seven deposit-bearing rock tanks were noted in this study. This deposit did not accumulate naturally; rather it bears witness to human intervention. The deposition also arrested the processes by which rock tanks are formed.

Rock tanks are created when water causes local weakening of the underlying sandstone. When this water evaporates, wind carries away the disintegrated sandstone (King 1951). Flake scars against the sides of a number of SLCA rock tanks, including those on M3S and Mapungubwe Hill, suggest that people might have enlarged the openings or evened out the sides of the rock tanks. Enlargement, however, is not common and most rock tanks have not been altered. In addition to the hammering to modify the sides of rock tanks, zones around certain rock tanks bear the evidence of repeated engagement with the rock face. The material remnants of this interaction include hammer marks, cut marks and cupules clustered around rock tanks. Cupules mark all the rain hills, but occur more densely around key rock tanks. The base of rock tanks on JC hill and M3S also were marked with cupules (Schoeman 2006a, b; Schoeman & Murimbika 2006–07).

Four SLCA rain-hill rock tanks were excavated as part of my broader investigation into the role rain control played in the ideology of the people of the SLCA and in K2-Mapungubwe state formation. Two of these hills—M3S and JC hill—are located on the plateau south of the central SLCA and the third—Ratho Kroonkop (RKK)—is on the western edge. At M3S and RKK the rock tanks formed in the bare rock that edges the hill. These areas are higher than the central areas in which the bulk of the deposit accumulated. The location of the rock tanks above the lower deposit-bearing centre means that deposit could not have washed into the rock tanks. The archaeological deposit, therefore, was deliberately placed in them. This intentional placement signals the importance of rock tanks in the process of controlling rain. At JC hill, however, deposit had covered the rock tank and surrounds. Even though the

area upslope consisted of bare rock, it is possible that some of the deposit washed or fell into the rock tank.

Excavations and mapping demonstrated that similar processes occurred at all the rock tanks. Only one—M3S—was excavated in full. The M3S excavation led to the recognition of the significance of rock tanks and their deposit, and subsequent excavations only sampled the rock tanks. I briefly outline key features and excavation findings.

JC Hill - RM2

RM2 was characterised by damp soil. The subsurface rock structure blocks the water run-off; consequently, water accumulated below and above the soil surface, often resulting in standing puddles after rain. The location and structure ensure that water is ‘captured’ in the area and that the area remains damp for long periods after rain showers. A circle of stones, placed on the surface, marked the area (Fig. 2). Two 1 m² trenches were excavated inside the centre of the stone circle.

The excavation revealed that the RM2 deposit accumulated inside a shallow rock tank. The deposit consisted of four distinct sub-surface layers (Fig. 3). The first was a sandy light-grey soil (1a and Grey). Under Grey was a darker khaki layer (Khaki), followed by a dark layer (Dark) rich in bone and charcoal. The last level consisted of small rocks. The stone circle was built on top of this deposit, and presumably dates to the Late Farmer period. The stone circle abutted a low stone ledge, with a small overhang scored by a crevice. Shards of an undecorated K2 beaker were found in the crevice under the overhang. K2 beaker fragments, found on the surface, probably fell from



Fig. 2. Photograph showing the stone circle on the surface of RM2 in the foreground and the rock ledge in the background.

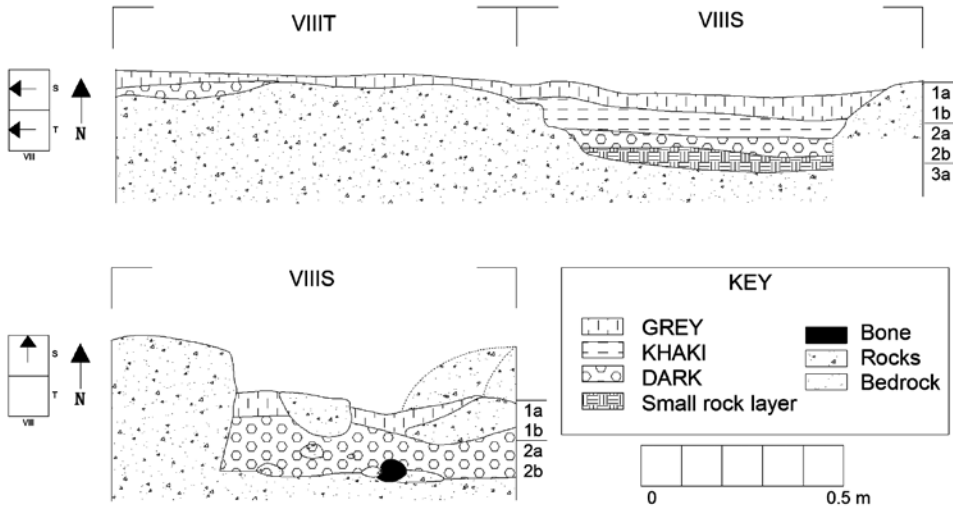


Fig. 3. JC hill: Section drawings of RM2 edges, as well as cross-section.

here (Fig. 2). Excavations found ceramic shards, glass beads, metal helix (copper wire wound round a fibre core) fragments, metal wire, a spindle whorl and mica fragments. The ceramics were largely undiagnostic.

M3S - rock tank Trench I

The M3S rock tank is located at the highest point of a bare domed rock, at the south-eastern end of M3S. The placement means that the material must have been intentionally placed inside the rock tank. The deposit in the tank was substantially higher on the eastern side. The lower western half (I/R) was excavated first, as a test. The excavation was extended to the eastern half when a layer of rocks, a number broken from the side of the rock tank, was uncovered. The entire deposit was removed to reveal the bottom of the rock tank.

Leopard's Kopje ceramics—mostly *K2*—were visible on the surface, and the excavation yielded more. The majority of identifiable ceramics were *K2* and *K2-Mapungubwe* transitional. Excavations also uncovered glass beads, metal helix fragments, metal fragments, *Achatina* sp. shell, charcoal and bone.

Distinct stratigraphic layers were present (Fig. 4). The soil below the surface was a uniform brown and was excavated in spits. A red layer (Red) followed (not visible in the section). The artefact-poor Red was underlain by a very ashy and black layer (Dark), which was rich in material culture. There was a sterile lens of red soil below Dark. It was confined to the eastern portion and therefore was not visible in the section. A number of other isolated patches were also located at this level. At about 35 cm below the surface a layer of small rocks seemed to form a feature (F), in the northern half. The deposit in the feature (F/RM) included a concentration of bone, charcoal, ceramic beads, metal helixes and figurine fragments.

A cupule had been pecked into the bottom of the rock tank. The peck marks were still clearly visible. Next to the cupule was a cluster of peck marks, which was presumably

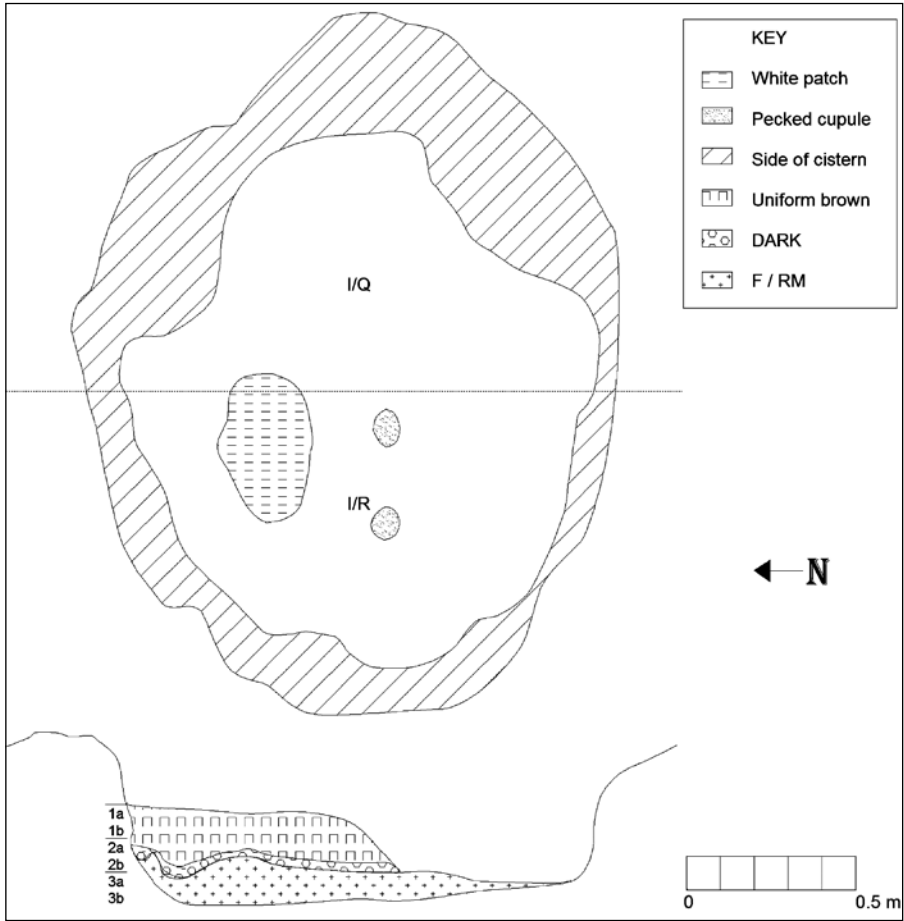


Fig. 4. M3S: Plan of rock tank showing ashy patch and cupules, cross-section and central profile.

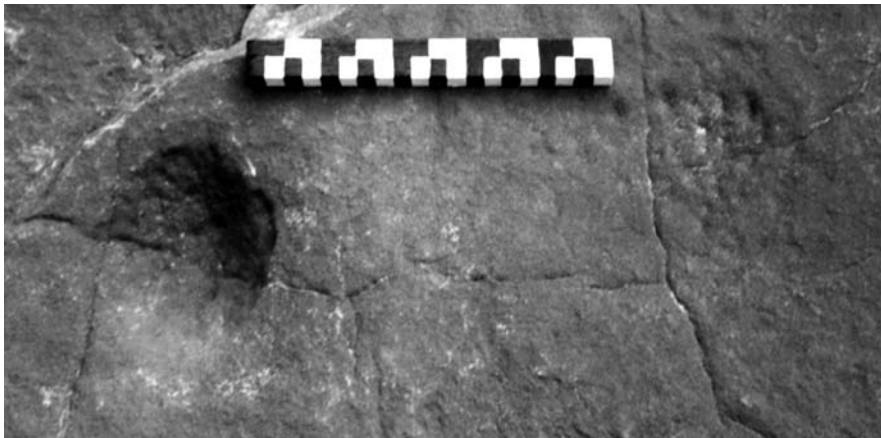


Fig. 5. Photograph showing cupule and hammer marks at the base of the M3S rock tank.

the start of another cupule (Figs 4 and 5). Peculiar cut marks were found on the rock surface adjacent to the rock tank.

RM was dated to 780 ± 20 b.p. (Pta-9459), which calibrates to a one-sigma range of AD 1270–1283. F/RM was underlain in the mid-western and northern side by a grey ash patch 8 cm deep. This ash patch was bone rich and had stained the floor of the rock tank white.

Ratho Kroonkop

I excavated trenches into the deposit in two rock tanks on RKK (Fig. 6). Rock tank 1 is located on the south-western edge of RKK. A narrow crevice separates the area from the rest of the southern raised rock. Rock tank 2 formed on the northern edge. In both locations the edge consists of bare rock raised above the lower central part of the hill. Similar to M3S, the placement means that the material must have been placed in the rock tanks on purpose. Two other large rock tanks occur on the western edge of RKK. These do not contain deposit. Hammering, cut and abrasion marks occur around these rock tanks.



Fig. 6. Photograph of RKK. The locations of the excavated rock tanks are indicated with arrows.

Rock tank 1

At first a 50 cm² test square was excavated into the rock-tank deposit. This revealed complex stratigraphy and a high concentration of mammal and reptile faunal material. Consequently, the excavation was extended to 1 m². Ceramics and bone fragments were visible on the surface, and the excavation yielded more Leopard's Kopje ceramics, metal helixes, metal fragments, glass and shell beads, shell fragments, charcoal and bone.

The distribution of the finds was not uniform and distinct clustering occurred in the stratigraphic layers (Fig. 7). A distinct mammal and reptile bone cluster marked excavations from spits 1b to 2b. It was followed by a uniform grey-brown ashy (gba)

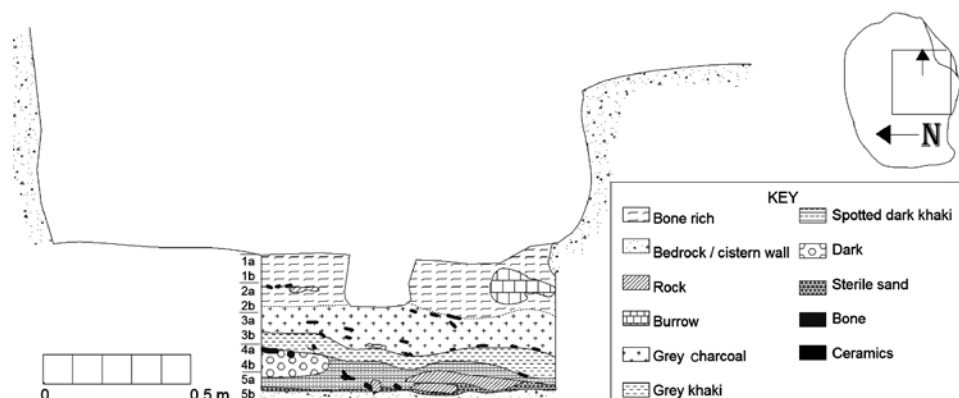


Fig. 7. Drawing of RKK rock tank 1, eastern excavation profile, as well as cross-section.

deposit and was excavated in spits. A charcoal-rich lens underlay gba in the north-eastern section of the square. A grey charcoal (gc) layer followed. Faunal material marked the base of the layer, which rested on a grey-khaki (gk) layer. Gk overlay a dark bone-rich (d) layer. The next layer, spotted dark khaki (sdk), was clayish and rested on sterile red sandy soil. Sandy red contained only a few LSA stone tools and rested on the rock-tank base, approximately 50 cm below the deposit surface. The excavation also yielded carnivore coprolites and bird of prey pellets. It was not clear whether those were placed in the rock tank by people or were the result of activities of animal visitors to the site.

Rock tank 2

A 1 x 3 m trench dug into the rock tank (Fig. 8) revealed several deposition episodes (Fig. 9). The removal of the powdery surface soil revealed dark brown (db) soil which enclosed two hard patches and an ash-filled, pit-like hollow. Further excavations exposed a 1.5 m long mound (bm) of faunal and cultural material about 10 cm below the surface. The mound was between 5 and 20 cm high and rested on red-brown soft (rb) soil.

Only two squares were excavated into the layers under the bone mound and bone-rich layer. These showed that the faunal material overlay red-brown soil (rb). In turn rb rested on a termite mound. The red-grey termite soil was extremely hard and less than 10 cm was excavated into it. This, however, exposed an ash pit, approximately 15 cm deep, on the southern side of the trench. Once the termite layer was reached in the westernmost square, a core was drilled into the termite soil with an auger. This revealed that the base of the rock tank was at least 1 m below the surface level, but as the core did not contain cultural material or soil, the excavation was closed.

In addition to the mound of faunal material, the excavation yielded ceramics, metal helixes, glass and shell beads, shell fragments and charcoal.

RAIN, HILLS AND POOLS IN SOUTHERN AFRICAN ETHNOGRAPHY AND ARCHAEOLOGY

Possible meanings for the rock-tank material culture and uses can only be accessed through ethnographic information, but there are no direct K2 polity and Mapungubwe state descendants. Consequently, I explore a range of southern African ethnographic accounts about rain control for possible information.



Fig. 8. Photograph showing RKK rock tank 2 excavation.

Rain control comprises collective and specialist acts. Collective rituals generally occur annually, and include the cleansing of pollution (cf. Pauw 1964: 26; Stayt 1931: 311), cooling the earth by spilling water (Schoeman 1935: 170) or treating the land with water-based rain medicine (cf. Mönnig 1978: 157; Schapera 1930: 213, 1971: 34; Stayt 1931: 213, 311). Other collective rituals involve fire, which is the structural opposite and plays a different role. It is used in symbolic sacrifice (De Heusch 1985: 194; Ikenga-Metuh 1985: 19), and thus can be used to invoke sympathy (Berglund 1976: 55), or to attract attention such as when rain medicine or items are burnt (Schapera 1971: 52; Stayt 1931: 312).

A range of places have been linked with historic rain-control practices in southern Africa. These include the graves of royals ancestors (cf. Beemer 1935: 273; Feddema

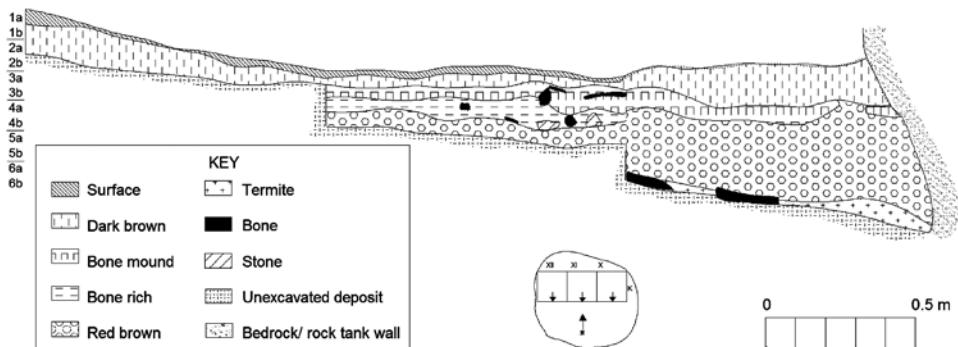


Fig. 9. Section drawing of RKK rock tank 2 southern profile and rock tank western edge.

1968: 18; Fourie 1921: 74; Mönnig 1978: 157; Schoeman 1935: 171; Schoeman 1997: 40; Stayt 1931: 231), hills (Berglund 1976: 47; Bleek 1933b: 309–10; Hughes 1957: 102; Lewis-Williams & Pearce 2004a: 216–17; Ouzman 1996: 58; Pikirayi 2004: 257; Schapera 1971: 36), caves (Aukema 1989; Berglund 1976: 60; Schapera 1971: 37, plates 4b, 5a, 5b) and places of water (Berglund 1976: 59; Bleek 1933b: 309–10; Dornan 1927–29: 187; Gelfand 1962: 146, 1973: 137; Hunter 1936: 81–2; Murimbika 2006: 108; Schapera 1971: 36). These places are used as sites for rain ceremonies, keeping of the medicine and as areas for symbolic or collective ritual action. The above ethnographic accounts suggest that hills, caves and pools (cf. Ouzman 1995: 55) are used continually, but Huffman (2009: 991) asserts that hilltops are only used in times of drought.

I will now focus on the use of places of water and pools. Intriguingly, places of water were mostly sources of water for rain medicines (cf. Beemer 1935: 274; Mönnig 1978: 156; Schapera 1971: 34; Schoeman 1935: 170) rather than sites of rain ceremonies, but there are some exceptions highlighted below.

Pools on top of hills formed a crucial part of annual rain control when Botswana chiefs were still rain controllers (Schapera 1971: 35). One of the ways in which Chief Lentswe made rain was to go to the pool on top of Modipe Hill. In a cave facing this pool lived a large rain snake, Kgwanyape. Chief Lentswe would take the snake's dung and dirt from its spoor, and draw water from the pool. When he came down the hill, rain would fall. A similar snake was said to exist on Phuthadikobo hill. However, the rain controller who owned this hill denied that it existed (Schapera 1971: 35–40).

Similarly, while KwaZulu-Natal heaven-herds (who herd the skies, but do not make rain) always ply their trade on hilltops (Berglund 1976: 47), pools seem crucial to rain controllers in this region. One of the KwaZulu-Natal rainmakers interviewed by Berglund covered himself and the medicine horns with the skin of a freshly slaughtered black sheep or goat and spent a night on a black rock in the middle of a stream. In the middle of the night the python appeared out of the river, licked the fat off the wet animal skin and then lay down on the medicine horns until they were cool. In the morning the rain controller took the 'cool' medicine horns and made rain next to the river (Berglund 1976: 55–6). Moisture was also important in rain paraphernalia. All the vessels used to prepare and store rain medicine were made from clay taken from a place that was always wet. The pots were baked on a cloudy day and then cooled in a deep pool associated with the "snake of the sky" (Berglund 1976: 62). In another rain event the tears of the Lord of the Sky (rain) were invoked by killing a common ground hornbill, or eagle if a ground hornbill could not be found, at a river. The hornbill was believed to be female and a favourite animal of the Lord of the Sky and its death would cause him to cry (Berglund 1976: 57). The time depth of these practices is difficult to assess because rain control in KwaZulu-Natal is diverse and it is not clear whether the variability is the product of state formation processes or survived the centralisation under Shaka kaSenzangakhona (cf. Gluckman 1940: 31).

Similarly, there was variation in rain-control procedures in the Eastern Cape, and each rain controller had his or her own (Hunter 1936: 80). This local variability suggests that at least some ceremonies or elements had developed locally, whilst common elements—chiefs sending a completely black animal to the rain controller—might suggest an earlier regional vocabulary. Local variations could in part be due to the belief that rain controllers were supposed to be foreigners (see Hunter 1936: 80).

This meant that elements that rain controllers, such as those of the Yalo clan (Hunter 1936: 80) and San (Blundell 2004; Jolly 1986: 6), brought from elsewhere were incorporated into local ritual processes.

Two Eastern Cape practices resonate with rain control described by Berglund. The first is the killing of a hornbill (Hunter 1936: 83). The other is one of the ceremonies described by Hunter (1936: 81–2), where the chief initiated rain control, after which black cattle were sacrificed at the homestead of a female rain controller. The fat was smeared on the skin. She then went alone to a rock in a pool in the river, where she lay with the skin covering her. During the night, mist would cover the pool and the pool itself would rise up, after which the water snake came out of the pool and licked the fat off the skin. By the time the pool subsided, it would have begun to rain (Hunter 1936: 81–2). Hunter (1936: 82) suggested that even though villagers were not aware of this, the snake represented the ancestors.

Jolly (1995: 75) postulated that water snakes are associated with Xhosa ancestral spirits, and that Xhosa diviners and their initiates capture or tame these whilst in trance. Jolly (1995: 76) used this and other practices to argue that the San adopted these and other religious concepts from the Nguni and Sotho. Hammond-Tooke (1998) on the other hand argued that the Nguni adopted mediumistic divination from the San. Hammond-Tooke (1998: 14) also points out that Nguni and San rain control were distinct, with the Nguni rain control focusing on the chief and the sacrifice of a black animal. Generally it did not involve trance, whilst San rain control involved going into trance and catching the rain animal.

This is the case in general, but some KwaZulu-Natal and Eastern Cape Nguni rituals linked rain control to engaging snakes in mystical pools, which does suggest trance experiences similar to those of divination initiates (cf. Jolly 1995). The pool-snake episodes formed part of a longer farmer rain-control process in which the chief played a key role, but the individual actions by the rain controller in a ritual, non-visible place, which was located away from everybody, resonates with Eastern Cape San beliefs about snakes and rain, discussed below. This overlap might have been the result of interaction between Eastern Cape farmers and San rain controllers. Ouzman (1995: 60, 1996: 59) described similar formal correspondences and shared meanings in the North-West Province. There, San and Tswana beliefs syncretically merged.

M., the daughter of the last San painter in the Transkei, recounted a ritual hunt for the river snake, similar to the one discussed above. Jolly (1986: 6–7) indicates that this narrative is probably an account of capturing the rain animal, since Lewis-Williams (1980: 470–4) demonstrated that the capture of the water snake is a metaphor for trance, and that the rain animal and snake were equivalents. San ethnography links supernatural snakes with rain and water (Lewis-Williams & Pearce 2004a: 211–12; Loubser & Laurens 1994: 105; Mallen 2005: 4–6). It is possible that beliefs linking snakes and rain were widespread throughout southern Africa, since San paintings of supernatural snakes are found from the Brandberg in Namibia to the Drakensberg in the Eastern Cape.

Pools and hills were important rain-control places for the Northern Cape San. //Kabbo, for example, recounted a mythical conversation between a grandson and his rain-medicine-man grandfather, in which the grandson said “for the she-rain is drawing her breath which resembles mist; you must please go and cut the rain at the great waterpits which are on the mountain” (Bleek 1933a: 109). Another rain controller said that he

always cut the rain on top of a specific mountain (Bleek 1933b: 309–10; Lewis-Williams & Pearce 2004a: 216). Cutting the rain in these accounts refers to the central act of rain control when the rain animal is killed and cut up, thus causing rain to fall. This often took place away from residential locations (Lewis-Williams & Pearce 2004a: 217). //Kabbo's accounts indicate that hilltops with pools were important locations in the act of rain control. In another account, Diä!kwain linked pools to the rain animal, and thus rain control (Bleek 1933a, 1933b).

Rain control was also about controlling negative aspects such as storms and lightning. Tamme told Bleek in 1880 that women were able to redirect lightning and make it fall into water by beating on the ground with a stone, whilst saying "Fall into the water! Fall into the water!" (Bleek & Lloyd 1968: 429). It is tempting to link this action to SLCA rain-hill cupule making, but cupules could also have been an initially unintended by-product of the production of repetitive sound (see Ouzman 2001 for a discussion on rock hammering and sound production). Repetitive hammering can symbolise the sound of animals running. An association between hooves running and rain has been recorded for the San. "A San woman called Beh saw a herd of giraffe galloping ahead of an approaching thunderstorm. The sound of the hooves and the beating rain inspired a new medicine song" (Eastwood & Cnoops 1999: 109). A link between rain and running is also suggested in the account by /han≠ kass'o: "The rain is addressed in the following manner by the old men: first they speak to the dead men who are with the rain. 'O gallopers, O gallopers, Do you not know me? You do not seem to know my hut'" (Bleek 1933a: 304). Simulating galloping by hammering rocks is similar to the pounding of bored stones. A San woman pounded a bored stone on the ground to communicate with the dead and request the spirits of the game to assist her husband in hunting (Lewis-Williams & Pearce 2004b: 62; Ouzman 1997: 88).

This summary highlights several key issues. Pools and places of water can be categorised in four ways when they are linked to rain control:

1. They are sources for rain-medicine ingredients;
2. The rain snake/animal lives in or near them (KwaZulu-Natal, Eastern Cape, Botswana and Northern Cape);
3. They are 'cool' places in which to discard (Soutpansberg) or make rain paraphernalia (KwaZulu-Natal);
4. They are places to control rain (KwaZulu-Natal, Eastern Cape, Northern Cape).

It is speculative to tie rock tanks to ethnographic details but the patterning in the archaeological data suggests that it is not entirely spurious. Using ethnographies to understand unrelated archaeological sites should be undertaken with care, not just for the obvious reasons relating to ethnographic analogy (cf. Wylie 1982, 1988, 1989), but also because this undertaking could fall victim to an eternal ethnic or racial past. Much of our knowledge of historic practices has been shaped by texts produced during the colonial or apartheid periods, and the majority of these texts were shaped by the racial ideologies of the time and project African people as belonging to bounded groups (cf. Dubow 1994; Worby 1994). Simultaneously, it is only through searching for the roots of practices or material-cultural types that the full complexity of past events and societies can be grasped.

An important component of a search for roots of practices is the recognition that whilst some of the strands might be traced back to their origins, the meanings reside in the circumstances in which they were used. This context is complex, and cannot be reduced to its parts, because elements of people's lives and social practices are woven into complex social, political and economic webs. Recognising that it is seldom profitable to try disentangling societies on African frontiers, I will now explore the origins of material culture that forms part of SLCA rain control.

MAKING SENSE OF ROCK TANKS

The rock tank excavations revealed three common elements. The first has already been mentioned—the hammering and marking of the rock in and around the rock tanks. This signals repeated engagement with these features. The archaeology—distinct stratigraphic layers testifying to a number of distinct actions or events—also suggests repeated engagement. The material contained in the deposit talks to the significance of the events that led to deposition. The deposit is rich in material culture, including a substantial number of beads and metal helix fragments. These must have become part of the deposit when they were used in rain-control rituals. This could suggest that they were not only valuable as commodities, but also as bearers of rain power, or at least linked to rain.

I have argued elsewhere (Schoeman 2006a: 286–8, 2006b: 163–4) that rain control in the SLCA was the materialisation of specific historical and ideological processes involving SLCA hunter-gatherers and farmers. Consequently, the full meaning and significance of rock tanks will remain opaque. However, we might access the significance of some of the objects, features or practices through historical and ethnographic sources documenting those of other southern African precolonial farmers and hunter-gatherers.

The hammer marks and cupules suggest that rock tanks were places of engaging with the rock surface. Cupule-making as part of symbolic human behaviour has a long international history (cf. Taçon et al. 1997). Excavations in Corner Cave at Tsodillo in eastern Botswana found cupules and the stone balls used to make them in a Middle Stone Age context. Whilst no direct evidence was found to explain the symbolism of the cupules in this context, evidence suggests that the stone balls were thought to possess supernatural powers (Walker 2005). The production of cupules continued into the LSA and, in the SLCA, cupules of variable sizes on a range of surfaces and in places associated with other hunter-gatherer engravings, formed part of symbolic practices of hunter-gatherers (Eastwood & Blundell 1999; Van der Ryst et al. 2004). These practices might have included rain control (Van der Ryst et al. 2004: 7). Production of cupules thus pre-dates the arrival of farming communities in southern Africa.

Consequently, the clustering of cupules around rock tanks, at least in part, is drawing on a regional hunter-gatherer vocabulary discussed above. Three key elements of this vocabulary are that water pits on the mountains are places to cut (make) rain; that pools are linked to rain and the rain snake or animal; and that hammering rocks can chase away lightning. It is not impossible that SLCA hunter-gatherer rain control contained elements of this vocabulary.

Rock hammering or cupule making, however, seems to have continued into the early second millennium. The cupules and hammer marks that underlay the deposit in the

M3S rock tank were not weathered and were thus newly made. The deposit dated to the K2-Mapungubwe period. The practice of engaging with rocks would then also have become part of the SLCA farmer rain vocabulary.

Another aspect of this vocabulary was placing rain refuse in rock tanks. A number of ash layers or patches are found in the rock tanks. Whilst ceramic clusters have been noted on hills (cf. Huffman 2009; Loubser 1994: 83), the use of rock tanks to discard rain refuse has not yet been noted in other published archaeological, historical or ethnographic research in southern Africa. This would suggest that it was a geographically and historically specific practice. A reason for this practice might be found in Venda ethnography. Rain finders from the Soutpansberg buried some of the remains from rain-control ceremonies in cool/wet places (M. Murimbika pers. comm. 2003). This was done because drying out of the rain medicines will cause more drought (R. Munyai pers. comm. 2002). In the late twentieth century a Soutpansberg rain controller still placed rain medicine in a rock tank (E. Eastwood pers. comm. 2008). K2 people might have been motivated for similar reasons to place rain-control material in the rock tanks and in ash. That is, they might have been trying to preserve or contain the power or potency of rain-material culture by placing the rain-control ritual refuse in pools and ash, both of which are symbolically 'cool' or purifying.

Several distinct faunal and material culture clusters in all the excavated rock tanks suggest that animals were killed as part of SLCA rain control, and their remains disposed of in distinct events. The choice to discard such material in the rock tanks might have rested on logic similar to the historic practices in the Soutpansberg, where rain ash had to be placed in a wet place, or it might speak of beliefs about rain snakes or the spirits of the land residing in these places. Irrespective of the reason for the choice, the layering in the deposit suggests several discard episodes.

Animal sacrifice and ritual cooking form a crucial component of farming community rain control throughout sub-Saharan Africa (cf. de Heusch 1985; Murimbika 2006: 117). This widespread distribution suggests that sacrifice and fire formed part of an early farmer rain vocabulary and pre-dates contact with South African hunter-gatherers. This practice has not been noted in intra-community hunter-gatherer rain-control rituals. It does, however, characterise rituals performed by hunter-gathers for farmers in the Eastern Cape (cf. Prins 1990, 1994).

The use of rock tanks, making of cupules and ritual sacrifice originated from both farmer and hunter-gatherer rain vocabularies. I have argued that these elements became part of SLCA rain control when hunter-gatherer rain controllers became rain controllers for the K2 polity, which was dominated by farmers (Schoeman 2006a).

It is possible that rain controllers used elements that made sense to their farmer clients, but that they initially did not form part of the farmer client community. This no doubt could have been the case in the Eastern Cape, when the stature and wealth that shamans gained from their ritual activities for farmers was articulated in their own community, parts of which remained independent and separate until the late 1800s (see Blundell 2004; Campbell 1987; Dowson 1998).

Later, hunter-gatherer rain controllers might have controlled rain for the whole SLCA society, and not only farmers. This new society was formed through the interaction of farmers and hunter-gatherers. Van Doornum (2005, 2007, 2008) showed that hunter-gatherers who remained in the valley moved closer to the farmers and, when the farmers

later left the SLCA, disappeared with them. This suggests that the relationship between hunter-gatherers and farmers had become more than a strategic alliance. Obviously, the interactions and engagements were complex and not uniform. Nor did everybody engage on an even footing or to the same extent (cf. Calabrese 2000a, b, 2005, 2007; Schoeman 2006a; van Doornum 2005, 2008). In the process, meanings and practices travelled between hunter-gatherers and farmers. A possible parallel could be in the late nineteenth- and early twentieth-century Eastern Cape where San and Xhosa-speaking communities merged and elements of San rituals became permanent features in regional divination (cf. Hammond-Tooke 1998, 1999, 2002; Prins 1990, 1994) and some elements of rain control as discussed above.

LOCATING ROCK TANKS

Tracing the roots of elements of rock tank-related rain rituals does not mean we can view the two main elements in isolation, or disentangle the new meanings these actions or beliefs would have acquired in rain control in the SLCA in the early second millennium. The meaning of rock tanks would have formed out of and included farmer and hunter-gatherer elements. Rock tanks materialise both earlier farmer and hunter-gatherer practices and beliefs, whilst also embodying (cf. Lakoff & Johnson 1999) the merger of the two traditions into a common rain-control process. The embodiment of both, and the ritual use of rock tanks in rain control, which is a merger of both farmer and hunter-gatherer rain control, ensures that rock tanks became signals of joint rain control.

Rain rock tanks, like landscapes, are not simply topographical features, but were created by people and enclosed 'real' and 'imagined' places (cf. Bender 1993). They also contained the residue of rain-control actions and, simultaneously, embodied rain control. Through this duality, rock tanks became metaphors (cf. Lakoff & Johnson 1980) for rain control.

But rain control was not separate from society. I have demonstrated the link between rain control and SLCA ideological processes, showing that rain-control ceremonies and places were part of materialised ideology (Schoeman 2006a, b; cf. DeMarrais et al. 1996). As Osborne (2001: 3) points out "[c]ommonly held sets of symbolic meanings about places have often been developed to reinforce peoples' identification with specific social values". Ritual enactment can also be important in creating a common identity in complex societies and states (cf. Kong & Yeoh 1997; Lambek & Walsh 1997).

Rock tanks are located outside normal farmer society (Schoeman 2006a) and in hunter-gatherer ritual space, which is located away from normal living space (cf. Lewis-Williams & Pearce 2004a: 217). This 'in-between' space provides "the terrain for elaborating strategies of selfhood—singular or communal—that initiate new signs of identity, and innovative sites of collaboration, and contestation, in the act of defining the idea of society itself. It is in the emergence of interstices—the overlap and displacement of domains of difference—that the intersubjective and collective experiences of *nationness*, community interest, or cultural value are negotiated" (Bhabha 2004: 2).

Rain places thus provided locales to negotiate identity and society, thereby helping to create and reinforce other SLCA values, and thus build 'national' identity and ideology. This mental order included a society shaped by farmers and hunter-gatherers. Rock tanks thus signify the broader SLCA social world, where hunter-gatherers and farmers have

joined to form a common SLCA society that functions independently and collectively. This linkage also functions at a smaller scale and could link individual rain-control items into a broader system of signification. This is possible because the “act of performance is itself a part of the order performed” (Rappaport 1999: 38) and the rituals and ritual objects materialise or substantiate mental processes (Rappaport 1999). Rock tanks thus materialise processes of SLCA rain and the mental order.

Understanding of SLCA rain subsequently became entangled in the topographic features used in rain control, and the features and know-how merged into local knowledge about rain. This understanding of rain, similar to SLCA religion and society, in the early second millennium was place—and context—specific, and thus part of locational culture or identity (cf. Kwon 2002). In this view, meanings of places and features are shaped by the past, present and the place.

CONCLUSION

Rain control was fundamental to SLCA society in the early second millennium. Simultaneously, rock tanks formed a crucial part of rain control, and became a space that embodied rain. In this way, rock tanks became powerful symbols of SLCA society and rain control. Although shaped out of a regional rain vocabulary, SLCA rain control was unique and formed part of a local culture. After the Mapungubwe state fragmented, people who stayed or left would have used elements of these rain practices in other configurations and contexts, combining them with novel elements, thereby shaping new and different rain-control rituals that again would shape, and reflect, local cultures. Some, possibly, contributed to historic rain-control practices in the SLCA. These insights would not be possible if stadial terms continue to restrict our view of the past, and divide societies into their various elements rather than allow us to access their totality.

ACKNOWLEDGEMENTS

Rhudzani Munyai’s assistance was crucial in the M3S and JC hill excavations, which formed part of my PhD research. The RKK rock tanks were excavated with help from students who participated in the joint 2006, 2007 and 2008 UP and UB field schools. I am grateful to a number of colleagues who assisted in these excavations. They included Neels Kruger, Munyaradzi Manyanga, Johan Nel, Innocent Pikirayi, Alinah Segobye, Natalie Swanepoel, Jaco van der Walt and Bronwen van Doornum. Tanya Hatting and Natasha Higgitt helped to process the RKK material in the laboratory. The landowners (the Boshoff family) and the Peace Parks Foundation kindly allowed me to excavate the hills. This research was funded by De Beers (PI T.N. Huffman) and an NRF-SIDA grant (PI I. Pikirayi).

NOTE

¹ I excavated the rain hills EH, JC, M3S and Rhodes Drift (the latter I excavated jointly with M. Murimbika) as part of my PhD research. I excavated RKK subsequently.

REFERENCES

- Anderson, B. 1991. *Imagined communities: reflections of the origin and spread of nationalism*. London and New York: Verso.
- Aukema, J. 1989. Rain-making: a thousand year-old ritual. *South African Archaeological Bulletin* 44: 70–2.

- Barnard, A. 2007. *Anthropology and the Bushman*. Oxford: Berg.
- Beemer, H. 1935. The Swazi rain ceremony. *Bantu Studies* 9: 273–80.
- Bender, B. 1993. *Landscape: politics and perspectives*. Providence: Berg.
- Berglund, A.-I. 1976. *Zulu thought-patterns and symbolism*. London: Hurst and Company.
- Bhabha, H.K. 2004. *The location of culture*. New York: Routledge.
- Bieseles, M. 1993. *Women like meat: the folklore and foraging ideology of the Kalahari Ju/'hoan*. Bloomington: Indiana University Press.
- Bleek, D. 1933a. Belief and customs of the /Xam Bushmen: rain. From material collected by Dr W.H.I. Bleek and Miss L.C. Lloyd between 1870 and 1880. Edited by D.F. Bleek. *Bantu Studies* 8: 297–312.
- Bleek, D. 1933b. Belief and customs of the /Xam Bushmen: rain-making. From material collected by Dr W.H.I. Bleek and Miss L.C. Lloyd between 1870 and 1880. Edited by D.F. Bleek. *Bantu Studies* 8: 375–92.
- Bleek, W.H.I. & Lloyd, L.C. 1969. *Specimens of Bushmen folklore*. Facsimile reprint. Cape Town: Struik.
- Blundell, G. 2004. *Nqabayo's Nomansland: San rock art and the somatic past*. Uppsala: Uppsala University.
- Calabrese, J.A. 2000a. Metals, ideology and power: The manufacture of control of materialised ideology in the area of the Limpopo-Shashe Confluence, c. AD 900 to 1300. *South African Archaeological Society Goodwin Series* 8: 100–11.
- Calabrese, J.A. 2000b. Interregional interaction in southern Africa: Zhizo and Leopard's Kopje relations in northern South Africa, southwestern Zimbabwe, and eastern Botswana, AD 1000 to 1200. *African Archaeological Review* 17 (4): 183–210.
- Calabrese, J.A. 2005. *Ethnicity, class, and polity: the emergence of social and political complexity in the Shashi-Limpopo valley of southern Africa, AD 900 to 1300*. PhD thesis, University of the Witwatersrand.
- Calabrese, J.A. 2007. *The emergence of social and political complexity in the Shashi-Limpopo valley of southern Africa, AD 900 to 1300*. Oxford: B.A.R.
- Campbell, C. 1987. *Art in crisis: contact period rock art of the south-eastern mountains of southern Africa*. MSc thesis, University of the Witwatersrand.
- Cashdan, E.A. 1986. Competition between foragers and food-producers on the Botletli River, Botswana. *Africa* 56: 299–318.
- De Heusch, L. 1985. *Sacrifice in Africa: a structuralist approach*. Manchester: Manchester University Press.
- Delius, P. 1983. *The land belongs to us: the Pedi polity, the Boers and the British in the nineteenth century Transvaal*. Johannesburg: Ravan Press.
- DeMarrais, E., Castillo, L.J. & Earle, T. 1996. Ideology, materialization, and power strategies. *Current Anthropology* 37: 15–31.
- Dornan, S.S. 1927–29. Rainmaking in South Africa. *Bantu Studies* 3: 185–95.
- Dowson, T.A. 1998. Rain in Bushman belief, politics and history: the rock-art of rain-making in the south-eastern mountains, southern Africa. In: C. Chippendale & P.S.C. Taçon, eds, *The archaeology of rock art*. Cambridge: Cambridge University Press, pp. 73–89.
- Dubow, S. 1994. Ethnic euphemisms and racial echoes. *Journal of African Studies* 20 (3): 355–70.
- Eastwood, E. 2003. A cross-cultural motif in San, Khoekhoe and Northern Sotho rock paintings of the central Limpopo basin, southern Africa. *South African Archaeological Bulletin* 58: 14–26.
- Eastwood, E.B. & Blundell, G. 1999. Re-discovering the rock art of the Limpopo-Shashi confluence area, southern Africa. *Southern African Field Archaeology* 8: 17–27.
- Eastwood, E.B. & Cnoops, C.J.H. 1999. Capturing the spoor: towards explaining kudu in San rock art of the Limpopo-Shashi confluence area. *South African Archaeological Bulletin* 54: 107–19.
- Evers, T.M. 1988. *The recognition of groups in the Iron Age*. PhD thesis, University of the Witwatersrand.
- Feddema, J.P. 1968. Tswana ritual concerning rain. *African Studies* 25 (4): 181–95.
- Fourie, H.C.M. 1921. *Amandebele van Fene Mahlangu en hun religious-sociaal leven*. Zwolle: La Riviere & Voorhoeve.
- Gelfand, M. 1962. *Shona religion with special reference to the Makorekore*. Cape Town: Juta.
- Gelfand, M. 1973. *The genuine Shona: survival values of an African culture*. Salisbury: Mambo Press.
- Gluckman, M. 1940. The kingdom of the Zulu of South Africa. In: M. Fortes & E.E. Evans-Pritchard, eds, *African political systems*. Oxford: Oxford University Press, pp. 25–55.
- Hall, M. 1984. Frontiers in southern African archaeology. In: M. Hall, G. Avery, D.M. Avery, M.L. Wilson & A.J.B. Humphreys, eds, *Frontiers: southern African archaeology today*. Oxford: B.A.R., pp. 1–10.
- Hall, S. & Smith, B. 2000. Empowering places: rock shelters and ritual control in farmer-forager interactions in the Northern Province. *South African Archaeological Society Goodwin Series* 8: 30–46.

- Hammond-Tooke, W.D., ed., 1974. *The Bantu-speaking peoples of southern Africa*. London: Routledge & Kegan Paul.
- Hammond-Tooke, W.D. 1998. Selective borrowing? The possibility of San shamanistic influence on Southern Bantu divination and healing practices. *South African Archaeological Bulletin* 53: 9–15.
- Hammond-Tooke, W.D. 1999. Divinatory animals: Further evidence of San/Nguni borrowing? *South African Archaeological Bulletin* 54: 128–32.
- Hammond-Tooke, W.D. 2002. The uniqueness of Nguni mediumistic divination in Southern Africa. *Africa* 72 (2): 275–92.
- Hanisch, E.O.M. 2002. Schroda: the archaeological evidence. In: J.A. van Schalkwyk & E.O.M. Hanisch, eds, *Sculptured in clay: Iron Age figurines from Schroda, Limpopo Province, South Africa*. Pretoria: National Cultural History Museum, pp. 21–40.
- Hughes, A.R. 1957. Rock slides, burials and ancestral worship in the Transvaal. *South African Archaeological Bulletin* 47: 102–7.
- Huffman, T.N. 1986. Iron Age settlement patterns and the origins of class distinction in southern Africa. *Advances In World Archaeology* 5: 291–338.
- Huffman, T.N. 1996. *Snakes and crocodiles: power and symbolism in ancient Zimbabwe*. Johannesburg: Witwatersrand University Press.
- Huffman, T.N. 2000. Mapungubwe and the origins of the Zimbabwe culture. *South African Archaeological Society Goodwin Series* 8: 14–29.
- Huffman, T.N. 2008. Mapungubwe and Great Zimbabwe: the origins and spread of social complexity in southern Africa. *Journal of Anthropological Archaeology* 28 (1): 37–54.
- Huffman, T.N. 2009. A cultural proxy for drought: ritual burning in the Iron Age of southern Africa. *Journal of Archaeological Science* 36: 991–1005.
- Hunter, M. 1936. *Reaction to conquest: effects of contact with Europeans on the Pondo of South Africa*. Cape Town: David Philip.
- Ikenge-Metuh, I. 1985. Ritual dirt and purification rites among the Igbo. *Journal of Religion in Africa* 15 (1): 3–24.
- Johnson, M.A. 1989. Conceptions of agency in archaeological interpretation. *Journal of Anthropological Archaeology* 8 (2): 198–211.
- Jolly, P. 1986. A first generation descendant of the Transkei San. *South African Archaeological Bulletin* 41: 6–9.
- Jolly, P. 1992. Some photographs of late nineteenth century San rainmakers. *South African Archaeological Bulletin* 47: 89–93.
- Jolly, P. 1995. Melikane and Upper Mangolong revisited: the possible effects of San art on symbolic contact between south-eastern and southern Sotho and Nguni communities. *South African Archaeological Bulletin* 50: 68–80.
- Kenny, M.G. 1981. Mirror in the forest: the Dorobo hunter-gatherers as an image of the other. *Africa* 51 (1): 477–95.
- King, L.C. 1951. *South African scenery: a textbook of geomorphology*. 2nd edition. Edinburgh: Oliver & Boyd.
- Kong, L. & Yeoh, B.S.A. 1997. The construction of national identity through the production of ritual and spectacle: an analysis of National Day parades in Singapore. *Political Geography* 16 (3): 213–39.
- Kopytoff, I. 1989. *The African frontier: the reproduction of traditional African societies*. Bloomington: Indiana University Press.
- Kuper, A. 1995. Machiavelli in precolonial southern Africa. *Social Anthropology* 3 (1): 1–13.
- Kuper, A. 1999a. *Culture: the anthropologists' account*. Cambridge: Harvard University Press.
- Kuper, A. 1999b. *Among the anthropologists: history and context in anthropology*. London: The Athlone Press.
- Kuper, A. 2003. The return of the Native. *Current Anthropology* 44: 389–401.
- Kwon, M. 2002. *One place after another: site-specific art and locational identity*. Cambridge: MIT Press.
- Lakoff, G. & Johnson, M. 1980. Conceptual metaphor in everyday language. *Journal of Philosophy* 77 (8): 453–86.
- Lakoff, G. & Johnson, M. 1999. *Philosophy in the flesh: the embodied mind and its challenge to Western thought*. New York: Basic Books.
- Lambek, M & Walsh, A. 1997. The imagined community of the Antankarana: identity, history, and ritual in Northern Madagascar. *Journal of Religion in Africa* 27 (3): 308–33.
- Lee, R.B. 1979. *The !Kung San: men, women, and work in a foraging society*. Cambridge: Cambridge University Press.
- Lee, R.B. & DeVore, I. 1968. Problems in the study of hunters and gatherers. In: R.B. Lee & I. DeVore, eds, *Man the hunter: the first intensive survey of a single, crucial stage of human development: man's once universal hunting way of life*. Chicago: Aldine, pp. 3–12.

- Lee, R.B. & DeVore, I., eds, 1976. *Kalahari hunter-gatherers*. New York: Harvard University Press.
- Lewis-Williams, J.D. 1980. Ethnography and iconography: aspects of southern San thought and art. *Man* **15**: 467–82.
- Lewis-Williams, J.D. & Pearce, D.G. 2004a. Southern African San rock paintings as social intervention: a study of rain-control images. *African Archaeological Review* **21** (4): 199–228.
- Lewis-Williams, J.D. & Pearce, D.G. 2004b. *San spirituality: roots, expressions and social consequences*. Cape Town: Double Storey.
- Loubser, J.H.N. 1991. The ethnoarchaeology of the Venda-speakers in southern Africa. *Navorsing van die Nasionale Museum, Bloemfontein* **7**: 146–464.
- Loubser, J.H.N. 1994. Ndebele archaeology of the Pietersburg area. *Navorsing van die Nasionale Museum Bloemfontein*. **10** (2): 61–147.
- Loubser, J. & Laurens, G. 1994. Depictions of domestic ungulates and shields: hunter/gatherers and agropastoralists in the Caledon River Valley area. In: T.A.D. Dowson & [J.]D.Lewis-Williams, eds, *Contested images: diversity in southern African rock art research*. Johannesburg: University of the Witwatersrand Press, pp. 83–118.
- Mafeje, A. 1971. The ideology of ‘tribalism’. *Journal of Modern African Studies* **9** (2): 253–61.
- Maggs, T. 1992. Name calling in the Iron Age. *South African Archaeological Bulletin* **47**: 131.
- Mallen, L. 2005. Liking sex, species and a supernatural snake at Lab X rock art site. *South African Archaeological Society Goodwin Series* **9**: 3–10.
- Marshall, L. 1962. !Kung Bushmen religious beliefs. *Africa* **32**: 221–5.
- Marshall, L. 1969. The medicine dance of the!Kung Bushmen. *Africa* **39**: 347–81.
- McAllister, P.A. 1991. Using ritual to resist domination in the Transkei. In: A.D. Spiegel & P.A. McAllister, eds, *Tradition and transition in southern Africa: Festschrift for Philip and Iona Mayer*. Johannesburg: Witwatersrand University Press, pp. 129–44.
- Meyer, A. 1980. ‘n Interpretasie van die Greefswald potwerk. MA thesis, University of Pretoria.
- Meyer, A. 1998. *The archaeological sites of Greefswald: stratigraphy and chronology of the sites and a history of investigations*. Pretoria: University of Pretoria.
- Meyer, A. 2000. K2 and Mapungubwe. *South African Archaeological Society Goodwin Series* **8**: 4–13.
- Mönnig, H.O. 1978. *The Pedi*. 2nd Impression. Pretoria: J.L. van Schaik.
- Moore, H.L. 1987. Problems in the analysis of social change: an example from the Marakwet. In: I. Hodder, ed., *Archaeology as longterm history*. Cambridge: Cambridge University Press, pp. 85–105.
- Murimbika, M. 2006. *Sacred powers and rituals of transformation: an ethnoarchaeological study of rainmaking rituals and agricultural productivity during the evolution of the Mapungubwe state, AD 1000 to 1300*. PhD thesis, University of the Witwatersrand.
- Orpen, J.M. 1874. A glimpse into the mythology of the Maluti Bushmen. *Cape Monthly Magazine* (n.s.) **9** (49): 1–34.
- Osborne, B.S. 2001. Landscapes, memory, monuments, and commemoration: putting identity in its place. Paper commissioned by the Department of Canadian Heritage for the ‘Ethnocultural, Racial, Religious, and Linguistic Diversity and Identity Seminar’, Halifax, Nova Scotia, 1–2 November 2001.
- Ouzman, S. 1995. Spiritual and political uses of a rock engraving site and its imagery by San and Tswana-Speakers. *South African Archaeological Bulletin* **50**: 55–67.
- Ouzman, S. 1996. Thaba Sione: place of rhinoceroses and rock art. *African Studies* **53** (1): 31–59.
- Ouzman, S. 1997. Between margin and centre: the archaeology of southern African bored stones. In: L. Wadley, ed., *Our gendered past: archaeological studies of gender in southern Africa*. Johannesburg: Witwatersrand University Press, pp. 71–106.
- Ouzman, S. 2001. Seeing is deceiving: rock-art and the non-visual. *World Archaeology* **33** (2): 237–56.
- Pauw, B.A. 1964. *Religion in a Tswana chiefdom*. London: Oxford University Press.
- Pikirayi, I. 2004. Less implicit historical archaeologies: oral traditions and later Karanga settlements in south-central Zimbabwe. In: A.M. Reid & P.J. Lane, eds, *African historical archaeologies*. New York: Kluwer Academic & Plenum Publishers, pp. 243–67.
- Prins, F.E. 1990. Southern Bushman descendants: trance and rainmaking in Transkei. *South African Journal of Ethnology* **13** (3): 110–16.
- Prins, F.E. 1994. Living in two worlds: the manipulation of power relations, identity and ideology by the last San rock artist in Tsolo, Transkei. *Natal Museum Journal of Humanities* **6**: 179–93.
- Rappaport, R.A. 1999. *Ritual and religion in the making of humanity*. Cambridge: Cambridge University Press.
- Schapera, I. 1930. The ‘Little Rain’ (*Pulanyana*) ceremony of the Bechuanaland Bakxatla. *Bantu Studies* **4**: 211–16.
- Schapera, I. 1971. *Rainmaking rites of Tswana tribes*. Leiden: Afrika-Studiecentrum.
- Schoeman, M.H. 1997. *The Ndzundza archaeology of the Steelpoort River Valley*. MA dissertation, University of the Witwatersrand.

- Schoeman, M.H. 2006a. *Clouding power? Rain-control, space, landscapes and ideology in Shashe-Limpopo state formation*. PhD thesis, University of the Witwatersrand.
- Schoeman, M.H. 2006b. Imagining rain-places: rain-control and changing ritual landscapes in the Shashe-Limpopo confluence area, South Africa. *South African Archaeological Bulletin* **61**: 152–65.
- Schoeman, M.H. & Muringbika, M. 2006–07. Vessels for the ancestors: cupules and the annual rain-control cycle in the Shashe-Limpopo Confluence Area. *Southern African Field Archaeology* **15–16**: 26–34.
- Schoeman, P.J. 1935. The Swazi rain ceremony. *Bantu Studies* **9**: 169–75.
- Silliman, S. 2005. Agency, practical politics and the archaeology of culture contact. *Journal of Social Archaeology* **1**: 190–209.
- Smith, A.B. 1998. Keeping people on the periphery: the ideology of social hierarchies between hunters and herders. *Journal of Anthropological Archaeology* **17**: 201–15.
- Smith, J. & Hall, S. 1999. Research directions on the archaeology of the Shashe-Limpopo area. *Wits Earth Science Newsletter* **30**: 10–11.
- Smith, J. 2005. *Climate change and agropastoral sustainability in the Shashe/Limpopo River Basin from AD 900*. PhD thesis, University of the Witwatersrand.
- Smith, J, Lee-Thorp, J & Hall, S. 2007. Climate change and agropastoralist settlements in the Shashe-Limpopo river basin, southern Africa, AD 880 to 1700. *South African Archaeological Bulletin* **62**: 115–25.
- Stayt, H.A. 1931. *The Bavenda*. Frank Cass & Co. Ltd.
- Swindler, A. 1986. Culture in action: symbols and strategies. *American Sociological Review* **51**: 273–86.
- Taçon, P.S.C., Fullagar, R., Ouzman, S. & Mulvaney, K. 1997. Cupule engravings from Jinnium-Granilpi (Northern Australia) and beyond: exploration of a widespread and enigmatic class of rock markings. *Antiquity* **71**: 942–65.
- Tilley, C. 1990. Michel Foucault: towards an archaeology of archaeology. In: C. Tilley, ed., *Reading material culture*. London: Basil Blackwell Ltd. pp. 281–347.
- Tilley, C. 1996. The powers of rocks: topography and monument construction on Bodmin Moor. *World Archaeology* **28** (2): 161–76.
- Van der Ryst, M., Lombard, M. & Biemond, W. 2004. Rocks of potency: engravings and cupules from the Dovedale Ward, southern Tuli Block, Botswana. *South African Archaeological Bulletin* **59**: 1–11.
- van Doornum, B. 2005. *Changing places, spaces and identity in the Shashe-Limpopo Region of Limpopo Province, South Africa*. PhD thesis, University of the Witwatersrand.
- van Doornum, B.L. 2007. Tshisiku Shelter and the Shashe-Limpopo confluence area hunter-gatherer sequence. *Southern African Humanities* **19**: 17–67.
- van Doornum, B. 2008. Sheltered from change: hunter-gatherer occupation of Balerno Main Shelter, Shashe-Limpopo confluence area, South Africa. *Southern African Humanities* **20**: 249–84.
- Walker, N. 2005. Cups and balls - early evidence for modern symbolic behaviour at Tsodillo. Paper read at the 12th Congress of the Pan African Archaeological Association for Prehistory & Related Studies, Gabarone, Botswana.
- Wilmsen, E. & Denbow, J. 1990. Paradigmatic history of San-speaking peoples and current attempts at revision. *Current Anthropology* **31**: 489–524.
- Worby, E. 1994. Maps, names, and ethnic games: the epistemology and iconography of colonial power in northwestern Zimbabwe. *Journal of Southern African Studies* **20**: 371–92.
- Wylie, A. 1982. An analogy by any other name is just as analogical. *Journal of Anthropological Archaeology* **1**: 382–401.
- Wylie, A. 1988. 'Simple' analogy and the role of relevance assumptions: implications of archaeological practice. *International Studies in the Philosophy of Science* **2**: 134–50.
- Wylie, A. 1989. Archaeological cables and tacking: the implications of practice for Bernstein's 'Options beyond objectivism and relativism'. *Philosophy of Social Science* **19**: 1–18.