THE DIGGING STICK

Volume 34, No 3 ISSN 1013-7521 December 2017

THE RHINOCEROS IN AFRICAN CULTURE

Jan Boeyens

It is well known that the rhinoceros features prominently in the rock art of San (Bushman) hunter-gatherers, primarily in engravings and painted scenes relating to rain control or curing. Engravings of rhinos that emphasise the long front horn, as well as painted therianthropic images, i.e. representations of humans with animal features such as rhino horns, suggest that San artists not only equated the body fat but also the horns of this herbivore with supernatural potency to be drawn upon in shamanic rituals (Hollmann & Lewis-Williams 2006). In San cosmology, the rhino was viewed as a rain animal and a distinction was made between the more docile white rhino, associated with soft or 'she-rain', and the more aggressive and ill-tempered black rhino, associated with thunderstorms or 'he-rain' (Ouzman 1995, 1996; Ouzman & Feely 2002; Eastwood & Eastwood 2006).

Fig. 1: Rhino hunting (John & Charles Bell Heritage Trust Collection, University of Cape Town)

Far less is known about the beliefs and perceptions that were traditionally held by early African farming societies and their historical descendants with regard to the rhino. As will become evident from the survey below, African farmers drew extensively upon the traits of this pachyderm in their conceptualisation of the qualities of leadership.

Taxonomy and behaviour

Some knowledge of the anatomy and behaviour of the two rhino species is a prerequisite to understanding past cultural practices. Despite their overall close resemblance, there are well-defined anatomical and behavioural differences between the species. The white rhino, or square-lipped rhinoceros (*Ceratotherium simum*), is a grazer. Adult bulls weigh between 2 000 and 2 400 kg, which is about double the mass of the black rhino. In terms of social behaviour, the white rhino is described as territorial

Jan Boeyens is head of the Archaeology Division in the Department of Anthropology and Archaeology at UNISA. This article is based on his presidential address at the annual general meeting of the South African Archaeological Society, KwaZulu-Natal Museum, Pietermaritzburg, on 13 May 2017, and an article entitled 'The cultural and symbolic significance of the African rhinoceros: a review of the traditional beliefs, perceptions and practices of agropastoralist societies in southern Africa', co-authored with Maria van der Ryst, which appeared in *Southern African Humanities* 26, 21–55. Excerpts are republished with the permission of the editor. boeyensj@unisa.ac.za.

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and gregarious (Skinner & Chimimba 2005). It is more docile than the black rhino, although experts caution that the white rhino, too, can be bad-tempered and dangerous (Walker & Walker 2012).

The black rhino, or hook-lipped rhinoceros (*Diceros bicornis*), is a browser and, though smaller, is generally far more aggressive than the white rhino. It has a solitary rather than social disposition. In both species the weapons of attack are the horns, which are composed of a mass of keratin filaments that show considerable variation in size (Estes 1997). Of the large southern African mammals, the rhinoceros is the only one in which two closely-related species are found with overlapping physical traits and complementary behavioural attributes. The cosmology of African farmers could thus be informed by the behavioural characteristics of both the black and the white rhino.

Hunting and rainmaking

Bones of black or white rhino have been uncovered from several Iron Age sites, among them Diamant, Divuyu, Chibuene, Schroda, KwaGandaganda, Ratho Kroonkop, Toutswe, Basinghall, Moritsane, Mabjanamatshwana and Maremani TSH32 (Boeyens & Van der Ryst 2014: Table 1). Although evidence about the identified skeletal parts is sketchy, the faunal remains do suggest that the rhino was hunted and its meat consumed. Among the Rolong (Tswana), for example, subjects used to send the breast portion of a rhino, and of other large game such as eland, buffalo and giraffe, as tribute to their chief (Kirby 1939).

According to Andrew Smith, who has described several rhino hunts in the Magaliesberg region of the present-day North West Province in the 1830s, rhino meat was relished by both early European explorers and the local Tswana (Lye 1975). Rhino hunting was a communal effort, as illustrated in a sketch by Charles Bell, an artist who accompanied Smith on his journey (Fig. 1). Contemporary accounts also record that rhino horns were used to carve clubs and handles for knives or battle-axes, and that hides were turned into whips or leathern thongs, and the sinew into nets (Lemue 1847; Kirby 1940; Forbes 1967; Somerville 1979). The raw materials, or the commodities obtained from them, would have been exchanged through interregional and external trade networks set up by African farming communities.

Not all the archaeofaunal samples were retrieved from residential sites. Excavation of a rock tank on Ratho Kroonkop, a second-millennium rain-control site in the Shashe-Limpopo Basin with predominantly K2 ceramics, uncovered remains of black rhino and possibly white rhino (Brunton et al. 2013). The association of rhinos with rainmaking in African farmer cosmology is not fully understood, but a belief that black rhinos supposedly charge and stomp out camp fires may provide an explanation for the presence of their bones in such archaeological contexts. This

Fig. 2: Gold rhino (Mapungubwe Collection, University of Pretoria)

presumed behavioural trait could serve as a metaphor for the cooling of heat and thus the alleviation of drought.

Though rhino experts dispute such a behavioural pattern, it is noteworthy that the naturalist Captain Guy Shortridge (1934) recalled that their camp fire had twice been charged by black rhino during a Kaokoveld expedition in South West Africa (Namibia) in the 1920s. Such charges might have been entirely incidental, but what matters in this regard is not so much the scientific or empirical documentation of rhino behaviour but what indigenous communities themselves believed, in other words their perceptions. Interestingly, the praise poem of Khama III, the Ngwato (Tswana) chief who ruled in Bechuanaland (Botswana) for nearly 50 years from the last quarter of the 19th century, refers to him as 'Fire-hater the black rhinoceros' (Schapera 1965:205).

Rhino figurines

The Mapungubwe gold rhino is undoubtedly the most famous find from southern Africa's first state complex, which flourished eight centuries ago in the Shashe-Limpopo Basin (Fig. 2). Besides the rhino and other gold-plated animal figurines, the gold objects from the royal cemetery on the hilltop include a sceptre, a bowl, nails, bangles, necklaces, anklets and thousands of beads (Tiley 2004). It is not possible to classify the gold rhino solely on the basis of its sculpted features as either a black or a white rhino. For example, it has only one horn and its snout is incomplete. Its lowered head, powerful shoulders and fat belly have led rhino-keepers, such as Clive Walker, to categorise it as a white rhino (Walker & Walker 2012). On the other hand, its raised tail could possibly be interpreted as portraying the characteristic dominance or threat display of the black rhino (Estes 1997).

Based on the archaeological context of the royal grave and Shona ethnography, the Mapungubwe figurine has been associated with a black rhino and leadership symbolism in a class-based society (Huffman 2005). A key reference in this regard is a 16th century Portuguese account of the ceremonial *pembere* dance of the Shona leader (Theal 1901), which was reflective of the movements of the black rhino, known as *chipembere* in Shona. The equivalent dance among the Venda is known as *pembela*, which

refers to the joyous dance of an old chief 'who has weathered all storms and is thought to have the full support of his ancestors, who has begotten his heirs and can now safely be rendered impotent by secret administration of a drug to remove the hazards of sexual activity' (Van Warmelo 1989:295).

More than 2 000 clay figurines were recovered at Schroda, another Iron Age site in the Shashe-Limpopo Confluence area. The collection, which was found near a cattle enclosure in the centre of the settlement, included a somewhat impressionistic head fragment of a rhino figurine with two stubby horns. The spatial context of the figurines points to their ritual use, e.g. during the initiation of young boys and girls (Hanisch & Maumela 2002). Such initiation schools offered the opportunity to inculcate societal norms and cultural values, also those pertaining to leadership.

The association of rhino figurines with initiation ceremonies is corroborated by historical accounts. The most important of the carved wooden figurines used during the *bodika*, the first phase of the circumcision school for boys among the Pedi (Northern Sotho), was that of a rhino (Roberts & Winter 1915). The figurines served as 'aids to memory' in lessons on traditional customs, norms and beliefs (Pitje 1950: 123), which included honouring the chieftaincy, the physiology of sexual relations and the rules of marriage (Schapera 1938). The cultural significance of the rhino is again alluded to in connection with the so-called black *bogwera*, the second initiation phase among the Tswana. This took place about a year later when the boys were formally grouped into a regiment. According to the missionary explorer David Livingstone (1857), the initiation ceremony was followed by a rhinoceros hunt, after which the boys could marry.

Folk taxonomy

Both the white and black rhino were almost extinct by the late 19th century, several decades before the first professional anthropologists entered the field (Lang 1924). We therefore have to turn to the accounts of early travellers for 'ethnographic' insights into the interrelationship between African farmers and rhinos. The most informative of these derive from explorers, hunters and missionaries who traversed the lands of the southern and western Tswana during the early decades of the 19th century.

A study of travelogues and praise poetry reveals that at least seven different names existed in Tswana to distinguish between the two species of rhino, in particular as regards their body size and, especially, their horn dimensions. Besides the generic term *tshukudu*, which was used for both species, there were five terms for the black rhino (*bodile*, *kgetlwa*, *kenenyane*, *makgale* and *thema*) and two for the white rhino (*mogofu*/*mogohu* and *kobaoba*) (Boeyens & Van der Ryst 2014: Table 2). Such a proliferation of names did not apply to any of the other large mammals. It clearly indicates that the Tswana were not only acute observers but also attached great cultural importance to the rhino. This folk taxonomy also entered the scientific literature of the 19th century. Even esteemed zoologists, such as Andrew Smith, initially distinguished at least four species of rhino, two black and two white, principally on the basis of horn size (Rookmaaker 2005, 2008).

Sadly, these vernacular names have largely disappeared from common usage, in tandem with the near extinction of the rhino species in southern Africa. It would seem that, by and large, only the generic term, *tshukudu*, has retained currency among Sotho-Tswana speakers (Kriel & Van Wyk 1989). This lexical loss has grown to such an extent that some recent field guides contain direct translations of the English (and Afrikaans) names for the two species, namely *tshukudu e tshweu* (white rhinoceros) and *tshukudu e ntsho* (black rhinoceros) (Cole 1995). The colour appellations white (*tshweu*) and black (*ntsho*) have merely been added onto the generic Tswana term for the rhinoceros.

Incidentally, no satisfactory explanation exists for the origins of the colour appellations since both species are grey in colour. The notion that the label 'white' is a corruption of the Afrikaans/Dutch word wyd/wijd (wide), presumably referring to the broad lips of the white rhino, has been convincingly disproved (Feely 2007).

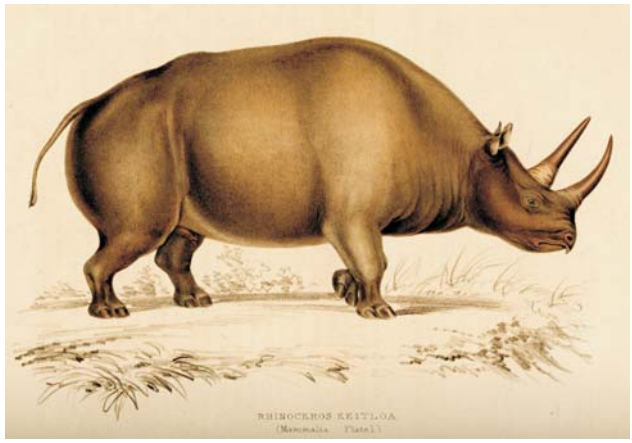

*Fig. 3: Black rhino (*kgetlwa*) (Smith 1849: Mammalia Plate I).*

Metaphors, proverbs and leadership symbolism

It was Andrew Smith who early on recorded the leadership symbolism associated with the black rhino among the Tswana. After his expedition had killed a black rhino early in June 1835 in the vicinity of Mosega, near the present town of Zeerust, a local Hurutshe man arrived on the scene and exclaimed, 'Ah Kietloa! You have found your Master!' (Lye 1975:213). He told Smith (1849) that this type of black rhino, whose name is rendered as *kgetlwa* in the current orthography, had a ferocious nature and was

considered by the Tswana to be the most dangerous of all. It could ostensibly be distinguished from the common black rhino on the basis of its large horns, which were nearly of equal length (Fig. 3). The visitor informed Smith that the Tswana in the neighbourhood likened their new overlord in the Mosega Basin, the Ndebele ruler Mzilikazi, to this animal (Lye 1975).

According to Prosper Lemue (1842), a French missionary who had laboured among the Hurutshe at Mosega until they fled Mzilikazi's Ndebele, the saying 'you are my master' had its origin in the mutualistic relationship between the rhino and the oxpecker, which is known as the 'rhinoceros bird' in Afrikaans. There are two species of oxpecker, the red-billed (*Buphagus erythrorhynchus*) and the yellow-billed (*Buphagus africanus*), both of which characteristically perch on megaherbivores to forage for ticks and other ectoparasites (Campbell 1822, vol. I; Nunn et al. 2011) (Fig. 4). The Tswana named this bird *kala ya tshukudu*, which translates as 'servant of the rhinoceros'. Addressing somebody as 'you are my rhinoceros' was synonymous with acknowledging that person's authority and leadership (Lemue 1847:111).

Fig. 4: Red-billed oxpeckers perching on a white rhino (SU Küsel)

The rhino-tick bird metaphor was also extended to capture the essence of friendship. This is expressed in a little-known Tswana adage that can be translated as 'the oxpeckers and the rhinos have gone their own ways', which carries the meaning 'the best of friends have parted company' (Cole & Moncho-Warren 2011: 222).

The symbolic load carried by the rhino is also reflected in an eventful episode that occurred in the early 1860s. At the time, Sekhukhune, the paramount chief of the Pedi, and Mabhoko, the leader of the Ndzundza Ndebele in the then eastern Transvaal, were embroiled in a conflict. One morning Mabhoko discovered to his horror that Sekhukhune had delivered a corn basket, from which the head of a rhino protruded, to the entrance to his capital. Mabhoko's followers were panic-stricken and he immediately called upon all his diviners to counter the magic spell and return the head (Wangemann 1957). In similar vein, during his 1820 journey through Tswana territory, London Missionary Society director John Campbell (1822, vol. II:180) recorded that an uncle of the reigning Rolong chief at Khunwana, who had aspired to the throne of his cousin, 'on the death of a rhinoceros ... privately took the breast of that animal, which was tantamount to declaring himself king'.

Given its leadership connotation, it makes sense that the rhino, in contrast to other large mammals such as the elephant, hippo or buffalo, does not feature as a totem animal among the Tswana (Wookey 1945). Tswana speakers were traditionally grouped into numerous clans, each of which had a totem, usually an animal, which they venerated and avoided killing. It is possible that consigning the rhino to the list of totem animals would have detracted from its significance as a symbol of leadership. Similar to a chief or king, who acted as the head of multiple clans, the rhino served as a collective symbol that cut across or transcended societal divisions.

Clubs of rhino horn as royal insignia

In view of the importance of the shape and size of rhino horn in folk taxonomy, it comes as no surprise that clubs of rhino horn served as leadership symbols. In July 1883, the Ndzundza (Southern) Ndebele chief Nyabela in the then eastern Transvaal was captured by forces of the Transvaal state after a protracted war. Upon his surrender, General Piet Joubert impounded Nyabela's chiefly club of rhino horn (Fig. 5). It is noted in an accession note preserved in the Ditsong National Museum of Cultural History that the club served as 'the symbol of the dignity of the chief'.

A rhino horn club had long been associated with chieftainship among the Ndzundza. Oral traditions recount that Ndzundza, the founder of the chiefdom, succeeded in usurping the throne that had rightfully belonged to his elder brother Manala by deceiving his blind old father into handing over the insignia of chieftainship: 'He [Ndzundza] pretended that he was Manala and was given the rhino horn club and the medicine horn of chieftainship by his old father' (Van Warmelo 1944:14). A club of rhinoceros horn, known

Fig. 5: Chief Nyabela's rhino horn club (Ditsong National Museum of Cultural History)

as *thonga ya tshugulu*, also served as a symbol of chieftainship among the Venda (Van Warmelo 1989). *Tshugulu* is the Venda equivalent of *tshukudu*, the generic Tswana term for a rhinoceros.

Upon the British conquest of Matabeleland and Bulawayo in the 1890s, the Ndebele king Lobengula retreated north, but not before setting alight his headquarters. According to Major Frederick Burnham, who took part in the campaign, an immense amount of ivory, skins, horns and other treasures were burnt, but they managed to save 'the great knobkerrie of Lobengula himself', which Burnham (1926:84) described as follows: 'This was a single white rhinoceros horn, probably one of the finest existent, with a knob at the end as large as one's fist. The horn was fully four feet in length and had been straightened and beautifully worked.' The rhino horn club was eventually handed over to Cecil John Rhodes, the driving force behind the colonisation of what subsequently became known as Rhodesia.

In view of the above it can be argued that, conceptually, the gold sceptre from Mapungubwe and a rhino-horn club served the same function, namely as markers of chiefly status. In essence and in form the gold sceptre thus represented an ornate knobkerrie.

Praise poems, rhino horns and monoliths

Praise poems of Tswana chiefs abound with references to the rhino as a leadership symbol. The following passage from the praise poem of Kgamanyane, who ruled the Bakgatla ba ga Kgafela between 1848 and 1874 at Moruleng in the Rustenburg area and at Mochudi in modern-day Botswana, serves as an example (Schapera 1965:68–9):

> 'The chief's Poker, Black Rhinoceros, black rhinoceros, brother of Makgetla the Rolong; …
> when you poke keep the horns facing, the horns must face each other, Dodger, …
> now that you've seen the Slasher fighting, the Slasher with the bloodstained horn?
> The Brave One pokes and pokes again; he then draws out the victim's entrails. …'

A study of 15 such praise poems has shown that reference is almost exclusively made to the black rhino or *tshukudu*, the generic term (Boeyens & Van der Ryst 2014: Table 3). A single reference to a white rhino (*mogofu*) and the frequent use of the generic *tshukudu* to identify chiefs nevertheless suggest that while the aggression of the black rhino was a highly-held attribute of chiefs and kings, leadership symbolism did not necessarily exclude the white rhino. Though not innately aggressive, the white rhino still remains a powerful and dangerous animal. Moreover, a chief not only had to be aggressive and forceful, he also had to care for his subjects' well-being, and protect and defend their interests. An analogous leadership metaphor is found among the Zulu, according to which a homestead head had to embody the contrasting but complementary characteristics of a bull, representing fierceness and authority, and an ox equating with stability and calmness (Poland et al. 2003; Armstrong et al. 2008).

*Fig. 6: Monolith marking the chiefly complex (*musanda*) on Magoro Hill*

The courts and walls of Shona capitals used to be adorned with monoliths. Their symbolic content, whether signifying protection, defence, justice, fertility or male status, obviously has to be inferred from their exact spatial and cultural context. It is noteworthy in this regard that Shona interlocutors intimated that the monoliths on the walls of the Western Enclosure at Great Zimbabwe were called '"the horns of the mambo" because the king was metaphorically like a bull and defended his people with his spear (his army) as a bull defended its herd with its horn' (Huffman 1996:35).

Similarly, several monoliths mark the royal residence (*musanda*) on Magoro Hill, the 19th century stronghold of a southern Venda chiefdom (Fig. 6). It is tempting to suggest that monoliths located in such chiefly contexts were the architectural and material correlates of rhino horns, and served as leadership referents. It is perhaps no coincidence that one of the praise epithets or honorific names of a Venda chief was 'Rhinoceros horn!' (*Lunanga-lwa-tshugulu*!) (Van Warmelo 1971:369).

The monoliths at the entrance to the central court of the Hurutshe capital Kaditshwene most probably carried a similar symbolic load. One monolith is still standing today, while another of almost equal length lies a few yards away (Boeyens 2000) (Fig. 7). The Hurutshe have been widely acclaimed to be the senior genealogical grouping among the Tswana. As such, the main court at Kaditshwene would have been imbued with considerable political and ritual status in the wider region (Boeyens & Plug 2011).

Conclusion

The evidence suggests that notions about the nature of leadership and the symbolic meaning of the rhino-

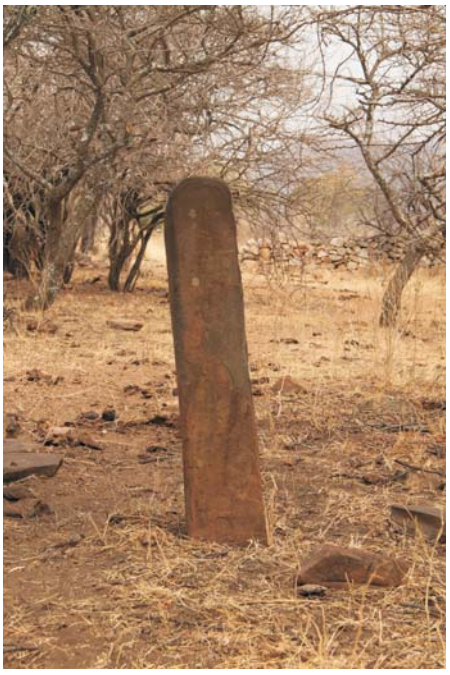

Fig. 7: Monolith at the entrance to the central court in Kaditshwene

ceros were widely shared among Shona, Venda, Sotho-Tswana and Ndebele speakers, and had considerable time-depth. Much of this cultural knowledge has unfortunately been lost or is largely forgotten. Nevertheless, given the rhino's deep historical significance as a primary leadership symbol in African culture, there is all the more reason to redouble our conservation efforts to ensure the future survival of this magnificent beast.

References

Armstrong, J, Whitelaw, G & Reusch, D. 2008. Pots that talk, izinkamba ezikhulumayo. *Southern African Humanities* 20: 513–48.

Boeyens, JCA. 2000. In search of Kaditshwene. *The South African Archaeological Bulletin* 55(171): 3–17.

Boeyens, JCA & Plug, I. 2011. 'A chief is like an ash-heap on which is gathered all the refuse': the faunal remains from the central court midden at Kaditshwene. *Annals of the Ditsong National Museum of Natural History* 1: 1–22.

Boeyens, JCA & Van der Ryst, MM. 2014. The cultural and symbolic significance of the African rhinoceros: a review of the traditional beliefs, perceptions and practices of agropastoralist societies in southern Africa. *Southern African Humanities* 26: 21–55.

Brunton, S, Badenhorst, S & Schoeman, MH. 2013. Ritual fauna from Ratho Kroonkop: a second millennium AD rain control site in the Shashe-Limpopo Confluence area of South Africa. *Azania* 48(1): 111–32.

Burnham, FR. 1926. *Scouting on Two Continents.* New York: Garden City Publishing.

Campbell, J. 1822. *Travels in South Africa.* Volumes I and II. London: Francis Westley.

Cole, DT. 1995. *Setswana – Animals and Plants*. Gaborone: The Botswana Society.

Cole, DT & Moncho-Warren, L. 2011. *Setswana and English Illustrated Dictionary*. Northlands: Macmillan.

Eastwood, E & Eastwood, C. 2006. *Capturing the Spoor: an exploration of southern African rock art.* Claremont: David Philip.

Estes, RD. 1997. *The Behaviour Guide to African Mammals*. Halfway House: Russel Friedman Books.

Feely, J. 2007. Black rhino, white rhino: what's in a name? *Pachyderm* 43: 111–15.

Forbes, VS. (ed.) 1967. *Thompson, George: Travels and Adventures in Southern Africa.* Cape Town: Van Riebeeck Society.

Hanisch, E & Maumela, V. 2002. Classification of the Schroda clay figurines. In: JA van Schalkwyk & EOM Hanisch (eds). *Sculptured in Clay: Iron Age figurines from Schroda, Limpopo Province, South Africa.* Pretoria: National Cultural History Museum, 47–67.

Hollmann, JC & Lewis-Williams, JD. 2006. Species and supernatural potency: an unusual rock painting from the Motheo District, Free State province, South Africa. *South African Journal of Science* 102: 509–12.

Huffman, T. 1996. *Snakes and Crocodiles: power and symbolism in ancient Zimbabwe.* Johannesburg: Wits University Press.

Huffman, TN. 2005. *Mapungubwe: ancient African civilisation on the Limpopo.* Johannesburg: Wits University Press.

Kirby, PR (ed.). 1939. *The Diary of Dr Andrew Smith, Director of the 'Expedition for Exploring Central Africa', 1834–1836*. Vol. I. Cape Town: Van Riebeeck Society.

Kirby, PR (ed.). 1940. *The Diary of Dr Andrew Smith, Director of the 'Expedition for Exploring Central Africa', 1834–1836*. Vol. II. Cape Town: Van Riebeeck Society.

Kriel, TJ & Van Wyk, EB. 1989. *Pukuntšu – Woordeboek: Noord-Sotho–Afrikaans*. 4th edition. Pretoria: Van Schaik.

Lang, H. 1924. Threatened extinction of the white rhinoceros (*Ceratotherium simum*). *Journal of Mammalogy* 5(3): 173–80.

Lemue, P. 1847. Coup d'oeil sur le Kalagari. III: les animaux. *Journal des Missions Évangéliques de Paris* 10: 107–19.

Livingstone, D. 1857. *Missionary Travels and Researches in South Africa.* London: John Murray.

Lye, WF (ed.). 1975. *Andrew Smith's Journal of His Expedition into the Interior of South Africa, 1834–36.* Cape Town: Balkema.

Nunn, CL, Ezenwa, VO, Arnold, C & Koenig, WD. 2011. Mutualism or parasitism? Using a phylogenetic approach to characterise the oxpecker-ungulate relationship. *Evolution* 65(5): 1297–1304.

Ouzman, S. 1995. Spiritual and political uses of a rock engraving site and its imagery by San and Tswana-speakers. *The South African Archaeological Bulletin* 50(161): 55–67.

Ouzman, S. 1996. Thaba Sione: place of rhinoceroses and rock art. *African Studies* 55: 31–59.

Ouzman, S & Feely, J. 2002. Black or white? The identification and significance of rhinoceroses in South African Bushman rock art. *The Digging Stick* 19(2): 9–12.

Pitje, GM. 1950. Traditional systems of male education among Pedi and cognate tribes. Part II, Fighting and leadership. *African Studies* 9(3): 105–24.

Poland, M, Hammond-Tooke, D & Voigt, L. 2003. *The Abundant Herds: a celebration of the Nguni cattle of the Zulu people.* Vlaeberg: Fernwood Press.

Roberts, N & Winter, CAT. 1915. The *kgoma*, or initiation rites of the Bapedi of Sekukuniland. *South African Journal of Science* 12: 561–78.

Rookmaaker, LC. 2005. Review of the European perception of the African rhinoceros. *Journal of Zoology* 265(4): 365–76.

Rookmaaker, LC. 2008. *Encounters with the African Rhinoceros: A Chronological Survey of Bibliographical and Iconographical Sources on Rhinoceroses in Southern Africa from 1795 to 1875*. Münster: Schüling Verlag.

Schapera, I. 1938. *A Handbook of Tswana Law and Custom.* London: Oxford University Press.

Schapera, I. 1965. *Praise-poems of Tswana Chiefs*. Oxford: Oxford University Press.

Shortridge, GC. 1934. *The Mammals of South West Africa*. Vol. I. London: William Heinemann.

Skinner, JD & Chimimba, CT. 2005. *The Mammals of the Southern African Subregion.* Cambridge: Cambridge University Press.

Smith, A. 1849. *Illustrations of the Zoology of South Africa.* Mammalia volume. London: Smith, Elder & Co.

Somerville, W. 1979. *William Somerville's Narrative of his Journeys to the Eastern Cape Frontier and to Lattakoe 1799–1802.* Cape Town: Van Riebeeck Society.

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SOUTH AFRICAN ROCK ART, LINGUISTICS AND ETHNOGRAPHY

Francis Thackeray

More than three decades ago, after exposure to zoology and studies of animal behaviour (ethology) at the University of Cape Town, and to anthropology at Yale (as part of a PhD programme involving archaeology, palaeontology, cultural anthropology and linguistics), I considered 'emic' and 'etic' approaches to southern African rock art associated with hunting, animal behaviour and rituals associated with trance and so-called 'supernatural potency' (Lewis-Williams 1981). These can be related to *n/um* or 'hunting magic', whereby 'medicine men' or shamans were believed to have control over animals. Such perspectives are relevant to a recent publication by McGranaghan and Challis (2016), who stated: 'We will argue that "control of animals" is best deployed not as an alternative explanation to shamanistic arguments, but rather than as an element within this larger whole'.

Emic and etic perspectives

An 'etic' perspective would apply when an ethologist (in this case I myself, with a background knowledge of San ethnography) disguised himself as a springbok to analyse the behaviour of springbok in response to his slow approach towards them (Thackeray 1983). I noted that initially they tended to drift away from me. However, as I crept slowly towards them on all fours, disguised under a springbok skin, they increasingly became aware of my presence. For example, within a distance of about 30 m to 50 m, they (increasingly) pricked up their ears, (increasingly) stamped their feet ('stotting'), (increasingly) grunted and (increasingly) looked towards me with ears pricked, without running away. I have called this 'primary curiosity behaviour' or PCB (Thackeray 1983). Within 30 m the antelope were all typically stationary, looking directly at me, evidently out of curiosity (an etic perspective). At that stage, without me trying to move any closer towards the springbok, some of the herd would walk directly towards me (secondary curiosity behaviour, or SCB), thus approaching to less than 25 m from me, well within the range of a Bushman arrow. However, by about 20 m, the herd was very nervous. It took just one springbok to bolt for the whole herd to run away.

An etic view would be that *curiosity accounts for this behaviour.* However, an emic perspective would be something like this: when I wear a springbok cap I become a medicine man (shaman), and the springbok will behave 'nicely' and not run away. I can pull the springbok towards me with supernatural power associated with the concept of /*num* or /*nom*, with a string or 'thong' of the kind associated with a red line in Bushman art (using Bleek ethnography to facilitate such an interpretation). Such etic and emic perspectives are consistent with the view by McGranaghan and Challis (2016) quoted above on 'hunting magic' in San ethnography and art. Yet more can be done with linguistics, with words being analogous to fossils ('linguistic palaeontology'), using the vocabulary of both Bushmen and Bantu-speakers, recognising that there has been interaction between San and Nguni not only within the colonial period but also since proto-Nguni interacted with Bushmen within the last two millennia.

Bushman and Bantu words, and semantic shift

When I undertook anthropological (ethnographic) and ethological (animal behaviour) studies in the early 1980s, I began by using Bleek's (1956) *A Bushman Dictionary* to look at words for hunting disguises and also the mantis insect, which disguises itself through camouflage. Such words have a common form (*kwa kwa*), even though the languages were not from the same area in southern Africa. I invoked what is called semantic shift: a common form may reflect a conceptual association that developed in prehistory. Using linguistics, I suggested that we were potentially able to identify emic perspectives. In the case of words for a mantis and a hunting disguise, we were able to identify a potential conceptual association not expressed in ethnography.

Semantic shift can be invoked in many languages, as in the example of the modern English word 'bead' (as in necklace) and the Old English word 'bede' (meaning prayer). Phonetically, they are identical. Through the process of semantic shift they are known to reflect a conceptual association: a rosary consists of 'prayer beads', which are used to this day to facilitate prayer. In a historical context, the linguistic evidence unquestionably reflects an emic perspective.

An African example of probable semantic shift can be found in Setswana words incorporating the form *tala,* referring to a bead and the colours green or blue. Furthermore, the word *tala* itself means 'a long time ago' (Matumo 1993). By invoking semantic shift, one may at least hypothesise that the common form relates to conceptual associations. It is a fact that old green or blue glass trade beads were distributed across the African continent within the last two millennia. The Setswana *tala* meaning 'a long time ago' is cognate with the isiZulu -*dala,* as in *madala* (old man or respected elder), *ubudala* (the far past) and -*daladala* (very old, ancient). Also in isiXhosa we

Professor Francis Thackeray retired from the Evolutionary Studies Institute, University of the Witwatersrand, at the end of December 2017. francis.thackeray@wits.ac.za.

have the words *ubudala* (age, antiquity), *isidala* (a long time) and *umdala* (respected elder) (Tshabe et al. 2006).

The form *-da* is found not only in the isiXhosa verb *ukudala* (to make, create) but also in the noun *idalo* (anything made by man, e.g. a work of art), which would include rock art dating back many centuries. I have come across the term *-daliwe* to refer to so-called 'Bushman paintings' in areas where isiXhosa is spoken. The fundamental form *-da* is found in the following isiXhosa words: *ukudaka* (verb) or *umdaka* (noun) referring to sediment used as paint, including paint applied to the bodies of initiates; *umda* (a wound or a line, stripe or mark made by scratching, cf. an engraving); and *ukudabula* (to cut or to strike someone, *cf*. wounding). I would suggest (at least as a hypothesis) that the common form *-da* in all of these words relates to a conceptual association in the context of rituals and rock art in southern Africa, at least within the last 2 000 years when isiXhosa (Nguni) speakers interacted with San Bushmen. Notably, stripes (painted lines, incisions or engravings) may be conceptually associated with wounds (Thackeray 2005a).

Recognising (from an emic perspective) that a painted stripe may be associated with a wound, I would suggest that one explanation could be found in the context of *iguba* rituals (as noted by Dohne in the mid-19th century, more recently spelled *umgubho)*, that correspond to hunting rituals of the kind described by Lichtenstein (1812) and photographed as a 'buckjumper' in 1934 by WHC Taylor on the southern margin of the Kalahari. It has been proposed (Thackeray 2005a) that in the latter ritual a person took on the appearance of an antelope, wore an antelope skin with painted stripes and was symbolically wounded (cf. painted stripes) and killed, in the belief that this would contribute to success in a future hunt. Lichtenstein's (1812) report that these kinds of rituals were believed to be essential for success in a future hunt is *unquestionable evidence for the principle of so-called 'sympathetic hunting magic'* (Thackeray 2005a) or 'empathy'.

Linguistic explorations, using words incorporating the form *-da*, are extremely interesting. The isiXhosa verb *ukudadazela* means 'to shake', as in Parkinson's disease. The same form is used in the following contexts: to tremble or quiver, to be agitated, to be confused and to be nervously excited. All these concepts are potentially related to trance experiences and may be relevant to the well-known painting at Melikane in Lesotho (see the accompanying figure), which shows therianthropes (shamans) bending forward, with two sticks in each hand, strongly reminiscent of the 'buckjumper' photograph described by Thackeray (2005a). An informant named Qing referred to the Melikane therianthropes as men with rhebok antelope horns. They were men who had 'died' and who had been 'spoilt', which Lewis-Williams (1981) recognised as metaphors for trance. Perhaps it is not at all coincidental that these concepts ('death' and being 'spoilt') are expressed by Nguni terms incorporating the form *-da*. Examples are *ukudaka* (to die, expire, or to wander in mind, be delirious, be crazed, ramble in delirium), and *ukudakada* (to kill or to cut). Words incorporating the form *-daka* are likely to be cognate with others based on the forms *-taka* or *-thaka* (as in *-thakata*) in other southern African contexts (Thackeray 2005a), including roan antelope (*-taka*).

Fig. 1: Copy of a painting at the Melikane shelter, Lesotho, after Orpen and Vinnicombe, and a combination of the two. The painting was interpreted by a 19th century informant (Qing), who said that the men with rhebok horns had 'died' at the same time as the antelope. The painting is thought to be associated with shamanism, control over animals and the principle of 'sympathetic hunting magic'. Note the three vertical stripes that are considered to represent symbolic wounds on one therianthrope (centre, based on digital photographic enhancement and added in this copy of the painting).

Such linguistic evidence, taken together, is compatible with Thackeray's (2005a) view that the Melikane painting (associated with rhebok) and the 'buckjumper' (associated with roan antelope) were related to rituals in which a person took on the form of an animal and was symbolically wounded or symbolically killed in the belief that this would contribute to success in a hunt. Stripes on the 'buckjumper' (Thackeray 2005a) or on a Melikane therianthrope (Thackeray & Le Quellec 2007: Fig. 1) potentially represent symbolic wounds. The linguistic evidence, taken together with ethnography and rock art, can facilitate an emic perspective. Notably, hunting rituals performed with an actual skin can be related to beliefs and experiences associated with trance.

The approach presented here re-emphasises what was said by Botha & Thackeray (1987), who published the following appeal: 'A comparative study of ethnographic and linguistic data from both Bantu and Bushman-speaking peoples may be relevant to anthropological studies of ritual and cosmological

systems of Bantu speakers, as well as having a potential bearing on the interpretation of concepts expressed in rock art'.

I agree with Sam Challis (pers. comm.) that there may be no clear distinction between 'ritual' and 'practical' phenomena in the context of southern African rock art. Springbok and rhebok skins (or skin 'caps') may have been used successfully to increase the probability of hunting success in some instances, but such skins (e.g. *isidabane* rhebok skins, to use an Nguni term) were also used in ritual (Thackeray 1993). The Melikane therianthropes (see figure) may have represented men who were in fact under antelope skins but who were using them in ritual in the context of trance and the principle of 'sympathetic hunting magic'.

Acknowledgements

This study supplements the work reported earlier by Thackeray (1983, 1986, 1988a,b, 1990, 1993, 2005a,b,c and 2013). I thank Gina Viglietti for assistance with the drawing from Melikane.

References

Bleek, D. 1956. *A Bushman Dictionary*. American Oriental Series 41. New Haven: American Oriental Society.

Botha, LJ & Thackeray, JF. 1987. A note on southern African rock art, medicine-men and Nguni diviners. *South African Archaeological Bulletin* 42: 71–73.

Lichtenstein, MHC. 1812. *Travels in Southern Africa in the Years 1803, 1804, 1805 and 1806*. London: H Colburn.

Matumo, ZI. 2014. *Setswana–English–Setswana Dictionary.* Gaborone: Macmillan.

McGranaghan, M & Challis, S. 2016. Reconfiguring hunting magic: Southern Bushman (San) perspectives on taming and their implications for understanding rock art. *Cambridge Archaeological Journal* 26(4): 579–599.

Thackeray, JF. 1983. Disguises, animal behaviour and concepts of control in relation to rock art of southern Africa. *South African Archaeological Society Goodwin Series* 4: 38–43.

Thackeray, JF. 1986. Southern African rock art: 'sympathetic magic' and the trance hypothesis. *The Digging Stick* 3(1): 6–7.

Thackeray, JF. 1988a. Southern African rock art and Xhosa beliefs associated with the *abantubomlambo*. *Pictogram* 1(2): 2–3.

Thackeray, JF. 1988b. Southern African rock art and Xhosa concepts associated with the *isilo*. *Pictogram* 1(3): 3.

Thackeray, JF. 1990. Concepts expressed in southern African rock art. *Antiquity* 64: 139–144.

Thackeray, JF. 1993. New directions in the study of southern African rock art. *African Arts* 26: 74–75, 102.

Thackeray, JF. 2005a. The wounded roan: a contribution to the relation of hunting and trance in southern African rock art. *Antiquity* 79: 5–18.

Thackeray, JF. 2005b. Eland, hunters and concepts of 'sympathetic control' expressed in southern African rock art. *Cambridge Archaeological Journal* 15(1): 27–34.

Thackeray, JF. 2005c. Stripes as symbolic wounds in rock paintings of therianthropes in Lesotho? *The Digging Stick* 22(3): 13.

Thackeray, JF & Le Quellec, J-L. 2007. A symbolically wounded therianthrope at Melikane Rock Shelter, Lesotho.

Thackeray, JF. 2013. The principle of 'sympathetic magic' in the context of hunting, trance and southern African rock art. *The Digging Stick* 30(1): 1–4.

Tshabe, SL. 2006. *The Greater Dictionary of isiXhosa*. Alice: University of Fort Hare.

ARCHAEOLOGY IN BRIEF

Evidence of Caesar's UK invasion site.

Archaeologists have discovered what they believe is the first evidence of Julius Caesar's invasion of Britain.

A University of Leicester team has found evidence suggesting that Caesar's fleet landed at a bay on the Isle of Thanet in Kent, around 70 miles south-east of London. The location and landscape of the Pegwell Bay site matches Caesar's own account of his landing in 54 BC, according to the university. Roman weapons and other artefacts were found at a spot overlooking the bay, indicating it may have been a Roman fort built to protect the fleet.

The Daily Mail, 29/11/2017

Egypt unearths 3 500-year-old mummies.

Eight mummies, 10 colourful sarcophagi and numerous figurines have been unearthed in 3 500-year-old tombs.

An Egyptian archaeological mission found the tombs in the Draa Abul Nagaa necropolis near Luxor. The main T-shaped tomb belonged to a city judge named Userhat and is typical of New Kingdom noblemen tombs. Some 450 m^3 of debris was removed to reveal the entrance of the main tomb and two adjoining tombs. The inner chamber of the main tomb houses a collection in good condition of sarcophagi from the 21st Dynasty and mummies wrapped in linen. Archaeologists also discovered ushabti funerary figurines made of faience, terracotta and wood, as well as a collection of clay pots.

CNN, 18/04/2017

Ancient sesame seeds to be resurrected.

Wheat and sesame seeds dating back 2 800 years ago that were taken from an excavation in Cavustepe Castle in the eastern Van province of Turkey will soon be regenerated in a laboratory environment.

The castle, which was built in the 8th century BC by Urartian King Sarduri II, has survived along with cisterns, city walls, temples and palace structures. Three cereal storages were found during the excavations in the castle.

Van Yuzuncii Yil University Archaeology Department Prof. Rafet Cavusoglu said that the castle was on the trade route through north-western Iran, thus the findings may reveal some important information about trade at that time.

'We will analyse these seeds in laboratories. If the seeds carbonised by themselves, the possibility of regenerating them is quite high. However, if it was because of a fire, we have less chance of resurrecting them, he explained.'

Anadolu Agency, Turkey

300 000-YEAR-OLD HUMAN REMAINS IN MOROCCO

Fossils recovered from a mine on a desolate mountain in Morocco have rocked one of the most enduring foundations of the human story: that *Homo sapiens* arose in East Africa 200 000 years ago. Archaeologists unearthed the bones of at least five people at Jebel Irhoud, a former barite mine 100 km west of Marrakesh, in excavations that lasted years. They knew the remains were old, but were stunned when dating tests revealed that a tooth and stone tools found with the bones were about 300 000 years old.

Jean-Jacques Hublin, a senior scientist at the Max Planck Institute for Evolutionary Anthropology in Leipzig, said the age of the bones makes them the oldest known specimens of modern humans. 'This gives us a completely different picture of the evolution of our species. It goes much further back in time, but also the very process of evolution is different to what we thought,' said Hublin. 'It looks like our species was already present, probably all over Africa, by 300 000 years ago. If there was a Garden of Eden, it might have been the size of the continent.'

Jebel Irhoud has thrown up puzzles for scientists since fossilised bones and stone tools were first found at the site in 1961 and 1962. They were attributed to Neanderthals and at first considered to be only 40 000 years old. In fresh excavations at the site, Hublin and others found more remains, including a partial skull, a jawbone, teeth and limb bones belonging to three adults, a juvenile, and a child aged about eight years old. Alongside the bones, researchers found sharpened flint tools, a good number of gazelle bones and lumps of charcoal.

Scientists have long looked to East Africa as the birthplace of modern humans. Until the Jebel Irhoud findings, the oldest known remnants of our species, dated to 195 000 years ago, were found at Omo Kibish in Ethiopia. In a paper published in *Nature*, the researchers describe how they compared the freshly excavated fossils with those of modern humans, Neanderthals and ancient human relatives that lived up to 1,8 million years ago. Facially, the closest match is with modern humans. The lower jaw is similar too, but much larger. The most striking difference is the shape of the braincase, which is more elongated than that of humans today. It suggests, said Hublin, that the modern brain evolved in *Homo sapiens* and was not inherited from a predecessor. In a second paper, the scientists lay out how they dated the stone tools to between 280 000 and 350 000 years, and a lone tooth to 290 000 years old.

Precisely what *Homo sapiens* were doing at the site is unclear. The stones for flint tools came from an area 50 km south. 'Why did they come here? They brought their toolkit with them and they exhausted it,' Hublin said. 'The tools they brought with them have been resharpened again and again. They did not produce new tools on the spot. It might be that they did not stay that long, or maybe it was an area they would come to to do something specific. We think they were hunting gazelles as there are a lot of gazelle bones, and they were making a lot of fires.'

Hublin concedes that scientists have too few fossils to know whether modern humans had spread to the four corners of Africa 300 000 years ago. The speculation is based on what the scientists see as similar features in a 260 000-year-old skull found in Florisbad, South Africa.

John McNabb, an archaeologist at the University of Southampton, said: 'One of the big questions about the emergence of anatomically modern humans has been whether our body plan evolved quickly or slowly. This find seems to suggest the latter. It seems our faces became modern long before our skulls took on the shape they have today.' In his opinion, the tools of the people at Jebel Irhoud offer some intriguing possibilities too. They were based on the sophisticated knapping technique called Levallois and their date of manufacture adds to a growing realisation that Levallois originates a lot earlier than was thought. Is Jebel Irhoud telling us that this new technology is linked to the emergence of the hominin line that will lead to modern humans? Does the new find imply there was more than one hominin lineage in Africa at this time? It really stirs the pot.

John Shea, an archaeologist at Stony Brook University in New York, said he was cautious whenever researchers claimed they had found the oldest of anything. 'It is best not to judge by the big splash they make when they are first announced but rather to wait and see some years down the line whether the waves from that splash have altered the shoreline,' he said, adding that stone tools can move around in cave sediments and settle in layers of a different age.

Shea is also uneasy with the scientists combining fossils from different individuals and comparing reconstructions of complete skulls from fragmentary remains. 'Such "chimeras" can look very different from the individuals on which they are based,' he said. 'For me, claiming these remains are *Homo sapiens* stretches the meaning of that term a bit. Humans who lived between 50 000 and 300 000 years ago are a morphologically diverse bunch. Whenever we find more than a couple of them from the same deposits, such as at Omo Kibish and Herto in Ethiopia, or Skhul and Qafzeh in Israel, their morphology is all over the place both within and between samples,' he said.

The Guardian, 7 June 2017

BRINGING THE COMMUNITY TO ARCHAEOLOGY AN EDUCATIONAL WORKSHOP FOR TEACHERS

Wendy Black, Liesl Ward and Kerryn Warren

Iziko Museums of South Africa, in collaboration with the Human Evolution Research Institute (HERI) at the University of Cape Town, hosted a 'Teach-the-Teacher Archaeology' Workshop at Iziko's Slave Lodge Museum in Cape Town on 15 and 16 September 2017. This much-needed event, funded by the Northern Branch of the South African Archaeological Society, had the aim of helping teachers to explore archaeology and human evolution concepts that could be conveyed to their students in new and stimulating ways. This included the introduction of new content in various mediums in the hope of arming teachers with ways to get students excited about local heritage and ancient history, while at the same time providing educational aids for teaching these, sometimes tricky, topics in the classroom.

Although Iziko is often overwhelmed with requests to provide information and assistance on these topics, it was surprisingly difficult to get the workshop off the ground. The team involved did not realise how difficult it would be to reach the desired target audience. It is easy to get groups of school kids to the museum and teachers are thrilled to have museum educators take the lead for a day. Getting teachers to attend workshops is a lot more complicated owing to scheduling and capacity.

To begin the invitation process, we emailed the Western Cape Education Department (WCED) with a request to pass the workshop advertisement on to all relevant teachers. We also contacted the National Teachers' Organisation of South Africa (NAPTOSA) and advertised more broadly on social media platforms such as Facebook. Time ticked by and a month before the event was to be held we had still not had any response. We decided to be more proactive and contact each of the schools directly. This was no small task but was worth the effort as confirmations of attendance began to trickle in. At the workshop, we discovered that teachers received their invitations either from their school's subject head, through the WCED or from the school secretary who had been contacted by us direct. This exercise demonstrated the difficulty many providers face when trying to accommodate teacher-training programmes.

The workshop was directed at both history and life science teachers and although some history teachers attended, most participants taught life sciences. Our goal was to host 30 teachers per day over the course of a two-day workshop. We had 14 teachers attend the first day. Of those, twelve were from local high schools (Fish Hoek High, Plumstead High, Premier College in Athlone, South Peninsula High in Diep River, Wynberg Girls High, Uxolo High in Mandela Park, Mondeor Eco School in Somerset West, Crestway High in Retreat and Vista Nova High in Rondebosch) and two from primary schools (Talfalah Primary in Sherwood Park and Belthorn Primary in Crawford). The second day saw a marked increase in participants as the group was joined by 25 high school teachers visiting from the Eastern Cape (Bongolethu High, Qombolo High, Ezingqaya High, Dacumganga High and Lamplough High).

Teachers enjoying the hands-on experience with archaeological material

Archaeology and human evolution

The first day of the workshop focused on southern African archaeology. The day began with an interesting presentation by Ethan Cottee, an archaeologist based at Iziko's Historical and Maritime Archaeology Unit. His talk outlined maritime archaeology in our local waters, included some great videos of maritime archaeologists in action and incited a number of questions from our participants. The next talk was a well-received and highly relevant Iron Age presentation by Liesl Ward. This talk was essential as aspects of the Iron Age are included in the current curriculum. Thereafter Dr Wendy Black, the Curator of Archaeology at Iziko, presented a brief guided tour of southern Africa's Stone Age archaeological record.

Dr Wendy Black is the curator of archaeology at Iziko Museums of South Africa. Through her ties with the Human Evolution Research Institute and the Department of Archaeology at the University of Cape Town, she hopes to engage a broader public in archaeology. wblack@iziko.org.za.

Liesl Ward has a Master's in Iron Age studies from the University of Cape Town and is currently completing a Department of Science and Technology/National Research Foundation internship at Iziko's Archaeology Unit.

Dr Kerryn Warren is a PhD graduate from the University of Cape Town, and has a keen interest in evolution and public engagement.

Prof. Janette Deacon then gave a presentation on South African rock art. Her expertise and wealth of knowledge about rock art and its artists is invaluable, and when coupled with a tour of the /Qe Power of Rock Art Exhibition at the museum was highly beneficial to the teachers. Rock art is covered in the curriculum but what museum educators find is that teachers often do not have the correct or complete information related to this important aspect of southern African prehistory.

After a discussion-filled lunch, Daksha Naran, an educator from Iziko's Education and Public Programmes Department, provided insight into how teachers can access museum collections and other tools for curriculum development. This presentation was very inclusive and led to a discussion on the use of museum resources, as well as on ways to make workshops of this kind accessible to more teachers, and even more suitable to the curriculum in the future. To end off the day we set up a practical and Q&A session related to southern African archaeology. Participants were given the opportunity to have some hands-on experience with archaeological material from the Early, Middle and Later Stone Age, as well as some material culture objects from Iron Age sites. During this interactive session, the teachers were handed worksheets that they could work through, discuss and subsequently use in the classroom.

Iziko's Dr Kerryn Warren presents aspects of evolution at the workshop

Day two of the workshop was aimed at life science teachers. The programme introduced human evolution and possible best-practice methods on how to teach this subject to scholars. Various evolutionary concepts were presented by Dr Kerryn Warren, Tessa Campbell and Robyn Humphreys from the University of Cape Town. The majority of teachers at the workshop were fairly comfortable teaching human evolution. However, not all teachers had used the evolution of human variation in their teaching. All the respondents agreed that they would teach these concepts in the future, with one individual commenting that 'it's more understandable' and another saying that it could change learner attitudes to the curriculum by being 'more interesting to them'. In this workshop we summarised and provided resources that help explain evolutionary concepts and deeper-time human evolution (currently emphasised in the syllabus). We also explained concepts of the evolution of modern human variation, such as skin colour and lactose tolerance (not currently in the syllabus). The subject matter was discussed at length and teachers had ample opportunity to pose their questions and concerns.

A human evolution practical session was also offered. Teachers were able to hold and visually assess variation across a large selection of hominin skull casts. They could ask morphology-related questions and discuss changes through time with the workshop presenters. Worksheets outlining possible practical sessions for scholars were provided and discussed in some detail. To conclude the workshop, teachers were given information packs to expand their teaching resources. These included videos, website links and podcasts, worksheets, relevant articles, images and presented talks. Each teacher also received human evolution and archaeology posters for the classroom.

Strengthening archaeology in the future

The Teach-the-Teacher workshop was an important first step in future research regarding the school syllabus, archaeology and human evolution. The CAPS matric life sciences curriculum has included evolution (human evolution, in particular) since 2006. This is significant for establishing our biological connection with the world around us, as well as consolidating important concepts regarding our paleoanthropological heritage. Archaeology is scattered throughout the primary and high school curriculum with a focus on some Iron Age and rock art interpretation, but there is very little contextualisation of these topics within archaeology and heritage. With minimal effort, it is possible to include more information on archaeology in the curriculum by positioning aspects of the current syllabus within broader communication about the archaeological record. This was viewed as a positive opportunity by participants.

The participants' comments on the workshop were valuable. The primary school teachers suggested that this type of workshop is better suited to high school teachers only, which may indicate that separate programmes are required for primary and high school teachers. Teachers also noted the difficulties they face in attending such workshops. It is increasingly problematic for teachers to be away from the classroom as the CAPS curriculum is quite intense and large groups of learners are attended to by an inadequate number of teachers. Broader and more varied advertising of such programmes, over a longer period of time, was requested so that teachers could be properly informed and plan far ahead.

There is also a need for continued contact between the museum and workshop participants to assess the success of resources and evaluate teachers' needs over time to ensure that heritage and education institutions are providing correct resources that assist teachers effectively. Teachers need to be involved

The audience of teachers at the Teach-the-Teacher Workshop

and stay involved in these types of programmes to strengthen the archaeological/palaeoanthropological discipline in the future. It is essential to capture the interest of young minds so that they see the value of heritage and choose these studies as possible career paths. Ultimately, this will help diversify the discipline and promote broader public engagement. No museum could ask for more.

Acknowledgements

Thank you to the Northern Branch of the Archaeological Society for their valued donation. Thank you to HERI for their participation. Deepest thanks to all the presenters for making this workshop a success. Special thanks to Liesl Ward, Daksha Naran, Wilhelmina Seconna and Kerryn Warren for helping organise the event.

ARCHAEOLOGY IN AFRICA

Huge dinosaur tracks discovered in Lesotho

A team of scientists from UCT, Manchester University and Universidade de São Paulo have discovered the first evidence of a large carnivorous dinosaur roaming southern Africa 200 million years ago. The large footprints were found in the Roma Valley in western Lesotho. A study reveals a 50 cm wide, 57 cm long, three-toed footprint of the large animal, colloquially known as a 'mega- theropod'. These dimensions contrast remarkably with those of the more normal small dinosaurs with a body length of between 3 m and 5 m. The new discovery has an estimated body length of about 9 m and hip height of 2,7 m. It would have roamed a landscape otherwise dominated by much smaller carnivorous dinosaurs and a variety of herbivorous and omnivorous dinosaurs.

What makes the discovery significant is the fact that during Early Jurassic days dinosaurs were relatively small. They only started growing within the Late Jurassic and Early to Middle Cretaceous, about 120 million years ago. These are the largest theropod trackways ever found in Africa for this time period. These large tracks are unique, with only one other site, in the Holy Cross Mountains in Poland, bearing similarly aged tracks but of a marginally larger size.

University of Cape Town, 26/10/2017

ARCHSOC NOTICES

Annual General Meeting

Notice is hereby given in terms of section 8(a)(i) and (ii) of the Constitution that the Annual General Meeting of the South African Archaeological Society will be hosted by the Northern Branch on Thursday 17 May 2017 at 20:00 in the auditorium of Roedean School, 35 Princess of Wales Terrace, Parktown, Johannesburg. After the AGM, Professor Judy Sealy of the University of Cape Town will give a lecture on 'Origins of the ivory trade in southern Africa'.

Members should submit items for the agenda in writing to the Secretary, PO Box 15700, Vlaeberg 8018, or to archsoc@iziko.org.za before 1 March 2018. Proposals must state in specific terms the resolution to be put to the meeting and the reasons therefor.

Janette Deacon, Honorary Secretary, 5 January 2018

Prof. David Lewis-Williams voted an Honorary Life Member

The Northern Branch proposed to the Council of the SA Archaeological Society that Professor Emeritus David Lewis-Williams be honoured for his work to archaeology, especially in the field of rock art in South Africa, by being elected an Honorary Life Member of ArchSoc. Council approved the proposal at its September meeting.

Prof. Lewis-Williams has made and continues to make a significant and internationally acclaimed contribution to understanding the rock art, cultural heritage and human rights of the San of southern Africa. In the 1970s he pioneered an authentic indigenous interpretation of San rock art, demonstrating the existence of a remarkably sophisticated belief system in our region over thousands of years.

From the 1980s onwards, his insights – especially in the field of neuropsychology – had a profound influence on the way rock art is interpreted in southern Africa and in other countries, particularly by researchers in France, Norway, Turkey and the United States. While lecturing at the University of the Witwatersrand for more than 20 years, he trained most of the rock art researchers active in South Africa today and a number who are now working overseas, guiding them in recording methods. He established the world-renowned Rock Art Research Institute (RARI) at Wits University and has written numerous books, papers and articles.

What inspired Palaeolithic painters?

Experts from the University of Paris have suggested that caves with the best acoustics may have been chosen for ancient artwork. This is so these caves could be used during ancient religious ceremonies, which often included chanting and singing. Evidence for this theory comes from the study of ancient paintings of horses, bison and mammoths in the caves of Niaux and Le Portel in Ariège, southern France. The researchers found that the most acoustically resonant place in a cave was often the place where Palaeolithic paintings were located. When such a resonant spot was located in a narrow passageway too difficult for painting, red marks are often found, as if they had been marked for their acoustic qualities. This correlation of paintings and music provides 'the best evidence for the ritualistic meanings of the paintings and of the use of the adorned caves,' said Iegor Reznikoff.

David Lubman, an acoustic scientist, comments that many structures throughout history have featured reverberant spaces because such sound can be awe-inspiring. However, there was currently not enough evidence to suggest that Palaeolithic artists deliberately chose reverberant spaces for their paintings. He said it is hard to tell why particular caves were chosen for decoration as many ancient paintings have worn away after thousands of years of weathering. In addition, artwork painted on porous rock, which reverberates sound poorly, is more likely to have faded away than art painted on smooth rock, which is good at creating echoes. Because more artwork painted on smooth rock has survived, it may have given scientists the false impression that Palaeolithic painters were purposefully choosing smooth rock for its acoustic qualities.

To determine whether caves were really chosen for their resonance qualities, Dr Lubman called for more research in Palaeolithic caves across the world. He added that the human ear is not sensitive enough to note the difference between reflection, when sound bounces off a surface, and reverberance, when sound lingers after it is made. Using more precise measuring instruments that can unpick these sounds inside caves will help scientists to draw more meaningful conclusions about the purpose of ancient paintings, he said.

The Daily Mail, 29/06/2017

PHOENICIAN TRADE: ROUTES, GOODS AND SECRET CAHOOTS

Anne Marie Smith

Trade in the Levant started long before the Phoenicians appeared on the scene. Around 3000 BC the oldest recorded shipment of cedar wood left Byblos for Egypt. It is unknown where the convoy of 40 Byblos ships originated and some of the largest logs of 20 m to 30 m long were probably towed. The trees had been felled in the mountains above Byblos, where the El Chiny valley made it possible to lower them to the beach. The logs then had to be towed to the ships anchored offshore. An Assyrian relief dating to the 6th century BC shows how this was done with *hippoi*, small boats with horse headed prows. The long cedar beams were used in Egypt for the construction of the Cheops boat, as well as sarcophagi, furniture, etc. In exchange for the wood, papyrus was brought to Byblos, which gave it its name, as originally the city was called Gebal.

The wood and papyrus trade was eventually largely replaced by trade in metals such as copper, tin, gold and many other items during the Late Bronze Age, around 1300 BC. By this time, the trade ships travelled a circular route, from Egypt northwards along the Levant coast, then via Cyprus and the coast of Asia Minor to Mycenaean Crete, and from there back to the north coast of Africa at Mersa Matruh. One of these trading ships floundered off the coast of Asia Minor near Uluburun and was excavated by George Bass and Cemal Pulak.

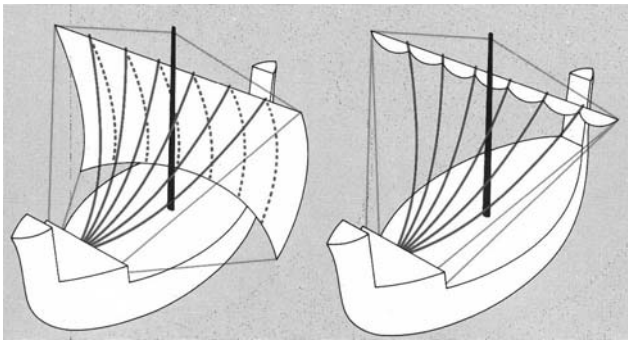
The ship was a veritable treasure trove of the many wares that were traded in those days, such as copper, tin, scrap metal, bronze swords and tools, a gold chalice, ostrich shells, elephant and hippo ivory, blue glass ingots, jars with terebinth ('pepper tree') resin, pottery, the foot plates of murex molluscs to be mixed into incense, and even three pieces of ebony wood. This African Blackwood (*Dalbergia melanoxilon*) was found to have come from southern Africa, most likely from Mozambique. The Uluburun ship carried the staggering amount of 200 copper ingots, called oxhides, each weighing one talent or 27 kg. The word 'oxhide' refers to the shape of a hide. It had elongated corners, which made the ingots easier to carry by two people. Whether this ship was already Phoenician, or should still be called Syro-Canaanite in origin, is still a matter of scholarly debate. For the reconstruction of what the ship may have looked like, images of Syro-Canaanite ships depicted on an Egyptian tomb painting dating to about 1360 BC were used. The ships had straight stem and stern posts, and wickerwork fencing along the sides.

Anne Marie Smith holds Honours and Master's degrees in Biblical Archaeology from the University of South Africa, and is currently completing her doctorate. am_smith@telkomsa.net.

Transporting cedar beams from the shore to waiting ships, as shown on a 6th century BC Assyrian wall relief

From around 1 200 BC, the sea trade was severely interrupted by the arrival of the Sea Peoples. Their origins are still a matter of uncertainty and debate, but they seem to have come from the north, either from Greece or the Aegean coast of Asia Minor.

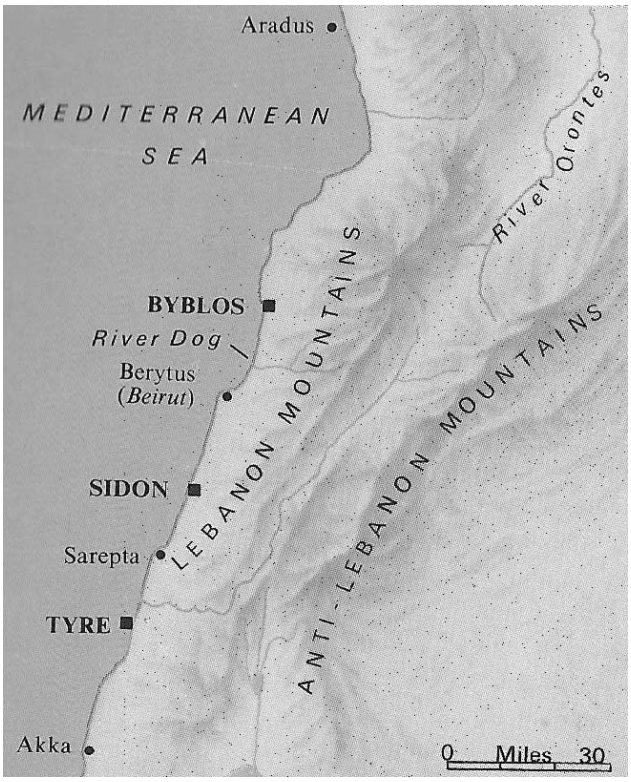
Around the same time, the Phoenicians emerged as a presence on the coast of the Levant. An earlier theory suggest that they migrated from the east on camels and started to build ships once they reached the coast, but it is more likely that they arrived by boat and settled on the rocky outcrops, reefs and islands of the Levant. They brought with them knowledge of shipbuilding, rigging, seafaring, purple dye manufacturing and writing, and developed the Phoenician script. They rigged their sails in the same way as the Sea Peoples, suspending the sail from a yard without a boom at the foot, using only sheets at the bottom corners. This allowed for greater flexibility in



The Phoenicians used sails with loose brailings that were able to catch wind from various directions and could also be hoisted up quickly

making use of the available wind. A number of ropes attached to the front of the sail ran over the yard and allowed the sail to be unfurled or hoisted up quickly and easily when required, as for loading and unloading.

Phoenician cities were independent from each other and the people did not call themselves by this name but identified themselves as coming from Tyre, Sidon, Byblos, Arvad, etc. The word 'Phoenician' was coined by the Greeks with reference to the manufacture of purple cloth. Tyre developed into a very wealthy trade



The coast of the Levant with the Phoenician cities

emporium. King Hiram, who lived around 950 BC, developed the island city by connecting two parallel reefs, filling in certain parts and developing two harbours, the Sidonian and Egyptian harbours that were connected by a canal and protected by moles. Tyre had a shipyard, as well as a breakers yard where old ships were demolished. A trade emporium near the Sidonian harbour offered a large array of sales goods. Purple cloth was manufactured on the lee side of the island, so the stench would be blown away. Lack of space resulted in high-density housing, and rapid change and development. Small workshops produced luxury goods, such as ivory carvings, glass articles and items of silver and gold. The temples of Melqart and Heracles towered over the city.

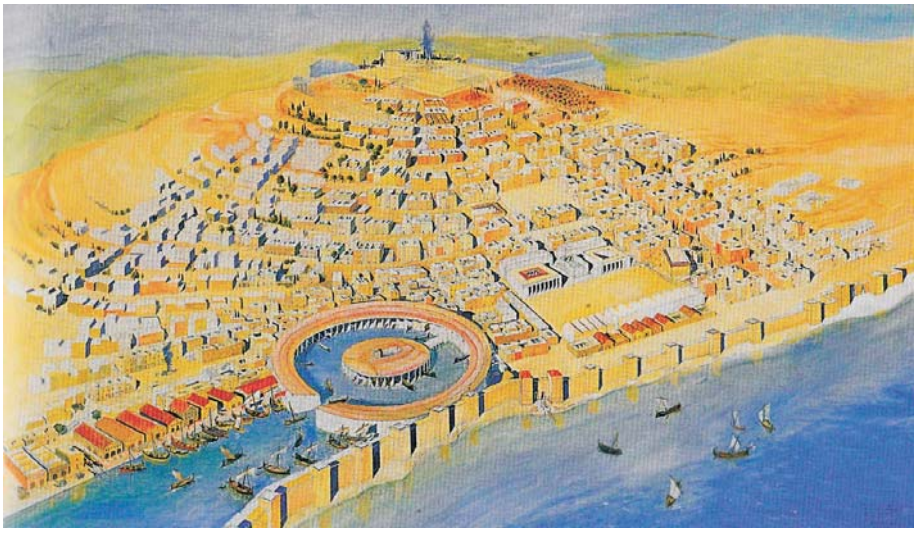
King Hiram entered into a trade partnership, called a *hubur*, with King Solomon of Israel to undertake a voyage to fabled Ophir. King Solomon provided access to the Red Sea and the starting point of the trip was Ezion Geber. This was most likely the present-day island of Jezirat Phara'un, which had a small enclosed harbour where ships could be unloaded, as well as safe anchorage between the island and the shore. The remains of a jetty have been found just under the surface of the water. Ophir was most likely situated in the Indus valley or further down the west coast. Words indicating special articles that were obtained there point to the area. For instance, algum or almug wood (red sandalwood) is called *valgu* or *valgum* in Tamil. The Hebrew word *qophim* for monkey derives from the word *kapi* in Sanskrit. Similarly, the word *tukim* refers to peacocks, which are called *tokei* in Tamil. Gold, silver, ivory and precious stones were all part of the cargo.

From the Levant, trade routes to the west were developed from the earliest times, first to Cyprus and Asia Minor and then to Crete, Sicily, Sardinia, Carthage, Ibiza, southern Spain, Gadir (Cadiz) and Mogador outside the Pillars of Hercules. The return voyage passed along the north coast of Africa, making use of the predominant current in the Mediterranean.

Carthage was established at about 800 BC as a result of conflict within Tyre's royal family. Upon their father's death, Pygmalion and Elissa were supposed to rule together, but Pygmalion killed Elissa's husband, who was the chief priest of Melqart. Elissa fled with her followers and settled in North Africa. Initially Carthage was dependent on Tyre for food supplies, but eventually it developed its own agricultural, industrial and shipbuilding capacities, and a typical Punic character.

Trade with Egypt continued unabated, as attested to by two Phoenician ships that foundered in deep water off the coast of Ashkelon around 725 BC. They were transporting a large cargo of wine, 10 tons per ship in about 400 amphorae of five gallons. The ships are believed to have sunk in a storm; possibly they were overloaded or sailed too late in the season. Many different goods were shipped in amphorae in those days. These pointed ceramic containers were used for wine, oil, grain, fish, etc. and would be stowed in the holds of the ships on a layer of thorny burnet, lashed together with ropes. Warehouses ashore would have holes in the sandy floors for upright storage. Fishing took place in all the narrow sea straights of the Mediterranean, and the catch would be processed and packed into amphorae at the nearest place with a saltworks. One such a fish-filled Phoenician amphora has been excavated in Greece.

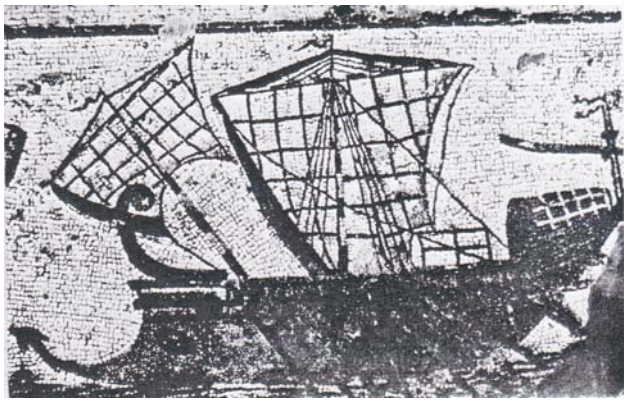
Around 600 BC Pharaoh Necho requested the Phoenicians to undertake a voyage around Africa. They achieved this feat in three years by sailing as far as possible during favourable weather, then settling ashore to sow and harvest, and resuming their voyage the next spring. They returned to Egypt via the Pillars of Hercules. Even if this story sounds farfetched, the one convincing point is that the sailors



The city of Carthage located on the Birsa, with the round naval harbour and the straight mercantile harbour below left

reported keeping the sun on their right hand at all times during their voyage. Between 2009 and 2011 a replica ship completed the same voyage, quite easily achieving this by also stopping during the winter months and continuing when winds and weather were suitable again. The Parahiba inscription found on a rock face in Brazil in 1886 also refers to the circumnavigation of Africa. It tells of a convoy of Phoenician ships sailing around Africa being thrown off course by a severe storm, with one ship ending up on the north-eastern tip of present-day Brazil. Opinion is divided about whether the inscription is a true story or a hoax, but the sea currents along the west coast of Africa cross the Atlantic more or less at the Equator, and a ship thrown off course by a storm could make landfall at Parahiba.

An interesting Phoenician settlement was Motya on the west coast of Sicily. The Phoenicians had initially settled on the east coast of the island, but when Greeks started to settle colonies on the same coast, the Phoenicians withdrew and established Motya on a small island with anchorage protected by a shallow lagoon off the west coast in about 600 BC. To provide the island with a harbour, an artificial *cothon,* or protected inner harbour, was dug. It served as a stop-over for ships travelling on the long-haul east-west route, as well as the shorter route between Carthage, Sardinia and Ibiza. It was equipped for repairing ships. An underwater causeway connected Motoya to the mainland, which was instrumental in its downfall in 397 BC, when the Greek tyrant Dionysios of Syracuse used it to overpower the island. Tarshish was another place where the Phoenicians traded. Its location was most likely Tartessos in southern Spain. Here they mined large quantities of metals, especially silver. The ships used for trade at this time were called ships of Tarshish, which were stronger than the Byblos ships of old.

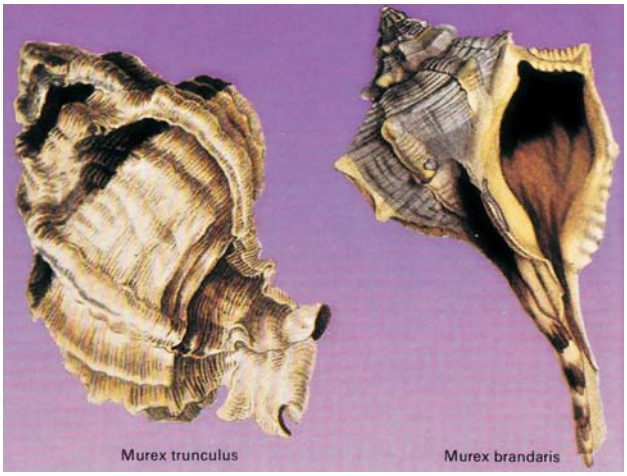


A 1st century BC Carthaginian merchant ship

Another important article of trade was cloth dyed purple with an extract from Murex molluscs. Besides *Murex trunculus* and *Murex brandaris*, *Purpura haemastoma* molluscs were used as well. Dye prepared from the latter was not colourfast by itself, but provided a different shade of purple when added to that of Murex. Tiny glands containing a colourless dye precursor were extracted from the molluscs. The production process consisted of boiling this liquid in salt water for nine days, after which clean, washed wool would be dipped into it. The colour would only emerge when the wool was dried in the sun. The so-called royal purple was manufactured in Tyre using very white wool, which was double dipped. Apart from Tyre, other important production centres were Sidon, Sarepta and Carthage. At Sidon a 40 m high bank of shells still bears witness to the millions of Murex molluscs used in the production process. Calcium would be added to the boiled solution in ceramic dye to improve the pH and enhance the colour. This additive produced mercaptans, which explains the enormous stench that is known to have resulted from the manufacturing process.

The successive superpowers that dominated the Levant, namely Assyrian, Babylonian and Persian, allowed the Phoenician city states to carry on doing what they did best, namely to trade and gather wealth. Their only obligation was to pay a hefty tribute. Under the Persians, around 500 BC, the Phoenicians were given the responsibility of managing the harbours along the Philistine coast. Tyre administered Ashkelon and brought this city back to great prosperity.

One of the interesting archaeological finds made there in recent years is a dog cemetery containing the remains of hundreds of dogs. The lead archaeologist,



The two types of Murex molluscs from which the hypobranchial glands were used to produce the fabled purple cloth

Prof. Lawrence Stager of Harvard University, concluded that the dogs had been part of a healing cult but to date no remains of a temple or cultic centre, or of pilgrims visiting such a centre, have been found. As the cemetery lies in a zone dedicated to trading activity, it is very possible that dogs were bred here to be traded as hunting dogs throughout the Mediterranean. Even to this day there are dog breeds, mainly on islands such as Malta, Sicily and Ibiza, that are believed to have been brought there by the Phoenicians. The dogs most likely originated in the Persian Empire and Egypt.

One of the more than 600 dog remains excavated at the Ashkelon Dog Cemetery that dates to about 500 BC

When Alexander the Great set out on his conquest of the Persian Empire in 332 BC and arrived in the Levant, he demanded to be allowed to visit the temple of Heracles in Tyre. The Tyrian elders refused him entry, believing that they would be safe on their island. Alexander then ordered his soldiers to build a causeway to Tyre. During the construction quite a number of inhabitants, mostly the elderly, women and children, boarded the available ships and fled to Carthage. The men mounted an attack by floating an old horse-trading ship loaded with flammable materials to the point where the construction took place. Their effort was to no avail and Tyre was conquered by Alexander's men, who killed all men still present on the island. The causeway remained and caused the shallow waters at either side to silt up, so that Tyre became part of the mainland. Alexander settled other people at Tyre and the island lost its Phoenician character.

The consequence for Carthage was that its supply line from the Levant was cut and that it had to develop its own agriculture, which it did in the Medjerda valley. By this time the city had already developed a number of industries, one of which was iron smelting. By adding calcium in the form of crushed Murex shells to the smelting process, they strengthened the iron produced. Subsequently this knowledge was lost, only to be rediscovered in the 19th century when it became known as the Bessemer process. In about 425 BC, the Carthaginian admiral Hanno set out from Carthage on a voyage around the west coast of Africa. The description of the journey in a Greek Periplus indicates existing landscapes and geographical landmarks all the way to the Gulf of Guinea.

The emerging Roman Empire eventually came into conflict with the Carthaginians, which resulted in three Punic wars. The first one was centred on Sicily between 264 and 241 BC. The Roman navy defeated Carthage at the Battle of the Aegades near Motya in 241 BC. Remains of some of the Carthaginian warships were excavated by Honor Frost off the coast of Marsala between 1972 and 1975. Carthage retreated and was forced to pay indemnities. By 201 BC the Carthaginians had regained their strength and Hannibal marched through Spain with his army and elephants. He crossed the Alps into Italy and defeated the Romans, but allowed them to regroup while giving his soldiers a rest, losing his advantage and the war. Once again Carthage had to pay massive indemnities, which they did by mining silver at Rio Tinto in Spain.

By 150 BC, with the indemnities paid off, Carthage had once again become a powerful and wealthy city with a fleet of 170 warships. The Roman Senator Cato the Elder perceived this as a threat and ended every speech in the Roman Senate with the words: '*Delenda est Carthago*' – Carthage must be destroyed. The Romans laid siege to the city and after three years managed to enter it via the harbour in 146 BC. An enormous bloodbath took place and the survivors were sold as slaves. This brought the Phoenician culture to an end.

In their dealings the Phoenicians made use of interesting practices. They would, for example, use small secret signals during trade negotiations with outsiders. They also fiercely protected the sources from which they acquired goods to the point of wreck-

ing their own ships on reefs to prevent others from following them. The harbour of Carthage was protected by screens so that outsiders could not see the kind of goods offloaded from ships. Their settlements on far-away shores would be kept as inconspicuous as possible.

The Phoenicians exploited agricultural, maritime and mineral resources and used these to trade in far-flung places. They thus connected the then-known world through the exchange of technology and the trade in everyday and luxury goods. In the process they generated incredible wealth and created a maritime empire consisting mostly of small footholds on many different shores.

A selected bibliography

Aubet, ME. 1993. *The Phoenicians and the West: politics, colonies and trade.* Cambridge: Cambridge University Press.

Bar-Ilan, M. 2015. King Solomon's trade with India. *ARAM* 27/1–2: 125–137.

Bass, GF. 1987. Oldest-known shipwreck reveals Bronze Age splendours. *National Geographic Magazine* 172/6: 693–734.

Casson, L. 1995. *Ships and Seamanship in the Ancient World.* Baltimore: John Hopkins University Press.

Diakonoff, IM. 1992. The Naval Power and Trade of Tyre. *Israel Exploration Journal* 42: 168–193.

Edey, MA. 1974. *The Sea Traders.* Amsterdam: Time-Life International (Nederland) BV.

Flinder, A. 1985. *Secrets of the Bible Seas: an underwater archaeologist in the Holy Land.* London: Severn House Publishers.

Frost, H. 1982. La réconstruction du navire punique de Marsala. *Archeologia* 170: 42–50.

Gore, R. 2001. Ashkelon ancient city of the sea. *National Geographic Magazine.* 199/1: 66-93.

Gore, R. 2004. Who were the Phoenicians? *National Geographic Magazine* 206/4: 26–49.

Harden, D. 1963. *The Phoenicians.* London: Thames and Hudson.

Herm, G. 1974. *De Feniciërs, het purperrijk uit de Oudheid.* Baarn: Meulenhoff.

Jidejian, N. 1969. *Tyre Through the Ages.* Beirut: Dar El-Mashreq Publishers.

Kurlansky, M. 2003. *Salt: a world history.* London: Vintage.

Lancel, S. 1997. *Carthage: a history.* Malden (Mass.): Blackwell.

Markoe, GE. 2000. *Phoenicians.* London: British Museum Press.

Mazel, J. 1971. *De Feniciërs: beschaving en expansie.* Deventer: Kluwer.

McGovern, PE. 1990. A dye for gods and kings. *Archaeology* 43/2: 33, 76.

Miles, R. 2011. *Carthage Must Be Destroyed: the rise and fall of an ancient civilization*. London: Penguin.

Morneau, D. 1986. The Punic warship. *Saudi Aramco World.* 37/6: 2-9.

Moscati, S (Ed.). 2001. *The Phoenicians.* London: I.B. Tauris.

Smith AM. 2015. The Ashkelon dog cemetery conundrum. *Journal for Semitics* 24/1: 93–108.

Spanuth, J. 1985. *Die Phõnizier.* Osnabruck: Zeller Verlag.

Stager, LE 1991. Why were hundreds of dogs buried at Ashkelon? *Biblical Archaeology Review* 17(3): 26–42.

Wachsmann, S. 1998. *Seagoing Ships and Seamanship in the Bronze Age Levant.* College Station: Texas A & M University Press.

Wapnish, P & Hesse, B. 1993. Pampered pooches or plain pariahs? The Ashkelon dog burials. *Biblical Archaeology* 56/2 (1993): 55–80.

Ziderman, II. 1990. Seashells and ancient purple dyeing, *Biblical Archaeologist* 53: 98–101.

TRIBUTE TO HISTORIAN PHIL BONNER

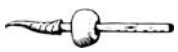
The South African Archaeological Society learnt with sadness of the death of Phil Bonner (1945-2017) in late September. He will be remembered by members of the Northern Branch for his lectures to members and his involvement in branch outings to sites of archaeological and historical interest over the years.

Emeritus Professor Phil Bonner joined the Wits History Department in 1971 and played a leading role in the development of African history at the university and nationally. He was part of a cohort of young revisionist and Africanist scholars who challenged liberal orthodoxies in the academy and produced new histories that emphasised the experiences of the black majority. His book on the Swazi kingdom, *Kings, Commoners and Concessionaires*, exemplified this scholarship. He was also heavily involved in the development of independent black trade unions from the 1970s, and in the early 1980s served as FOSATU's Education Officer. In the late 1980s he offered workers' education to COSATU affiliates. At the same time, he wrote histories of labour struggles and was a member of the editorial board of the *South African Labour Bulletin* for nearly 30 years. His involvement in the anti-apartheid struggle led to his detention and threat of deportation.

Prof. Bonner was a founding member in 1977 of the History Workshop and was its head from the late 1980s until his retirement in 2012. The History Workshop pioneered social history in South Africa. Under his supervision numerous postgraduate students undertook original research on the lives and struggles of black workers, women, youth and migrants in locations, mines, factories and villages. His own research focused on squatter movements, the complexities of urbanisation and histories of black resistance. Oral history was central to the endeavour of uncovering hidden histories. His expertise was called on in the production of liberation histories and the development of museums, such as the Apartheid Museum.

Under his leadership the History Workshop became more actively involved in public history and heritage. From the late 1990s he collaborated in projects that produced histories of Soweto, Ekurhuleni and Alexandra. He was the head of the History Department from 1998 to 2003. In 2007 he was awarded a South African Research Chair in Local Histories, Present Realities. In recent years he was involved in a major project on underground struggles and was completing two books on this subject. Phil is survived by his wife, Sally Gaule.

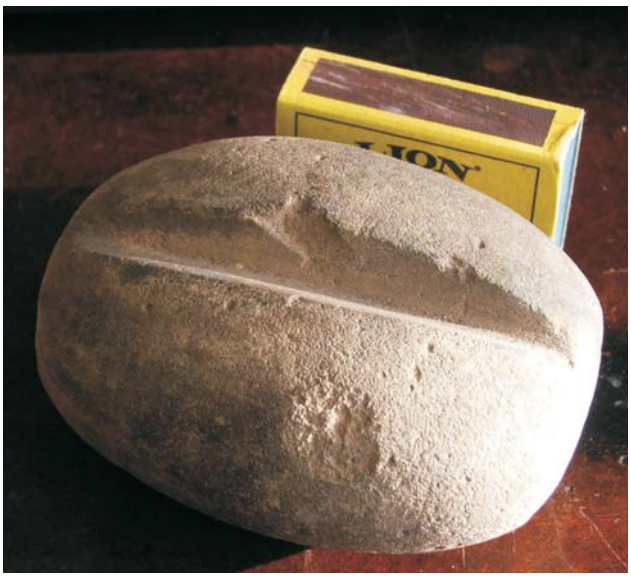
With thanks to the University of the Witwatersrand



ZASTRON CEMETERY FIND EXPLAINED

The Northern Branch every so often receives an enquiry about an archaeological matter, usually from a member of the public. But recently an interesting question came from a former Trans-Vaal Branch member, David Holt-Biddle, who moved down to the coast 13 years ago. He and his wife Sue still occasionally get a copy of *The Digging Stick* via a Cape Town member, which he says they read avidly.

David attached the photo below and wrote as follows: 'The attached photo is of an object we found in the cemetery at Zastron in the Free State. Most of it was buried, just a bit sticking out, but enough to realise that it was something interesting (at another time we picked up a worked stone tool, possible a spearpoint, in the same cemetery). It is perfectly formed and symmetrical, the underside worn smooth, so probably used as a top grindstone, and the ends are slightly smoothed as well. The groove suggests a whetstone of sorts, but then perhaps not. A picture in an old Eskom archaeological guide shows something similar but with no identification, except that it may be Stone Age. We would love to know what it is.'



Our acting branch chairman, Graham Reeks, himself an archaeologist, obtained the opinion of Prof. Jan Boeyens, head of the Archaeology Division in the Department of Anthropology and Archaeology at UNISA, and Dr Maria van der Ryst of the division. Prof. Boeyens responded as follows:

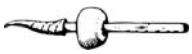
'I would certainly identify the object as a grooved stone. We have a similar example in the museum collection with V-shaped incised decorative motifs. Grooved stones from Stone Age localities in the Waterberg usually have several grooves, and some specimens are two-sided. Their shape, diameter and depth vary from fairly broad and shallow to well worn. Some grooves run parallel, while others are on the diagonal or are randomly placed. Sandstone was often used since a large-grained material was required for abrasion.

'Grooved stones are ubiquitous at most Later Stone Age sites. They are also not uncommon at pastoral and farmer sites (e.g. Diamant).

'The grooves serve to confine cylindrical objects – usually of organic materials – during the abrading process. That these implements were extremely versatile is evident from ethnographic and historic observances. Uses included the production of cylindrical bone tools; straightening of arrow shafts; shaping of strung ostrich eggshell rough-outs, shell and bone beads; and even the careful application of arrow poison to cylindrical arrows.

'The cross-section may be V or U-shaped. This variation suggests different functional applications, since the morphology of the end-product likely dictated the shape of the groove. Grooves of different size were required to produce tools with varying shaft diameters, such as the composite parts of arrows, awls or fine bone needles. An arrow straightener with a central groove is one of the rare stone tool types now made by Ju/'hoansi men. It is often left at camp to limit the carrying weight while hunting.'

Graham Reeks added that he is still puzzled by the fact that the groved stone was found in a cemetery. However, it is possible that before European settlement there was a Khoisan site there and the finds came from a lower archaeological horizon dug up during grave preparation.



The rhinoceros in African culture

(continued from page 6)

Theal, GM. 1901. *Records of South-eastern Africa.* Vol. VII. London: William Clowes. Facsimile reprint, 1964, Cape Town: Struik.

Tiley, S. 2004. *Mapungubwe: South Africa's Crown Jewels.* Cape Town: Sunbird Publishing.

Van Warmelo, NJ. 1944. The Ndebele of J Kekana. *Ethnological Publications* 18, Department of Native Affairs. Pretoria: Government Printer.

Van Warmelo, NJ. 1971. Courts and court speech in Venda. *African Studies* 30(3–4): 355–70.

Van Warmelo, NJ. 1989. *Venda Dictionary: Tshivenda – English.* Pretoria: Van Schaik.

Walker, C & Walker, A. 2012. *The Rhino Keepers.* Auckland Park: Jacana Media.

Wangemann, T. 1957. *Maleo en Sekoekoeni.* Cape Town: Van Riebeeck Society.

Wookey, AJ (ed.). 1945. *Dico tsa Secwana (History of the Becwana).* 8th ed. Vryburg: London Missionary Society.

CARVING A LEG OF LAMB WITH A BLADE-LIKE LIGHTNING FLAKE AND IMPLICATIONS FOR STONE TOOLMAKING

Revil Mason

The hominin discovery of Naledi by Prof. Lee Berger et al. suggested that Naledi may have initiated the Stone Age sometime before 3 000 000 years ago. However, in May 2017 Lee Berger and other authors changed the early dating of Naledi to approximately 300 000 years ago, far too recent to be a candidate for starting the Early Stone Age. Once again, the question of the origin of Stone Age toolmaking is thrown into the scientific melting pot.

The hominin who discovered the potential of sharp-edged natural flakes could have roamed between the southern edge of early hominin occupation at Taung through the Cradle of Humankind north-eastwards to Ethiopia and possibly beyond. Somewhere in this vast territory an observant hominin may have spotted the potential use of sharp-edged natural flakes, used the flakes for cutting purposes and thereby opened the door to the vast technology of stone toolmaking.

In my 1962 book, *Prehistory of the Transvaal*, in discussing the origin of the African Stone Age I wrote (p. 103): 'For tens of thousands of years Australopithecines hunted in the quartzite landscapes near Sterkfontein and the Limeworks, for the Strydpoort quartzites, like the Magaliesberg quartzites, are close to the dolomite cave country where their remains are found. We may speculate that, like their Earlier Stone Age descendants at Wonderboom near Pretoria, they may have used natural razor-sharp quartzite flakes that abound in the hillside screes of the Strydpoort and Magaliesberg Mountains.'

About 1910 Wolfgang Kohler began to experiment with toolmaking by chimpanzees. The earliest sharp-edged flake user may therefore have lived at some point between the development of the chimpanzees' sharp-edged wooden spears and the known hominin toolmaker (Mason 1962:105).

In 1950 I excavated the Northcliff (then known as Asvoëlkop) summit Middle Stone Age (MSA) toolmaking site. Scattered amongst the beautifully-made MSA tools were scalpel-sharp natural flakes. Because I was working on an exposed lightning-prone summit, I suggested that the sharp natural flakes might have been made by lightning strikes (Mason 1962: Fig. 63, 101–105). In 1956 I excavated the Kliplaatdrift Three Rivers early Acheulean site near the Vaal River, and in the same identified the Sterkfontein artefacts discovered by Bob Brain. These were the earliest artefacts then known in the Cradle of Humankind until the discovery of Oldowan by Kathy Kuman (Schick & Toth 2009). An even earlier hominin may have discovered the Oldowan toolmaking tradition.

In 1993 I walked across the Perdekop summit of the Suikerbosrand hills. Here I found a beautiful Late Stone Age site. Among the artefacts I was surprised to find dozens of sharp and weathered natural flakes of all sizes (Figs 1– 6). In 2015 I found a remarkable blade-like lightning flake lying directly under the 'core' that had yielded it (Fig. 3). It is possible that lightning struck the rock, creating a flake that then dropped to the ground directly below the remainder of the rock. Although I did not actually witness the lightning strike there seems to be no other explanation. I took the blade-like flake home and used it to carve a leg of lamb with the precision of a carving knife.

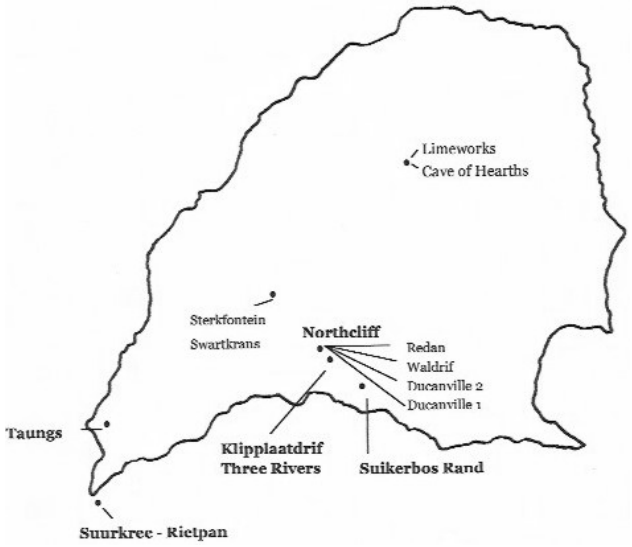


Fig. 1: South African early hominin and lightning flake sites at Northcliff, Johannesburg, and Suikerbosrand Nature Reserve

I offer this 'lightning flake' speculation for debate on the origin of stone toolmaking. Speculation is a guide to scientific hypothesis.

Scientists have reviewed lightning as a major sculptural force in a wide variety of global processes. Discussing the origins of fire use by early humans, Bob Brain found early traces of fire at Swartkrans Cave and suggested that early humans realised the

Revil Mason studied economic history under Helen Suzman at the University of the Witwatersrand in 1948, Southern Sotho under Robert Sobukwe at the University of Cape Town in 1951, social anthropology under Monica Wilson and archaeology under John Goodwin. His attention then focused on historic socio-economic changes in South Africa, leading to his 1964 paper, 'Origin of South African society' (*SA Journal of Science* 1965). revmason@vodamail.co.za

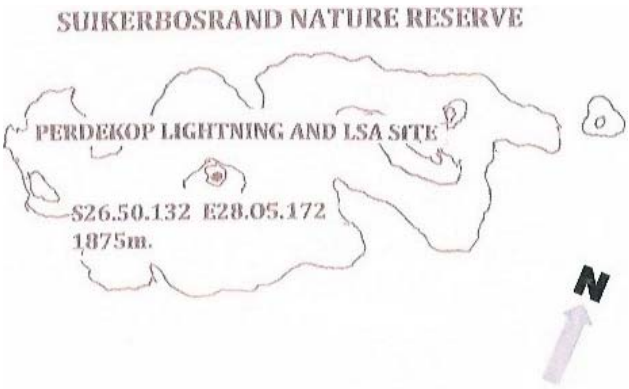


Fig. 2: Perdekop Late Stone Age and lightning site at Suikerbosrand Nature Reserve

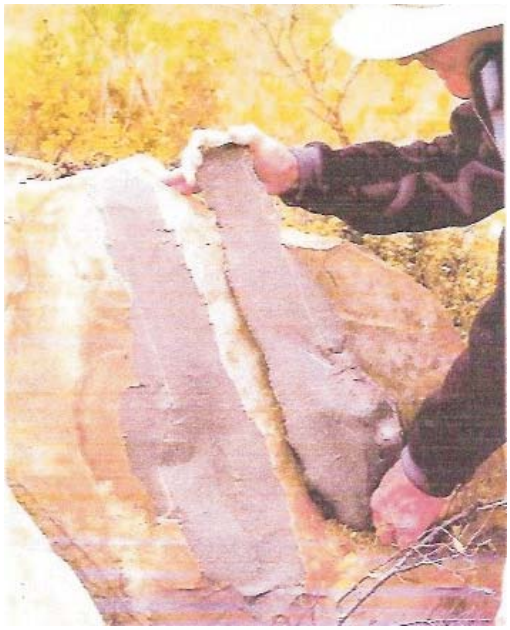


Fig. 3: Revil Mason and the Perdekop lightning flake

Fig. 4: An indication of how the lightning flake may relate to a lightning strike on the boulder

Fig. 5: The scalpel-sharp edge of the Perdekop lightning flake

Fig. 6: Cuts on a leg of lamb made by the lightning flake

potential of lightning-caused fire in easing the struggle for human survival (CK Brain 1988).

Stefan Grab and Jasper Knight (2015) of Wits University have demonstrated how lightning shapes mountains. According to them, lightning 'basically causes a bomb to explode on the rock surface. In half a kilometre in Lesotho we found 90 sites where lightning strikes had blasted apart the basalt rock face. Lightning is part of a much bigger jigsaw.'

References

Brain, CK & Sillent, A. 1988. Evidence from the Swartkrans cave for the earliest use of fire. *Nature* 336: 464–466.

Knight, J & Grab, SW. 2015. *Landscape and Landforms of South Africa*. Switzerland: Springer International Publishing.

Oakley, KP. 1957. Tools makyth man. *Antiquity* 31: 199–209.

Mason, RJ. 1962. *Prehistory of the Transvaal*. Johannesburg: Witwatersrand University Press.

Schick, K & Toth, N (eds). 2009. *The Cutting Edge: New Approaches to the Archaeology of Human Origins.* Gosport, Indiana: The Stone Age Institute.

WORLD ARCHAEOLOGY

Western contact with China began long ago

China and the West were in contact more than 1 500 years before European explorer Marco Polo arrived in China in the 13th century. Archaeologists say inspiration for the 8 000 Terracotta Warriors found at the Tomb of the First Emperor near today's Xian may have come from Ancient Greece. They further maintain that ancient Greek artisans could have been training Chinese locals in the 3rd century BC.

'We now have evidence that close contact existed between the First Emperor's China and the West far earlier than formerly thought,' said archaeologist Li Xiuzhen from Emperor Qin Shi Huang's Mausoleum Site Museum. A separate study shows European-specific mitochondrial DNA has been found at sites in China's westernmost Xinjiang Province, suggesting that Westerners may have settled and lived there before and during the time of the First Emperor.

There was no tradition of building life-sized human statues in China before the tomb was created. Earlier statues were simple figurines about 20 cm in height. To explain how such an enormous change in skill and style could have happened, Dr Xiuzhen believes that influences must have come from outside China. Prof. Lukas Nickel from the University of Vienna says statues of circus acrobats recently found at the First Emperor's tomb support this theory. He believes the First Emperor was influenced by the arrival of Greek statues in Central Asia in the century following Alexander the Great, who died in 323 BC.

Other discoveries include new evidence that the First Emperor's tomb complex is much bigger than first thought and 200 times bigger than Egypt's Valley of the Kings. They also include the mutilated remains of women, believed to have been high-ranking concubines of the First Emperor, and the skull of a man with a crossbow bolt embedded in it. The skull is believed to have belonged to the First Emperor's eldest son, thought to have been killed along with others during a power struggle after the emperor's death.

BBC News, 12/10/2016

'Britain's Pompeii' was Bronze Age new-build site

A village dubbed 'Britain's Pompeii' was just a few months old when it burnt down. Analysis of wood used to build the settlement suggests it was only lived in for a short time before it was destroyed. Despite this, archaeologists said the site gives an 'exquisitely detailed' insight into everyday Bronze Age life. Evidence of fine fabric-making, varied diets and vast trading networks was found during a 10-month dig.

The level of preservation at the site, in Whittlesey, Cambridgeshire, has been compared to that seen at Pompeii, the Roman city buried by ash in AD 79. At least five circular houses raised on stilts above the East Anglian fens have been found. The excavation has revealed the following:

- The people living here made their own high-quality textiles, like linen. Some of the woven linen fabrics are made with threads as thin as the diameter of a coarse human hair and are among the finest Bronze Age examples found in Europe.
- Other fabrics and fibres found include balls of thread, twining, bundles of plant fibres and loom weights used to weave threads together.
- Animal remains suggest a diet of wild boar, red deer, calves, lambs and freshwater fish. The charred remains of porridge-type foods, emmer wheat and barley grains are preserved in amazing detail, sometimes still inside the bowls they were served in.
- There were separate areas in each home for storing meat and cooking.
- Even 3 000 years ago people seemed to have a lot of stuff. Each house was fully equipped with pots of different sizes, wooden buckets and platters, metal tools, saddle querns (stone tools for grinding grains), weapons, textiles, loom weights and glass beads. The beads came from the Mediterranean or Middle East.

After the fire, the buildings sank into a river, and this has helped preserve them. *BBC News, 14/07/2016*

ARCHAEOLOGY IN AFRICA

Lost settlements of the Kruger National Park

The African Conservation Trust's Heritage Unit has conducted 15 days of fieldwork in the Kruger National Park. This was the culmination of five years preparation that began when Carl Grossmann, ACT Chairman, was conducting research into an ancient dhow anchorage on the Save river in Zimbabwe. He came across a 1905 sketch map of the stonewall ruins in Zimbabwe. Also indicated on this map were three ruin sites within South Africa, in particular in the Kruger National Park.

The ACT Geographical Information Systems (GIS) team began a series of best fit geo-referencing attempts of the sketch map. It had first-hand knowledge of the Thulamela Ruins in the north of the park and had heard of the Makahane ruins further to the west. It was assumed that at least one of the sites indicated on the map was the Thulamela Ruins. A dataset of known Iron Age (IA) settlements in the park was obtained from SANParks. There were two areas clearly devoid of settlements and these areas became the focus of the team's attention. GIS modelling of the known sites determined some key criteria and these were then applied to the areas of interest. The modelling delivered nine potential sites of possible settlement.

The team managed to investigate six of the sites on foot. Of those, three were IA settlement sites that included remnants of stonewalling, ceramics and stone tools. Items were photographed and experts are resolving the information from diagnostic markings on the ceramics. The team is very excited about one piece in particular that may lead to a far greater investigation and even excavation of the site. But returning to the map from 1905, if two of the sites indicated are indeed Thulamela and Makahane, then there still remains a third extensive stonewall settlement to be discovered.

Carl Grossmann, The Heritage Portal, 22/09/ 2017

Little Foot skeleton unveiled

One of the oldest and most complete hominid skeletons has been unveiled at the University of the Witwatersrand after more than 20 years of excavating, cleaning and putting together the skeleton. This is Little Foot, whose exact age is debated, but is believed by South African scientists to be 3,67 million years old. If the date is correct, this would mean Little Foot was alive about 500 000 years before Lucy, the famous skeleton of an ancient human relative found in Ethiopia.

Both Little Foot and Lucy belong to the same genus – Australopithecus – but they are different species. Scientists believe this shows humankind's ancestors were spread across a far wider area of Africa than was previously thought. It also suggests there were a diverse number of species.

Little Foot was discovered in the Sterkfontein caves. She is thought to have been a young girl who fell down one of the shafts. The process of removing the bones from the caves was painstaking, as the fossil had 'very fragile bones' that were 'extremely soft' and were 'buried in a natural concrete-like material', said Prof. Ron Clarke. 'We used very small tools, like needles to excavate it. That is why it took so long. It was like excavating a fluffy pastry out of concrete.'

The full skeleton of Little Foot proves that she is more like us than an ape, with shorter arms and small hands. Scientists are used to basing their theories on tiny fossil fragments, but South Africa's caves are fast becoming a treasure trove and helping to rewrite our understanding of how our species evolved.

Wits University, 6 December 2017

The South African Archaeological Society

This is the society for members of the public and professionals who have an interest in archaeology and related fields such as palaeontology, geology and history. Four branches serve the interests of members. They arrange regular lectures and field excursions guided by experts, annual and occasional symposia, and longer southern African and international archaeological tours.

The Society was founded in 1945 to promote archaeology through research, education and publication. It is a non-profit organization – Registration No. 024-893-NPO.

Cape Town head office: PO Box 15700, Vlaeberg, 8018. T: +27 (0)21 762 7347, 072 635 2815. F: +27 (0)866 155 874. archsoc@iziko.org.za. www.archaeologysa.co.za.

Northern Branch: PO Box 41050, Craighall, 2024
Membership Secretary: Barry Jacoby
010 595 4596; 083 228 1692
barry@themailzone.co.za
www.archaeology.org.za

Western Cape Branch: PO Box 426, Muizenberg, 7950
Chairperson: Ms Yvonne Viljoen
021 788 5620
yv3@mweb.co.za

KwaZulu-Natal Branch: c/o Natal Museum, P/Bag 9070, Pietermaritzburg, 3200
Secretary: Ms Barbara Dunn
031 209 1281
dunn@camsol.net

Trans-!Gariep Branch: David Morris
053 839 2706
dmorris@museumsnc.co.za

The Society produces the following publications:

- ***South African Archaeological Bulletin*,** a scientific publication of current research in southern Africa – twice a year
- ***The Digging Stick,*** the Society's general interest magazine – three issues a year
- ***Goodwin Series*,** an occasional publication on a specific field of archaeological interest

Subscription rates for 2018 are as follows: South Africa: Ordinary – R305; Joint/Family – R325; Junior members – R210. Africa ordinary – R365; Overseas ordinary – R615. Institutions: Local and African – R615; Overseas – R1 250.

The Digging Stick

Editor and advertising: Reinoud Boers
PO Box 2196, Rivonia, 2128
Tel/fax: 011 803 2681
Cell: 082 566 6295
fox@boers.org.za
Layout: Marion Boers
Printer: TVaal Johannesburg