THE DIGGING STICK

Volume 22, No 2

ISSN 1013-7521

August 2005

SEEDS AT SIBUDU: FOOD FOR THOUGHT

Christine Scott

Archaeobotanical research at Sibudu Cave

Archaeobotanical research involves the recoverv. identification and interpretation of plant remains from archaeological deposits, primarily to identify vegetation change and infer possible climatic change. The terms archaeobotany and palaeoethnobotany are sometimes used synonvmously, but palaeoethnobotany focuses on the interrelationships between people and plants in the archaeological record. My studies at Sibudu

Cave in KwaZulu-Natal had elements of both disciplines and involved the identification and analysis of seeds (including fruits and nuts) from second millennium AD deposits at the cave. The primary aim was to identify vegetation changes in the area, but this inevitably involved investigation of the relationship between the cave inhabitants and the cave deposits.

Excavations at Sibudu Cave since 1998 have involved a multidisciplinary team of scientists under Prof. Lvn Wadley of the University of the Witwatersrand (Wadley 2001; Wadley et al. 2004). The archaeobotanical studies have involved Sorting seeds from other organic matter analyses of plant residues on tools,

charcoal (anthracology), phytoliths and seeds (I use the term 'seeds' to refer to all fruiting structures on a plant). Phytoliths are opaline silica structures that are formed when silica is carried up from groundwater and deposited in the growing cells of plants. After the plants decay or are burnt, many of these structures retain their characteristic shapes and can be identified. In

contrast to the charcoal analyses and phytolith studies, palynology (the study of pollens) is of little use at Sibudu because pollens are poorly preserved in the dry deposits. Other organic remains, particularly from the last millennium, are excellently preserved in an uncharred (uncarbonised/not burnt) state because of the aridity. Bacteria and the various organisms that decompose organic remains are unable to function without moisture. In most archaeobotanical



studies uncharred seeds are considered modern contaminants. In contrast, the excellent preservation of much uncharred material of anthropogenic origin, e.g. wood shavings, wooden posts and grass matting in the upper layers at Sibudu, indicated that the uncharred seed remains were in situ.

Identification of the Sibudu Cave seeds

The quantity and diversity of seeds recovered from the deposits at Sibudu were impressive. About 100 different taxa were present, although only about 70 could be reliably identified to

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Sibudu Cave lies on the Tongati River in KwaZulu-Natal

family, genus or species level. Many seeds were too badly decomposed for definitive identification features to remain. Another problem in the identification of seeds was the lack of comparative identification material, both of seeds and of detailed texts and illustrations of southern African seeds. A major part of my research involved the establishment of such a comparative collection. This was, and is, no easy task. Plants do not fruit on demand and often, in spite of my numerous visits to check the progress of ripening, more agile and dedicated collectors like birds or monkeys beat me to the ripe fruits.

In spite of the limited comparative collection and the problems caused by differential preservation and recovery, a range of trees, shrubs and, to a lesser extent, climbers were identified from the recovered remains. Grasses, herbs and forest undergrowth species were rare. The most frequently recovered remains were the hard endocarps or stones of Harpephyllum caffrum, the wild plum, the remains of which were 18 times more common than marula (Sclerocarya birrea) endocarps. This is surprising, because marula endocarps are as hardy as those of the wild plum and the marula fruit is even more delicious, nutritious and versatile than the wild plum. The most common fruits after the wild plums were Vanguerieae, the medlars. Because of the similarity of the stones from the different genera and the variation within a species, it was difficult on the whole to distinguish between the various turkey berry species, as well as between the various medlars. Medlars and turkey berries are good eating, unlike the next most common taxa, Commiphora spp. (corkwoods). Croton sylvaticus (forest croton), Ziziphus mucronata (buffalo thorn - tasty) and Celtis spp. (stinkwoods) were also common.

A single magnificent *Celtis mildbraedii* (red-fruit white stinkwood) grows at the entrance to the cave. The tree is one of the rare examples of the species in KwaZulu-Natal and is a relict of widespread forests that still exist in East Africa. The seeds of this species are found throughout the second millennium AD layers at Sibudu and may be evidence of extensive forests at this time, although the presence of the seeds could indicate that there were only one or two relict specimens near the cave. If one can beat the early birds to them, the plump juicy fruits provide a tasty morsel.

Exotic seeds at Sibudu Cave

Seeds of *Ricinus communis*, the castor-oil bush, were very common at Sibudu, especially in a layer dating to about 1 000 years ago. The highly toxic castor-oil bush is a Category 2 weed, a declared invader with industrial, cosmetic and medicinal value. The origin of the species, probably East Africa, and the date of its introduction into southern Africa are uncertain. By the 1830s the castor-oil bush was naturalised, judging by Gardiner's report (1836:87) of his travels in 'Zoolu' country, in which he states: 'The castor-oil tree, and the indigo plant, are indigenous.' The



Detail of organic remains. Note wild plum stones to the left and right of the scale, and marula stone just below the wild plum stone on the left of the scale. Scale: 10 mm².

'indigo plant' is likely to be the shrub *Indigofera confusa*, whose roots are used as blue dye for woven mats and baskets (Pooley 1998:388). Seeds of the castor-oil bush are not unusual in archaeological deposits predating the 19th c. and have been found in cave deposits elsewhere in KwaZulu-Natal, namely Umhlatuzana Rock Shelter (Kaplan 1990) and Border and Shongweni South Caves (Deacon 1986, reporting from unpublished material). It is possible that the castor-oil bush was brought south with agriculturists when they moved into KwaZulu-Natal, but there is evidence to suggest that it was present in the Eastern Cape long before their arrival (J Binneman pers. comm.).

Another relatively common exotic taxon in the deposit was *Melia azedarach*, the syringa berry. It is likely that this berry is a recent introduction and its presence in all the second millennium AD layers and in decreasing frequency from the surface to the deeper and older layers is possibly a good illustration of the downward movement of seeds into the deposit.

Vegetation change in the last 1 000 years

All the indigenous taxa that I identified from seed remains are plants that still occur in the Sibudu Cave area, or are likely to occur in habitats that are found near the cave, such as forest, forest margins and along the Tongati River. A statistical comparison of the plants from the upper layers at the cave, undertaken to calculate the likelihood that the plants identified from each layer belonged to the same population, supported the assessment that the plants from the same population. This suggests that there has not been any change in the composition of the vegetation within foraging distance of the cave over the last 1 000 years.

There is evidence from elsewhere in southern Africa of changed climatic conditions during the period under research. Proxy data from tree ring and pollen studies, stable isotopes in stalagmites and other climatic indicators show a period of medieval warming from AD 600 to 1200 and a cool dry event associated with the Little Ice Age between AD 1500 and 1800 (Holmgren *et al* 2003). Highly variable conditions occurred throughout both periods, but especially in the period of medieval warming when there were oscillations in annual mean daily maximum temperature of 2 to 3 °C in a few decades.

The reason these fluctuating conditions are not reflected in the Sibudu seed data may be that the climate along the KwaZulu-Natal coast is relatively mild and changes in temperature of a few degrees are unlikely to be critical to plant survival, e.g. introduce frost. Changes in rainfall regimes are likely to be masked by the adjacent Tongati River, which could provide moisture in an otherwise dry environment. Furthermore, rela-



Wild plum, Harpephyllum caffrum. Fltr: ripe fleshy fruits, fresh stones with flesh removed, archaeologically recovered stones.

tively small and short-lived fluctuating climatic conditions are unlikely to be reflected in the record of long-lived perennial indigenous species, which are the major components in the Sibudu assemblage. Seed production, germination, seedling survival and adult growth may be severely restricted during adverse climatic conditions, but mature trees and seed banks may survive decades of adverse conditions to produce fruit and new seedlings.

Vegetation change can be identified by the absence or presence of marker species, variations in the co-occurrence of certain species (communities) and by changes in the abundance of a species. No marker species were recovered at Sibudu. With the exception of red-fruit white stinkwood, the species are neither scarce nor strictly confined to one type of vegetation. Changes in vegetation in the Sibudu Cave area are likely to have been an increase/decrease of grass vs. tree cover and to be reflected in the relative abundances within species rather than in the types of species. The variation in the abundance of, say, Celtis africana (white stinkwood) could indicate a variation in the amount of tree vs. grass cover. However, an assessment of relative abundances of taxa from seed data is not reliable because of various biases that cannot be accurately predicted or quantified.

Differential preservation of seeds, variations in excavation and recovery techniques, e.g. sampling and sieve mesh sizes, and the different agents of accumulation and re-distribution of seeds, i.e. how the seeds got into the cave and what happened to them after they got there, all have a major influence on variations in the abundance of different taxa. Abundance variations may also be affected by changing collection strategies and whether fruits were eaten only where they were growing, or whether they were gathered and taken back to the cave.

The question of who brought the seeds to the cave and why stimulated another branch of enquiry and I made monthly plots of seeds on the surface of the cave to estimate the quantity and variety of seeds coming into the cave while people were not living in it. A detailed literature study of birds' feeding and nesting habits was embarked upon to estimate the part played by birds in depositing seeds in the cave. Small mammals and invertebrates such as millipedes were also considered as possible agents of accumulation, destruction and decomposition of seeds, and in terms of the re-distribution of seeds across and into the deposits.

Invariably, the study of one archaeobotanical or palaeoethnobotanical issue raises another issue and this seed study has provided much interesting food for thought. For example, why are marula absent in the Middle Stone Age levels at Sibudu Cave? Indeed, there is no evidence of marula in any archaeological deposits south of the Thukela River before the arrival of agriculturists into the area. When and how the castor-oil bush arrived in KwaZulu-Natal is another one of the many issues also deserving further consideration.

Acknowledgements

This article is based on research that was submitted for an MSc degree in Archaeology at the University of the Witwatersrand. I gratefully acknowledge generous funding from the University of the Witwatersrand Bursary Fund, the National Science Foundation and Jonathan Scott. Thanks too to my supervisor, Prof. Lyn Wadley, for endless help and encouragement.

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Mapungubwe South Africa's Crown Jewels Sian Tiley

Mapungubwe is the site of South Africa's earliest civilisation - one that traded with the rest of Africa and the East over 1 000 years ago - leaving behind a legacy of gold artefacts, beads, pottery and ornaments that are breathtaking in both scope and artistry. Mapungubwe - South Africa's Crown Jewels is a celebration of this unique archaeological collection housed in the Mapungubwe Museum at the University of Pretoria, which has played a vital role in preserving and displaying these remarkable finds and where it has been the subject of painstaking research for the last 70 years. The enticing pictorial exhibition in the book is complemented by an introductory essay on the history of investigations at Mapungubwe.



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ETHIOPIA'S ARCHAEOLOGICAL AND PALAEO-ANTHROPOLOGICAL RICHES

Reinoud Boers

Ethiopia has long fascinated archaeologists and palaeo-anthropologists for its astonishing wealth of prehistoric and historic sites. Twenty-six members of ArchSoc set off in February to see some of these riches, but found far more than archaeology and palaeontology: superb but torturous scenery, a warm and proud people, a great cultural diversity, a fascinating record of civilisation going back thousands of years, and a religious heritage that has found expression in wonderfully decorated churches. Bird lovers had the added bonus of a delight of sightings.

Our tour took us to fascinating and excellent museums, to Aksum, the centre of the 1st to 9th c. AD Aksumite civilisation, and to the massive 2 500-year-old Pre-Aksumite temple at Yeha with its Saba'an influence. A wonderful 12-hour journey by road through the Simien Mountains brought us to Gonder – 'The Camelot of Africa' – with its amazing 17th century castles and the superbly decorated Debre Birhan Selassie church. There followed a boat cruise across Lake Tana with visits to churches or monasteries on three of its islands, Bahir Dar where the Blue Nile starts its long journey, the Tissisat (Blue Nile) Falls and the 11 astonishing rock-hewn churches of Lalibela, three of which, it appears from recent research by Dr David Phillipson of Cambridge, are 7th century late-Aksumite fortifications rather than 12th c, creations. In Lalibela the group split and 12 of us descended from the high Ethiopian plateau into the Rift Valley, the desert home of the nomadic Afar people, to visit one of the country's famous archaeological sites and the walled medieval Muslim city of Harar in the east.

As much as there is to tell, this article will touch on just a few of our archaeological and palaeoanthropological highlights, such as having the opportunity to see the original fossils of 3,2million-year-old (myo) 'Lucy' or 'Dinknesh' (Thou Art Wonderful), *Australopithecus afarensis*. This maiden, not older than 21 years judging by the wear on her wisdom teeth, was introduced to us by Dr Berhane Asfaw, Ethiopia's senior palaeoanthropologist and co-director of the Middle Awash Research Project. The tray containing the almost complete remains of this hominid was carefully slid out of an heavy steel safe in Dr Asfaw's laboratory at the National Museum of Ethiopia.



Dr Berhane Asfaw with the almost complete fossil remains of 'Lucy'

For almost 50 years, from the time of the discovery of the 2,4 myo cranium of A. africanus at Taung (the Taung child) by Robert Dart in 1924, South Africa held centre stage in world prehistory. Then, with University of California at Berkeley's Dr Don Johanson unearthing the much older fossil of Lucy at Hadar in the Rift Valley in 1974, the spotlight moved to Ethiopia. Lucy held pride of place until 1992, when new finds in Ethiopia (and in Kenya) began to push back the age of hominid finds further and further: A. anamensis (4,2 to 3,9 myo), followed by the 4,4 myo Ardipithecus ramidus and more recently by the ground-dwelling Ardipithecus kadabba dating to between 5,5 and 5,8 million years. Dr Asfaw's question whether this was the 'big daddy' of all hominids, possibly having existed 'shortly' after the split with the apes, hangs in the air. But there could be even older contenders. namely the approximately 6 to 7 myo Sahelanthropus discovered in Chad and the 6 mvo Orrorin tugenensis in Kenya. It is not yet certain whether the three are of the same species and there are also questions about the mode of bipedalism of these hominids, according to Dr Asfaw.

Reinoud Boers, Vice Chairman of the Trans-Vaal Branch of the South African Archaeological Society and editor of *The Digging Stick*, organised and led the Society's first tour to Ethiopia earlier this year.

Back to Lucy: she is assumed to be female on the basis of her diminutive size of just over 1,0 m to 1,2 m. Although there is less of a size difference among the sexes in chimpanzees and hominids than in gorillas, gender size variation is still significant and Lucy is the smallest of the hominid samples found in the Hadar area. The pelvis, a valuable indicator of size in later hominids, is not a useful determinant in the case of Lucy, as the brain size and therefore the cranium size of her species was still too small to have forced pelvic development. Lucy had a brain capacity of just 300 cc, compared with our 1 300 cc.



Dr Berhane Asfaw and ArchSoc members in his laboratory at the National Museum of Ethiopia

Fossil dating in Hadar and Gona is quite an exact science. The fossils found there are not embedded in calcified breccia as in South Africa, but in sediment, which is commonly over and underlain in the Afar region by volcanic ash, the crystals of which can be accurately dated, thus giving an accurate age for the fossil-bearing sediment. Of interest is that the sediment layers are unusually soft. Once exposed by erosion and tectonics, these layers and their fossil content are likely to wash away quite rapidly in a rain torrent. Discoveries thus need to be made early, which in a huge region that is almost devoid of infrastructure and where it can take up to three days to cover 50 km by four-wheel drive can be quite a task. Out of the almost 16 000 fossils found in Ethiopia since 1981, only 227 have been hominids.

Dr Asfaw also introduced us to a range of younger hominid fossils found in Ethiopia, for the fossil record here stretches from *Ardipithecus kadabba* all the way to just 70 000 years ago. After Lucy, Ethiopia has on record, in descending age order, *A. aethiopicus, A. boisei, A. garhi, Homo habilis, H. erectus, 'archaic' H. sapiens* and *H. sapiens*. In his opinion, the 160 000-yearold *H. sapiens idaltu* found at Herto in the Middle Awash could be the common ancestor of *H. sapiens sapiens*. In the laboratory the other co-director of the Middle Awash research project, Prof. Tim White of the Human Evolution Research Centre at the University of California at Berkeley, was bent over fossil samples from his latest field research. A very pleasant function and much appreciated gesture fulfilled by us at the National Museum was the presentation of a cast of Mrs Ples to Ms Mamitu Yilma, the museum's administrator, on behalf of Dr Francis Thackeray of the Transvaal Museum.

Dr Semaw, I presume!

For those who descended into the Rift Valley another highlight was the field visit to Dr Seleshi Semaw, an Ethiopian archaeologist with the Centre for Research into Anthropological Foundations of Technology (CRAFT) at Indiana University. He is the discoverer of the world's oldest Stone Age tools, dating from nearly 2,6 million years ago, at the now famous Gona site west of Hadar. Because of publication of his research, he was not certain when and if he would be on site during the time of our visit and we were therefore delighted to hear on our arrival in Addis Ababa that he was indeed on site. But when we reached the village where we had arranged to pick up guards, we heard that he was not at Gona as that area was the centre of local Afar conflict, which had made work there impossible. He was completing a survey on the Busidema River, a distance back along the road we had come on.

Turning off the main road we ran into 20 or so heavily armed Afar who were none too friendly. We were grateful for the presence of our two guards, one of whom obviously had considerable authority as he was able to dampen the antagonistic mood. After some discussion and the inspection of our field permit we were allowed to proceed. At Dr Semaw's camp another armed guard joined as guide. Now commenced the most marvellous journey in the dry Busidema riverbed. We encountered herds of camels and locals scooping water from deep water holes in the sand. An hour later we came upon Dr Semaw surrounded by archaeologists and helpers, among them Dr Scott Simpson of Case Western University, having lunch under a large thorn tree on the riverbank. It could almost have been a 19th c. meeting of explorers in the wilds of Africa!

Dr Semaw spent the next hour and a half talking



Archaeologist Seleshi Semaw with Reinoud Boers deep in the Afar Region [Photo: N Vardy]

to us about Gona, his current pursuits and his future hopes. He related how crude stone tools estimated to be 2,5 myo had been found near Lucy's site in 1976, but that field work had become increasingly impossible during the unsettled state of the country under the Dergue regime. A two-week survey in the summer of 1984, which brought to light stone tools at various sites in the Gona area, was followed by the discovery of 10 new sites in 1992. Two of the sites had hundreds of tools each. Radio-isotopic dating and magnetic polarity stratigraphy by Greg Feibel and Paul Renne dated the volcanic tuff layers just above and below the tools to 2,5 and 2,6 million years respectively, establishing the tools as the oldest-known artefacts in the world.

The Gona assemblages, found in floodplain environments close to the margins of channels that carried the volcanic cobbles used as material for tool manufacture, belong to the Oldowan stone tool industry, named from the 1,8 myo artefacts found in the Olduvai Gorge in Tanzania, Subsequent archaeological research in Omo in southern Ethiopia and Turkana in northern Kenyan yielded 2,3 myo artefacts. The Gona tools show surprisingly sophisticated control of stone fracture mechanics, equivalent to much vounger Oldowan assemblages of the Early Pleistocene age, which indicates over 1 million years of technological stasis in the Oldowan industrial complex. The Acheulean appears abruptly at about 1,6 to 1,5 million years with large bifacial tool forms such as hand axes and cleavers that are unknown in the Oldowan. The hominids responsible for the manufacture of the Gona artefacts remain unidentified. Dr Semaw said that two contemporaneous species, H. habilis and A. aethiopicus are known elsewhere in eastern Africa from deposits that are comparable in age with Gona. However,

during our visit to Dr Asfaw, the latter had speculated that the 2,5 myo *A. garhi*, of which we saw a well-preserved cranium, could have been the toolmaker.

Dr Semaw has been working in the area consistently since 1999. About 100 archaeological sites dating from 2,5 million to 100 000 years, and some 3 000 to 4 000 well-preserved animal and hominid fossils have been found in the 25 km² site between the Kada Gona and the Ounda Gona Rivers to date. Recently some hominid fossils that could be as old as 5,2 million years, but are yet to be dated, have been unearthed. About 2 000 simple cores, whole flakes and flaking debris have been found on the surface, while a further 1 000 artefacts have been excavated. Although the Gona tools are very rough and difficult to recognise, the working edges of the majority of Gona artefacts are fresh and sharp. Future research, Dr Semaw said, might be directed at discovering whether the ancestral humans learnt to make stone tools slowly or abruptly, and how their knowledge had been dispersed to others. The next layer of deposit is unfortunately missing in the region, so it is difficult to find tools that may even be older. Dr Semaw eventually had to get back to his research, while we commenced the long journey back up the river, our drivers complaining about the 'God-damn road'.

Melka Kunture

Another archaeological site of great interest was Neolithic Melka Kunture, centred on a ford across the Awash River to the south of the Addis Ababa. Comprising six separate research sites in a 7 km radius, it is unique for its length of sequence, dating from 1,7 million years when *H. erectus* first frequented the site to the present. Discovered in 1963, the area was surveyed in



Melka Kunture: Most stones are worked

1965 and has been researched since then. The lithic tool kit at all sites is associated with animal remains, including large animals such as hippopotamus and elephant. A display of artefacts, ranging from large rough hand axes to very finely worked flakes in obsidian, is on view in a small site museum.

The sites have provided information on the organisation of *H. erectus* and *H. sapiens* camps: shelters were constructed and areas were designated for stone tool manufacture, carcass dismemberment, and meat cutting and bone fragmentation. The use of fire in more recent times has been documented. Hominid remains have been found at four sites, namely Oldowan Period H. erectus (1,7 to 1,6 myo), Developed Oldowan H. erectus (1,6 to 1,4 myo), Middle Acheulean H. erectus or 'archaic' H. sapiens (840 000 years old) and Upper Archaelean and MSA 'archaic' H. sapiens (700 000 to 150 000 years old). Other significant sites cover the Upper Archeulean (600 000 to 400 000 years old) and the LSA and modern times. The latter, 6 km from Melka Kunture, contains large concentrations of obsidian debris and artefacts. At the butchery part of one exhibit site, around 80 per cent of the 6 000 stones covering the surface are stone tools or cores, an amazing sight.

Tiya menhir site



The Tiya menhir site: 40 carved stones [Tiya photos P Scott]

The last experience I want to touch on is our visit to a field of menhirs at the village of Tiya further along from Melka Kunture. Some 10 000 menhirs, dating from the 12th to 14th c., are found in a broad belt stretching across southern Ethiopia and into adjoining countries. In Ethiopia alone there are 190 sites, of which Tiya with its 40 carved stelae, 2 m in height on average, is the largest. The menhirs mark graves in which the deceased were placed seated in a foetal position, similar to the burial practice of Aksum. All the menhirs are carved in relief. In the absence of a written record it is believed that one



One or more swords and other reliefs mark each menhir

or more carved swords indicate a male burial and the deceased's status, while breasts denote a female burial. Together with the sword(s) one always finds reliefs depicting a headrest, two 'suns' (representing monkeys in Aksumite decoration) and an image of which the meaning is not clear. A few menhirs carry different images, such as shields, a female with arms raised, figures leading a donkey, and a necklace.

Ethiopia with its fabulous prehistory, history, culture and scenery will long live in the memory of participants and there is little doubt that another ArchSoc tour will be arranged in coming years to explore more of this fascinating and very different country.

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INTERNATIONAL NEWS

47 000 artefacts in Britain in one year. An incredible 47000 historic artefacts, spanning almost 500 000 years, were found by amateur archaeologists in Britain and reported, identified and recorded through the Portable Antiquities Scheme in 2003. Treasure accounts for less than 1 per cent of the total found. The huge rise in the number of items reported by the public is attributed to the expanded network of Finds Liaison Officers funded by the Heritage Lottery Fund and led by the museums, libraries and the Archives Council. *The Independent, 27 October 2004*

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THE FOSSIL DIG SITE IN IZIKO WEST COAST FOSSIL PARK AND RESEARCH ON THE EXTINCT GIRAFFID *SIVATHERIUM HENDEYI*

PJ Haarhoff

Iziko West Coast Fossil Park (WCFP) was launched in September 1998, five years after the Samancor mining company decided to close down its Chemfos phosphate mining operation on economic grounds. It was through mining that fossils were first discovered in 1958. The 700 ha Fossil Park is situated 120 km north of Cape Town near a rail siding called Langebaanweg. The fossil site takes its name from this siding and is known in scientific literature as Langebaanweg. This 14 ha National Heritage site lies at the centre of the property and is widely recognised as one of the most significant early Pliocene sites in the world.

Until the closure of the mine the fossil site was well known only within the professional palaeontological community. Many scientific papers have been published on the fauna from this site, initially by Prof. Ronald Singer and later by Dr Brett Hendey and their associates. The bulk of this literature was published between 1958 and 1986 and forms the basis of the interpretation of the site in our public programmes. However, many unanswered questions require further investigation.

A new research initiative is now developing. Two PhD studies and a Masters thesis have been completed recently by South African students, other studies are in progress and there is growing international interest in both collectionsbased and field-based research.

The dig site

The current dig site was opened in 1998 by the UCT Archaeology Contracts team under the leadership of Tim Hart and Dave Halkett. In a 10 m^2 excavation the team uncovered some dramatic specimens of the extinct giraffid *Sivatherium hendeyi* in time for the official launch of phase one of the Fossil Park in September 1998. Thereafter Roger Smith and I were trained to continue the excavations and Dr Smith now heads up the excavation programme.



A school group at the dig site with volunteer guide Charlotte Vermeulen. Guided tours are offered daily.

The excavation site is protected by a temporary structure in the form of a 24 m long by 14 m wide horticultural tunnel. The decision to choose this site was based on advice from Brett Hendey, whose last excavation was conducted in this vicinity in 1976, when he collected a vast quantity of what he has described as river-channel lag deposit. It is exceptionally rich in a huge array of fossils thought to be the remains mainly of animals that were washed into the ancient proto-Berg river estuary in a catastrophic flood event. Although a great portion of this lag deposit has been mined away, enough of it remains to continue excavating for several more years.

One large herbivore is particularly common in this river channel deposit, namely *Sivatherium hendeyi*, commonly called a long-horned shortnecked giraffe. Based on a study of the teeth in the collection of the Iziko SA Museum, Prof. Richard Klein (1981) has estimated a minimum



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of 517 individuals. The taxonomic study was conducted earlier by Dr John Harris and was published in 1976. He described a new species, naming it *hendeyi* in honour of Brett Hendey. Harris suggests that this species is the earliest representative of the genus *Sivatherium*.



A sivathere astragalus (ankle bone) with tooth marks

In one of the PhD studies, completed in 2002, Tamara Franz-Odendaal examined the sivathere teeth in the collection, looking particularly closely at examples that demonstrated abnormal wear and enamel hypoplasia, a dental defect that can, inter alia, come about as a result of nutritional stress. She concluded that these conditions most likely occurred as a result of changing environmental conditions during the Early Pliocene and that enamel hypoplasia on the tooth crown in particular probably correlates with periods of drought and aridity. Tamara used three different techniques to assess the diet of Sivatherium hendeyi and although not absolutely conclusive, she asserts that this animal was probably a seasonal mixed feeder. She has also concluded that, based on stable carbon isotope ratios from enamel carbonate, this part of the Western Cape was dominated by cool-growing C3 grasses, thus suggesting that the current winter-wet/ summer-dry climate regime was established in the Pliocene epoch.

It is thought that the sivatheres weighed up to 2 000 kg when fully mature. Although no complete skeletons have yet been found at Langebaan, there are enough complete jaws, horn cores and post-cranial elements to estimate the height and size of the animal. Roger Smith with my assistance is conducting a taphonomic investigation of the sivathere 'bone-bed'. In the 55 m² of deposit so far excavated the disarticulated remains of at least seven sivatheres have been uncovered. Most of this material is left in situ as part of the public display. There is evidence of carnivore activity with tooth marks and chew marks on some of the specimens and

many bones are broken or damaged in a way that is suggestive of trampling.

Conclusion

Only a much more detailed and careful excavation will help to answer the question of why the sivathere bones are buried where they are and explain the condition they are in. Hopefully some more pieces of this fascinating jigsaw will fall into place during the current 'dig' season. Nowhere else, as far as we know, is it possible to investigate in such detail what life was like in the southwestern Cape about five million years ago. A fortuitous set of circumstances has made it possible to generate and, very importantly, share this knowledge. The importance of understanding how life has developed on earth and how it changes through time has largely been underestimated. Visitors and researchers alike are continuously amazed at the wealth of material from this spectacular national treasure that deserves all the support it can possibly get.



Sivathere pelvis, teeth and humerus

Acknowledgements

The author gratefully acknowledges Prof. Ronald Singer and Dr Brett Hendey and their associates for their wonderful research effort that forms the foundation of our current research initiative. Assistance has been gratefully received from the UCT Archaeology Contracts team under the leadership of Dave Halkett and Tim Hart, and also from the staff of the SA Heritage Resources Agency (SAHRA), namely Mary Leslie and, previously, Dr Janette Deacon. My colleague, Dr Roger Smith, and his various team members are thanked for their ongoing commitment. Dr Hamish Robertson, Director of Iziko Natural History Collections, Prof. Jatti Bredekamp, CEO of Iziko Museums of Cape Town, and all the Fossil Park full-time and voluntary staff are thanked for their dedication and support.

BHP Billiton and the Samancor Foundation are gratefully acknowledged for their generous sponsorship of the WCFP, without which very little would have been accomplished. Assistance has been welcomed from André van den Bergh, Mike Salamon, Norbert Mohl, Johan du Preez, Sam Seepei and Estelle Dawes in particular. *Continued on page 12*

SOCIETY AND TRANS-VAAL BRANCH CELEBRATE THEIR DIAMOND JUBILEES

Janette Deacon

The South African Archaeological Society and the Society's Trans-Vaal Branch are celebrating their 60th anniversaries this year. The Society was founded in Cape Town on 12 June 1945, having started as the Cape Archaeological Society on 9 August 1944. The Trans-Vaal Branch was established as the Johannesburg Centre of the Society just three months later on 12 September 1945. The Johannesburg Centre was soon renamed the Witwatersrand Centre, then became the Transvaal Branch and then the Trans-Vaal Branch in the 1990s in recognition of South Africa's new provincial structure. The fact that the branch is more vibrant than ever after 60 years of existence is an achievement that reflects well on the dedicated work by many members over the decades.

Membership of the Trans-Vaal Branch is strong and on average stands at around 450, accounting for the majority of the Society's South African membership of around 800 in four branches – Trans-Vaal, the Western Cape, Natal and Trans-Gariep. (The Society has, in addition, over 200 members in the rest of Africa and overseas, including museums, research institutes and libraries.) Most members are lay archaeologists, but the enthusiastic involvement in the Society of a large number of professional archaeologists adds greatly to the varied programme of lectures, outings, the Trans-Vaal's Annual School and various projects that makes the Society the lively organisation that it is.

Early history

The very early days of the SA Archaeological Society and the Trans-Vaal Branch are reflected in the minutes of meetings held between August 1944 and September 1945, which were summarised in the first issue of the *South African Archaeological Bulletin* published in December 1945.

9 August 1944: Inaugural meeting of the Cape Archaeological Society. Draft Statutes were circulated and messages of congratulation came from General Jan Smuts, Prof. Clarence (Peter) van Riet Lowe and the Abbé Henri Breuil, a French priest who was one of the most influential archaeologists of his time. The new Society's aims were to promote archaeology through research, education and publication. The first chairman was founder member Astley John Hilary Goodwin, the doyen of archaeology in South Africa.

5 September 1944: The first ordinary meeting held on this date was followed by further meetings with talks by various speakers in October 1944, February

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1945 and April 1945. The first Annual Report noted that summer excursions had been difficult to arrange owing to the wartime conditions. The Society had 152 members and the subscription was £1, with a 10/-entrance fee.

8 May 1945: A motion was passed granting 'the Council of the Society a mandate to explore the question of widening the scope of the present Society to cover Southern Africa, including Southern Rhodesia and those neighbouring countries that have a lively interest in the subject.' John Goodwin and Dr M Drennan then gave a talk on the excavations at Peers Cave, which was interrupted 'at 9 pm [when] the meeting listened to His Majesty's speech on Victory in Europe.'

12 June 1945: Chairman John Goodwin announced that, after consideration, Council had agreed that:

- 1. The Society be extended to cover the Union and neighbouring states.
- 2. This extension should conform to the principles, aims and plan laid down in the present Statutes.
- 3. The scope of the Society should remain unchanged.
- 4. The title of the Society should become the 'South African Archaeological Society'.

A Cape Peninsula Centre was established at the same time.

11 September 1945: A telegram offering the best wishes of the Cape Centre was sent to Prof. van Riet Lowe 'who has called a meeting of those interested, at Johannesburg, for September 12th.'

12 September 1945: 'Under the expert guidance of Prof. van Riet Lowe and Mr BD Malan, a preliminary meeting of the Johannesburg Centre was held successfully in the lecture room of the Johannesburg Public Library. The Director of the Archaeological Survey spoke on "Progress in Archaeology in South Africa". The meeting was well attended and the numbers of new members enrolled make it certain that Johannesburg will have a strong and virile body, linked quite naturally with the Archaeological Survey and with the University of the Witwatersrand.

'An interim Committee [of the Johannesburg Centre] met on 28 September 1945 to deal with organisation. After a short introductory talk by the Chairman, a number of points were discussed, future meetings were arranged, contributions to the forthcoming *SA Archaeological Bulletin* were invited and the need for copies of the proposed Statutes was stressed. Mrs Boardman, who had acted as temporary Local Secretary, found that, owing to residence in Pretoria, she could not carry on the work efficiently. Mr BD Malan has therefore taken on this rather heavy burden until other arrangements can be made.

'An important development at Johannesburg was the announcement of a series of five lectures at the University, during October [the branch's first Annual School! - ed.].' A later minute notes that 'The lectures included an introductory lecture, talks on the Earlier, Middle and Later Stone Ages, on Prehistoric Art and finally on Zimbabwe and Mapungubwe. It is sincerely hoped that in future it will be possible to organise similar series of lectures under the auspices of other Universities and colleges, and also in relation to local Centres elsewhere.' [Amazing continuity!]

Further development

The Johannesburg Centre (p. 51 of the March 1946 *SA Archaeological Bulletin*), re-named as the Witwatersrand Centre, started with 37 Ordinary Members and 11 Junior Associates. By March 1947 there were 122 members. The first ordinary meeting of the Centre was held at the Johannesburg Public Library on 26 October 1945 with a Members' Night and an exhibition of archaeological finds from the Witwatersrand area. During the first year, 11 lectures and four excursions were organised for members. A few years later, 120 people turned up for an excursion to

Sterkfontein in 1948.

Looking at the list of members published on pp 52 to 56 of *The Bulletin*, I think the only founder members in the Wits area who are still with us are Bob Brain of Pretoria and HBS Cooke, who now lives in Canada. Although Phillip Tobias gave a lecture to the Branch in April 1948, he joined the Society only in February 1951, when his name was unfortunately misprinted as TV Tobias! I do not think we have any surviving founder members in the Cape.



Iziko West Coast Fossil Park (continued from p. 10)

The provincial department of Economic Development and Tourism is also thanked for its financial support, enthusiastically facilitated by Shiraaz Ismail and Glenda Appies.

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THE CAPE GALLERY



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The silence and vastness of desert landscapes is captured in a balanced and harmonious composition by artist Robert Müller, who lives in Cape Town



The Cape Gallery deals in fine art work by SA artists and stocks a selection of paintings depicting South African rock art.

PITHY PEARLS OF WISDOM FROM THE PAN AFRICAN ARCHAEOLOGICAL CONGRESS

Sven Ouzman and Christine Scott

Conference reports can be downright boring. We could, for example, tell you that the 12th Congress of the Pan African Archaeological Association for Prehistory and Related Studies (PAA)*, ably hosted by the Archaeology Unit of the University of Botswana's History Department and the National Museums and Art Gallery of Botswana, had 272 registered abstracts, 380 participants and covered topics as diverse as ethno and historical archaeology, evolution, farmers, heritage, hunter-gatherers, post-colonial theory, rock art, trade, tourism and a poster session. Or we could share snippets** overheard in contexts licit and less licit.

The snippets spanned Karim Sadr's laconic 'the West Coast sample is very boring: nice healthy people who die at a reasonable age', Peter Schmidt's sardonic 'to speak for others is first to silence those in whose name we speak' and David Phillipson's comic 'it was in 1963 on a north-bound train that I first passed through Gaborone, and hardly noticed it' as he recounted African archaeology since the 1960s. This was at the conference opening, where Vice-Chancellor Prof. Bojosi Otlhogile assured delegates that 'all the dogs have been leashed', an assurance reiterated by Vice-President Ian Khama's 'all the dogs have been tied up'. Certain scholars then felt emboldened to productive verbal jousting - some work was described as 'historical myopia' and one eminent researcher was affectionately called an 'incorrigible chronophobe'.

Even more productive were the wide-ranging archaeological insights. Lyn Wadley and Marlize Lombard announced that 'a single residue type does not do it for us' in discussing stone tool residues. New PAA secretary Karega-Munene sagaciously said: 'Because the rooster crows at every dawn it does not mean the rooster is responsible for the sun shining' in describing Kenya Museum's role in protecting human rights - to which one bearded commentator added: 'There are enough co-incidences to justify anything'. Reports from the field made an indelible impression when Philip Segadika related how hollows at Tsodilo Hills are interpreted by Hambakushu as the 'first sex spot', carved-in-stone proof of a pre-colonial adoption of the missionary position. Similarly, Menno Welling showed a Malawian rain shrine that consists of a rock with the rain deity Mbona's buttock prints (interpreted

archaeologically as Later Stone Age grinding surfaces) constituting a potent seat of authority.

Theoretical comments oscillated between Paul Lane's common-sense lament that 'narratives persist in the face of strong empirical evidence to the contrary' in discussing myths of East African pastoralists as being either deep ecologists or eco-terrorists, and the more post-processual observation that 'copper is a female-gendered metal' - perhaps this was why John Campbell was refused entry to the coppersmelting area at Dithakong in the early 1800s. And just to show that African scholars can extend their range to the post-post-processual, Alex Schoeman told us that 'hills had their meanings re-written' in a fascinating treatment of Shashe-Limpopo rain-making during K2 times. But the pithiest comment was from the ever-forthright Graham Connor. He felt that, in the search for hard-to-find West African cities, remote sensing techniques were preferable and 'excavation is an archaeological last resort.' If these statements are less than crystal clear, Anne Haour recommends Archaeology is rubbish: A beginner's guide.

No beginners to having a good time, the conference's African character was aptly captured at a National Museums and Art Gallery reception. Rather than laboriously acknowledging dignitaries and guests, Tickey Pule graciously covered all contingencies by simply stating: 'All protocol observed', allowing everyone to elbow to the bar and dinner table that much sooner. Zelalem Teka was also grace under pressure when he said: 'I am fine, no problem' on arriving 30 minutes before his presentation after spending nearly four days travelling from Asmara to Gaborone. He spoke, appropriately enough, on the challenges of Eritrean heritage work. His ordeal gave weight to Adebisi Sowunmi's keynote observation that it is often easier to travel into Africa from abroad than to travel within it, even if funding is available. Other concerns were the high cost of journals, which hampers scholarly interchange - much of which happens outside of Africa. Both Pam Willoughby and Gavin Whitelaw thoughtfully made known that Nyame Akuma (http://safa.rice.edu or safa@rice.edu) and Southern African Humanities (www.sahumanities.

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^{*} The 12th Congress of the Pan African Archaeological Association for Prehistory and Related Studies was held in Gaborone, Botswana, 3-10 July 2005. www.ub.bw/departments/humanities/ panaf2005/index.html.

^{**}Snippets were written down as accurately as possible given the limitations imposed by academic fatigue, loud bar noises and old age. No offence is intended.

org.za with gwhitelaw@nmsa.org.za for login details) are available online gratis for most African scholars.

The standard of presentations was high, but beware the deceptive ease of Powerpoint – a slide dealing with KoBulawayo's short but rich archaeology represented a diviner's quote as 'he has to kill an eagle, a vulture and a python for bones to compromise his robe.' Another slide had 'euhemerism common.' Here English (and Microsoft) with its large and imperial lexicon is largely to blame. Similarly hazardous, but perhaps useful, is the coining of new terminology, such as one keynote speaker championing the 'anthropocene period' to describe the immense human impact on the planet since the Industrial Revolution.

We were left to muse on the academic programme in local watering holes. Here various events, such as the Great Khan offering his name badge in exchange for knickers (boys' or girls') and a mad mission to a thumping night club adjacent to an army barracks took place (with some nervous delegates forming a defensive laager). Fortunately, most of these events transpired near conference end and delegates could put distance between themselves and whoever they may have aggrieved by either going on excursions to the Shashe-Limpopo, the Tsodilo Hills and the Toutswe and the Tswapong sites, or heading home. All in all, a great conference, well organised by an impossibly small 15-person committee and sponsored by the Department of Tourism, Heinemann, ICCROM Africa 2009, NM&AG, Shell, UB and Wenner-Gren. The 13th PAA will probably be held in either Senegal or Tanzania, to be determined by new President Alinah Segobye and her 11 Permanent Council members. A PAA website has been mooted to promote a collective identity and to facilitate knowledge flow. Our heartfelt thanks to all the hands seen and unseen that made for a critical, collegial and convivial congress.

ARCHAEOLOGY IN AFRICA

World Heritage status for Vredefort Dome

The Vredefort Dome meteorite impact site has been declared South Africa's fourth natural heritage site by UNESCO. The designation is given to sites deemed to be of outstanding scientific and universal value. The decision gives the site a R29 million boost, with national and provincial government having to support tourism development. 'At Vredefort opportunities exist to engage in geological research and to explore and understand more sensitively the rich culture of the Basotho, Batswana and Khoi-San, and the early evidence of human cognitive and artistic endeavour, said Arts and Culture Minister Pallo Jordan. The site is the oldest and largest meteorite impact site in the world, formed about 2 billion years ago. The original impact site, now eroded away, was about 380 km across, nearly double the 1,85-million-year-old Sudbury impact site in Canada.

Further good news is that the Cradle of Humankind World Heritage Site was extended to include the Taung Skull site and the Mokapane Valley, which exhibit the same characteristics as hominid sites such as Sterkfontein, Swartkrans and Kromdraai. Within the many caves and sites in the Mokapane Valley is a long and unprecedented record of early human occupation, extending from the *Australopithecine* and capturing a technological record ranging from the Early Stone Age to the Iron Age periods. *The Star, July 2005*

Ancient footprints found in Drakensberg

The ancient footprints of a three-toed dinosaur, as well as dozens of previously unknown Bushman paintings, have been discovered by researchers photographing the rock art galleries of the uKhahlamba mountains in the Cathedral Peak area. Each footprint is about 0,5 m long. They are unusual in that they are 'negative' prints, unlike normal fossilised footprints that are visible as depressions in a rock. According to archaeologist Gary Trower, the layers of bedrock below the prints have collapsed, leaving the footmarks suspended in time above a rocky overhang.

The discovery was made by members of the Rock Art Mapping Project led by Carl Grossman of KwaZulu-Natal University's geomatics department. The aim of the multi-million-rand project is to create a specialist library of digital photographs of the Berg's rich rock art history. The photographs, with mapping co-ordinates, are to be made available to approved researchers. There are more than 500 rock art sites in the area. with about 35 000 individual paintings. Many are deteriorating rapidly. According to Grossman, there were just over 140 known sites in the Cathedral Peak area - yet within a week researchers found six new sites in the Didima Gorge alone. Researchers spent more than a year in the field, during which time they found 70 new sites - a 48 per cent increase in the area's known sites. Only 23 per cent of the Cathedral Peak conservation area has been explored so far.

9 December 2004

Africa linked with the Roman world

University of Southampton archaeologists Prof. David Peacock and Dr Lucy Blue have investigated the 6th century settlement of Adulis on the shores of the Red Sea in Eritrea. Known in Roman times as a fair-sized settlement, it was mentioned in chronicles as a key port in trade with India. A map drawn in the 6th century, which appears in a Christian topographical text written by a trader turned monk, led to the find.

Earth Sciences, May 2004

THE SKELETON OF MRS PLES

Francis Thackeray

In April 1947, Dr Robert Broom and John Robinson of the Transvaal Museum discovered an almost complete cranium of *Australopithecus africanus*, nicknamed 'Mrs Ples' (Sts 5) at Sterkfontein. In August of the same year, after a few months' interruption of the excavation, Broom and Robinson discovered a partial skeleton that has been catalogued as Sts 14. These fossils are thought to be about 2,5 million years old, although recent work based on palaeomagnetic and faunal analyses suggests that they might be slightly younger.

Robinson described the skeleton in detail. It certainly represents a subadult, since features of the sacrum and pelvis indicate that the individual was still maturing at the time of death. Initially Broom had considered that Mrs Ples was an adult. Thus, on the basis of relative age, two individuals were recognised from the partial skeleton and the skull. However, CT scans have revealed that Mrs Ples was a subadult since the roots for certain teeth were still open. Available records indicate that Sts 5 and Sts 14 were found within half a metre of each other in Member 4 at Sterkfontein.

In a paper published by myself and two French palaeoanthropologists, Dominique Gommery and

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Sts 5 (Mrs Ples)(left) and the partial skeleton (Sts 14), which probably represent one individual [Photo: Transvaal Museum]

Jose Braga (South African Journal of Science 98:211-212), it has been suggested that Sts 5 and Sts 14 represent one and the same individual and that Sts 14 is probably the skeleton of Mrs Ples. This is exciting in the sense that Sts 5/14 constitutes a South African analogue to Ethiopia's famous 'Lucy' representing Australopithecus afarensis, slightly older than Mrs Ples. Mrs Ples is relatively small and some people have suggested that this supports Broom's view that Sts 5 was a female. However, its relatively small size can be attributed in part to the fact that it was not a fully developed adult at the time of death. Facial features such as the anterior pillars support the view that 'Mrs Ples' was an adolescent male. The nickname of 'Mrs Ples' will not change, although 'she' might otherwise be regarded as 'Master Ples'.

Acknowledgement: The work on CT scans of Mrs Ples has been supported by the French Embassy through the Co-operation and Cultural Services, as well as by the National Research Foundation and the French Ministry of Foreign Affairs (UPR 2147 CNRS).

WORLD LEADER STATUS FOR DAVID LEWIS-WILLIAMS

The National Research Foundation (NRF) recently awarded 'A' ratings to three South African researchers. Considered world leaders by their peers, they are Prof. David Lewis-Williams, professor emeritus of cognitive archaeology at the University of the Witwatersrand, supra-molecular chemist Prof. Len Barbour of Stellenbosch University, and chemical engineer Prof. Diane Hildebrandt.

Prof. Lewis-Williams is internationally recognised for his research into the art and beliefs of the Bushman. The director of Wit's Rock Art Research Institute for many years, he has served as its senior mentor since 2000. Lewis-Williams's fieldwork, which led him to theorise that Upper Paleolithic paintings are remnants of shamanic ritual, has fundamentally changed the way many scholars interpret rock art. With a PhD in social anthropology (University of Natal) he joined Wits University as a lecturer in social anthropology and was appointed senior lecturer in archaeology in 1981. He was named *ad hominem* professor of cognitive anthropology in 1987. He is a fellow of the

Royal Society of South Africa and a patron of the Trans-Vaal Branch of the SA Archaeological Society. A former president of the Society, he also served for many years on the International Committee for Rock Art of UNESCO's International Council on Monuments and Sites. A recipient of Wits University's distinguished Researcher's Award, he also received the American Historical Association's 2003 James Henry Breasted Award and the Society for American Archaeology's Excellence in Archaeological Analysis Award.

Lewis-Williams was invited to translate the new post-apartheid South African national motto into the now extinct /Xam San language. He is editor of the Khoisan Heritage Series for Wits University Press. In addition to more than 130 articles in scientific journals, he is the editor of two books and the author or coauthor of 15 others, including, most recently, *The Mind of the Cave: Consciousness and the Origins of Art* and *A Cosmos in Stone: Interpreting Religion and Society through Rock Art.*

ANOTHER WORLD

Archaeology and intellectual property

Sven Ouzman

As archaeology matures, it becomes necessarily encumbered with more rules, protocols and codes of conduct. Our concerns and their codification are necessary because many of our techniques, methods, hypotheses and paradigms derive from other disciplines like anthropology, the biological and physical sciences and geology, and were never intended for uniquely archaeological uses and consequences. Such disciplinary self-examination forces practitioners to consider the wider ethical, legal and sociopolitical aspects of their work. Accordingly, the last decade has seen increasing interest in intellectual property (IP) issues in archaeology and related fields (e.g. Nicholas & Bannister 2004).

IP has always been present, both positively in researchers acknowledging others' work and negatively, with people jealously guarding sites and committing plagiarism. But the increased participation of indigenous people in archaeological fieldwork, revisionism and theory generation, together with the exponential growth of legal and institutional 'audit cultures', has made IP a primary concern. Southern Africa's archaeological fringes have been at the forefront of this trend with, for example, the successful biopiracy suit against Pfizer Pharmaceuticals by the Khomani over IP attached to the Hoodia gordonia cactus (Geingos and Ngakaeaja 2002). Similarly, the National Research Foundation has an 'Indigenous Knowledge Systems' focus area that is wrestling with the multiple definitions and intertwinings of indigeneity present in South Africa.

Recently the Working Group of Indigenous Minorities in Southern Africa (WIMSA), stung by real and perceived abuses by the media and a minority of anthropologists and archaeologists, formulated a San Media and Research Contract to 'ensure that all San intellectual property (including images, traditional knowledge, music and other heritage components as recorded in any medium) is controlled and protected' (WIMSA 2001:3). Many of us might baulk at, for example, paying a research fee or agreeing 'not to publish any facts or portrayals that might be harmful or detrimental to the San', which impinges on academic freedom. Yet the contract corresponds to many institutional contracts governing the use of archaeological material and knowledge.

To place these local developments in broader

perspective we could turn to similar post-colonial contexts in India, South America and Australia where the archaeological community has and is going through teething pains in trying to balance academic, indigenous and commercial concerns. In this spirit I spent the last six months attending a law course called 'Archaeology, relics and the law' (Cunningham 2005) and remain amazed at the schizophrenia of US attitudes to heritage and IP. On the one hand, private property is sacrosanct. Landowners legally own all artefacts on their property to do with as they please keep, conserve, donate, destroy, even sell. Go, for example, to www.ebay.com, type in 'artifact' and see arrowheads, potsherds, Civil War memorabilia and rock art sell for between 99c and \$750 000. On the other hand, a sixth of the USA's 9 166 600 km² is federally owned (in 2000 South Africa had a fifth of its 1 219 090 km² owned by the state) and stealing, trading or transporting artefacts from these lands carry substantive fines of up to \$250 000 and possible incarceration - more if human remains are involved. But even here complications arise. The Kennewick skull - found on federal land and initially repatriated to a Native American coalition for reburial - was, on appeal, handed over to eight non-Native anthropologists for study, thereby harming generally good Native American-archaeologist relations.

This tension between physical objects and knowledge surfaced locally in a recent Mail & Guardian article that reported influential heritage personalities championing the repatriation of the Taung skull and the Mapungubwe rhino to their places of origin. Quoting the article: 'What is the benefit to the African continent of these objects being colonised in Western institutions? They should not be the preserve of intellectual research and scholarship; they are our source of pride and identity' (Macleod 2005). Counter-arguments pointed to Taung and Mapungubwe's remoteness, inadequate curatorial care and loss of research potential. Furthermore, Taung and Mapungubwe have become icons for a much wider constituency than descendant communities - all of us in Taung's case or specific findspots. While repatriation is an issue we have yet to face fully, knowledge and objects can lead separate lives, requiring a certain generosity of spirit to avoid unhealthily exclusive claims on 'heritage'.

The South African coat of arms is a case in point. Though many San, as genetic and moral inheritors of much of our rock art heritage, would like to have been consulted on the use of the Linton fragment's rock-painted human figure, most are satisfied that

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their specific heritage is part of an inclusive state symbol. They are less pleased with commercial and intellectual appropriations of rock art by way of Tshirts, themed shopping centres and the like that misrepresents IP, forcing the production of a Handbook on heritage and intellectual property rights. Similarly, some heritages are specific, private or what Gabi Dolf-Bonekämper calls 'hurtful memories' (2002), and not everyone has rights of access to these. Southern African archaeology has similar concerns - what are we going to repatriate and under what conditions? This could range from evercontentious human remains to following a 'catchand-release' policy for excavated and collected artefacts that have been studied, alleviating storage and curatorial pressures. Moving away from objects, the use of Creative Commons licensing (www.creative commons.org) for access to and use of images and databases is ideally suited for educational and academic use, ensuring dissemination of knowledge and due acknowledgement of work.

That skill in knowing when to shield knowledge and objects, and when to share icons and insights is what will distinguish a successful 21st century citizen from one unable or unwilling to consider their position in the history of the human family.

Useful websites

- Association of Southern African Professional Archaeologists: www.asapa.org.za
- Australian Archaeological Association: www.australianarchaeo logicalassociation.com.au
- National Research Foundation: www.nrf.ac.za/focusareas/iks
- Society for American Archaeology: www.saa.org.aboutSAA/ ethics.html
- Working Group of Indigenous Minorities in Southern Africa (WIMSA): www.wimsareg.org
- World Archaeological Congress: http://ehlt.flinders.edu.au/ wac/

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SOME MORE DAGGA-SMOKING PIPES

Menno Klapwijk

I have in my collection of bored stones two flat pieces of soapstone each measuring approximately 200 x 200 x 50 mm, both of which have a 20 mm diameter hole drilled to a depth of 30 mm. As these holes are not drilled through the stones, I had classified them as 'unfinished' bored stones. During a recent reorganisation of some of my collection, an old African man in my employ recognised these stones as being pipes used for smoking dagga. He pointed to small holes drilled in the stones, which I had not noticed previously because they were blocked by soil and dirt.

After cleaning, it was found that the small holes connected to the bottom of the larger holes. By inserting thin hollow reeds into the small holes the stones were converted into dagga pipes, the 30 mm deep holes on the surface of the stone acting as the bowls for the tobacco and the reeds as a mouthpiece.

A search through papers and literature published on dagga-pipes failed to find any reference to similar flat soapstone pipes. The only reference to a dagga-smoking pipe that differed from the commonly-found barrel-type bowl was by Walton (1953). He described

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Soapstone dagga pipe with hollow reed inserted

a method of smoking dagga that involved 'a slight depression made in the ground to serve as a bowl and a narrow tunnel made under the ground through which the smoke is drawn'. Other non-barrel daggapipes were described by Baard (1967). One of these was made of cement with glass tubing; another of sandstone using the same method as the cement one. Shaw (1938) also described a pipe that was made of baked clay with a bone mouthpiece.

All of these pipes, however, are totally different from the soapstone ones described in this paper. They may be of interest to our dagga-smoking friends!

Acknowledgement: I wish to thank Maria van der Ryst of the University of South Africa for her assistance with the literature search on the dagga-smoking pipes.

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Mapungubwe

Huffman, Thomas N. 2005. *Mapungubwe: Ancient African Civilisations on the Limpopo.* Johannesburg: Wits University Press. Soft-cover, 62 pp. R95.

Tiley, Sian. 2004. *Mapungubwe: South Africa's Crown Jewels.* Pretoria: Sunbird Publishing in association with the University of Pretoria. Hard cover, 80 pp. R146.

Two excellent books on the Mapungubwe World Heritage Site were recently published. Tom Huffman's well-illustrated *Mapungubwe* covers the whole Mapungubwe Cultural Landscape or Mapungubwe National Park. The lightness of the book belies the depth of its contents. The artists' impressions are so realistic that anyone who has visited the site will feel the place come alive. Maps and diagrams give clear guidance.

Sian Tiley's book, on the other hand, concentrates on Mapungubwe itself. *Mapungubwe: South Africa's Crown Jewels* gives a comprehensive overview of the discovery and excavation of the site. In the form of a small coffee table book, it is superbly illustrated with numerous photographs. The full-page photos of the jewellery, figurines and pots found at Mapungubwe are so well taken and presented that each one is a study in itself. The greatest of them all is the front cover photo of the Golden Rhino.

Tom Huffman, head of archaeology at the University of the Witwatersrand, traces the cultural development of the three capitals in the Shashe-Limpopo area: Schroda (AD 900-1000), K2 (1000-1220) and Mapungubwe (1220-1300). The chapters are short and so clearly defined that the reader not only gets a distinct picture of the various aspects of the climate, terrain and social structures, but can flip back and forth for easy reference. The opening outlines of the geology and climate interlink effortlessly with the agriculture and the settlements. Research on Schroda indicates that it was inhabited by the Zhizo people, a relatively small society with a wonderful social organisation and pottery. K2 was inhabited by the Leopard Kopje people, who moved up from the south as the Zhizo moved west to Botswana. Numbering about 1 500, these people lived in a wellorganised and structured society. At Mapungubwe the chief for the first time in the prehistory of southern Africa physically separated himself from his followers. Rainmaking was a focus in these societies. The rhino was symbolic to the people of the time and the black rhino represented manhood and leadership. The superb gold-working techniques at Mapungubwe gave us the Golden Rhino - the great South African symbol. Huffman's guide is not only for the serious student, but also for the enthusiastic amateur. It will sit comfortably in your backpack on a field trip - as essential as the water you carry!

Sian Tiley's book gives a comprehensive history of archaeological discovery at Mapungubwe and the people who were involved with the site in the first decades. The meaning of the Mapungubwe name is still a mystery; the locals believed that the hill was cursed and it is still regarded as sacred to the ancestral spirits. The discovery of Mapungubwe and its treasures is most interesting and includes the adventures of François Lefru, who was once a guide to David Livingstone, and involvement by General Jan Smuts. In fact, the wild fig at the foot of the steep incline to the top of the hill was once known as F. smutsii. However, Jerry van Graan was the adventurer who was fundamental in involving the University of Pretoria, the home of the Mapungubwe Museum, of which Sian Tiley is the curator. This book also describes the politics surrounding land ownership in the area and traces the creation of today's new Mapungubwe National Park.

The decline of Mapungubwe is a great focus to practitioners in many fields of study. Was the cause the climate, or was it man with massacres and invasions, or a plague of rodents? These are just some of the questions that add to the fascination of Mapungubwe. The two books complement each other admirably and will marry happily in your collection. Tom Huffman's statement: 'The people have gone but the culture remains,' is excellently portrayed in these publications. *Reviewed by Gerry Gallow*

A passion for people and their ancient past

Sandelowsky, Beatrice. 2004. Archaeologically Yours: A Personal Journey into the Prehistory of Southern Africa, particularly Namibia. Windhoek: Namibia Scientific Society. Soft cover, 212 pp. R145

As told in this book with liveliness and enthusiasm, the life of Beatrice Sandelowsky was characterised by two ambitions: to uncover what she could of the archaeological record in south-western Africa and to make the indigenous people aware of their age-old heritage, while promoting the success of their lives in the contemporary world. From early childhood, as she grew up on her German parents' farm fringing the Namib Desert in central Namibia, she had a particular interest in archaeology. Her playmates were Darara children and she conversed freely with them in their own language. She trained initially as a teacher, but was overjoyed when the opportunity presented itself for her to study for a doctorate in archaeology at the University of California, Berkeley, with well-known African archaeologists Desmond Clark, Glynn Isaac and Brian Fagan.

The Digging Stick

On two occasions she participated in Clark's archaeological excavations in Malawi, her collaborators being, among others, Sonia Cole and Keith Robinson. This experience stood her in good stead for the subsequent excavations she was to undertake in various parts of Namibia. On two occasions she was employed as an archaeologist at the State Museum in Windhoek. She observed that tuyeres - the pipes that linked the bellows to iron-smelting furnaces - were often made of carved soapstone in Namibia, in contrast to the clay pipes found elsewhere in Africa. suggesting that there had been a specific cultural tradition there. This led her to many excavations of Iron Age smelting sites, particularly in the vicinity of Rehoboth, south of Windhoek. While there, she decided to set up a museum in Rehoboth, so that the local people could become aware of their long heritage and technological competence. This proved to be highly successful. The fact that the local community recently decided to take full control of the Rehoboth Museum Board suggests that local pride in its heritage has come to the fore, however painful this might be to her and her colleagues who put so much effort into documenting the local peoples' heritage.

Many other archaeological excavations in Namibia conducted by Beatrice are documented in this book, particularly those in caves in the Namib Desert. Those at the Mirabib rock shelter contained sediment layers spanning many thousands of years in age, where superb preservation of plant and animal remains allowed detailed reconstruction of the environment and of human food preferences. As a basis for her reconstructions, she built up a large botanical collection of plants from surrounding areas.

Realising that large numbers of Namibians from difficult backgrounds needed help in progressing from school to tertiary educational training, she set up in 1978 *The University Centre for Studies in Namibia* (TUCSIN), drawing on her own meagre life's savings. To date, the TUCSIN programmes have been highly successful. An example is the 'Complementary Course', which prepares people for tertiary training in natural science fields, which has been attended by about 2 000 students. Almost 500 have benefited from TUCSIN-administered scholarships at universities and technikons.

This book is written in an immediate, breathless style so typical of Beatrice's conversation. It reflects a wonderful example of what can be achieved with limited funds, but an abundance of enthusiasm and the help of one's friends. It is recommended to anyone interested in African peoples and their ancient heritage.

> Review by Dr Bob Brain, Emeritus Curator, Transvaal Museum, Pretoria

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ARCHAEOLOGY IN BRIEF

6 000-year-old clay coupons in Iran. An Iranian/US archaeological team has discovered 12 square-shaped, 6 000-year-old clay coupons during excavations at Rahmatabad Tepe 140 km north of Shiraz. The find indicates that the people of the region had economic and commercial ties with neighbouring regions in the 4th and 5th millennia BC. The team has been tasked with saving artefacts at the ancient site, which is threatened by the canals from the new Sivand Dam. *MNA, 2 July 2005*

Germans blamed for Viking invasion. German arms dealers from the Rhine have been blamed for the Viking invasion of Britain after archaeologists found that the swords they used were made in Germany. New research by Russian and Norwegian scientists has brought to light that German weapon smiths were actively selling their swords to the Viking invaders around the 9th century. They have made the discovery by decoding individual stamps used by ancient smiths to mark their work. German-made steel blades were much prized because they did not break, even during the fiercest fighting.

Europe's oldest script. Ancient tablets found in southern Bulgaria are written in the oldest European script ever found. The tablets are over 35 centuries old and bear the ancient script of the Cretan (Minoan) civilisation, according to scientists from the University of Heidelberg. The Cretan writing, or Linear A script, dates back to the 15th to 14th century BC. *Lifestyle*, *8/5/05*

The South African Archaeological Society was founded in 1945 to promote archaeology through research, education and publication. It publishes the South African Archaeological Bulletin, a scientific publication of current research in southern Africa (twice a year), The Digging Stick, the Society's general interest newsletter (three issues per year), and occasional publications in the Goodwin Series. The views of the authors are their own and the Society does not take responsibility for them. Published by the South African Archaeological Society, PO Box 15700, Vlaeberg, 8018, South Africa. Tel: +27 (0)21 481-3886. Fax: +27 (0)21 481-3993. E-mail: archsoc@iziko.org.za. (A non-profit organisation - Registration No: 024-893-NPO) Editor: Reinoud Boers, PO Box 2196, Rivonia, 2128, South Africa. Home tel/fax: +27 (0)11 803-2681. Cell: +27 (0)82 566 6295. E-mail: boers@iafrica.com Layout: Marion Boers. Printing: TVaal Johannesburg (Ptv) Ltd.



Mapungubwe Ancient African Civilisation on the Limpopo

Thomas N Huffman

This generously illustrated booklet tells of the social, cultural and political developments which led to the first complex society in southern Africa more than 1 000 years ago. Recognising the importance of Mapungubwe to the African past, the Mapungubwe Cultural Landscape has been declared one of South Africa's World Heritage listings.

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