



SURVIVAL AND CULTURE IN THE COASTAL DESERT OF NAMAQUALAND

What people ate and where they sat to eat it

Genevieve Dewar

The time has come to finish the lab work and write my PhD thesis. I have been excavating, cataloguing and analysing 11 sites for the past three years, focusing on the faunal remains from the Later Stone Age (LSA) in Namaqualand. This is a time of introspection, of sifting through data and theory and integrating years of hard work. Now is the time to piece together the picture of life in the coastal desert of Namaqualand.

Why the archaeology of Namaqualand?

The Namaqualand coastal strip of the Northern Cape Province (Fig 1) is an arid marginal landscape with less than 25 mm of rain a year, occupied by large sand dunes, low bushes and animals adapted to aridity, such as steenbok and tortoise. However, the region also has a beautiful rocky coastline teeming with shellfish, crayfish, marine birds and mammals such as fat-rich seals, which has brought people to its coast since the Early Stone Age (~250 000 BP).

Namaqualand has received very little attention from the South African archaeology community, yet what has been published, namely Lita Webley's work at Spoegrivier Cave (Webley 1992, 1998, 2002), has yielded important information.

The cave (30.18°S 17.216°E) is the only well-documented site on the Namaqualand coast and yet it provided early dates for the introduction of sheep into South Africa (Sealy & Yates 1994; Webley 1992, 1998, 2002). The paucity of research in the region is based on two factors:

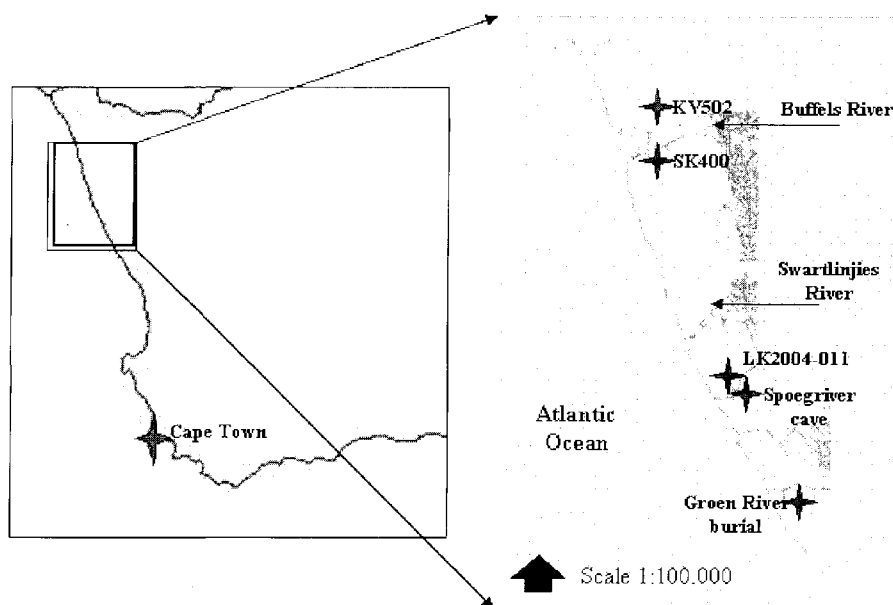


Fig 1: Map of Namaqualand, South Africa. The map on the left shows the Namaqualand Coast, with the study region in the box. The map on the right shows the location of sites discussed in the text.

first, Spoegrivier Cave is the only cave for 150 km and previous research focused on the excavation of caves; second, De Beers Namaqualand Mining Co. owns the greatest part of the coastal strip and to obtain access to this coastline is difficult.

Fortunately, for the past two decades the Archaeology Contracts Office of the University of Cape Town has been compiling an extensive database of sites on the Namaqualand coast while conducting archaeological assessments ahead of open-cast diamond mining. Today, this

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database includes over 1 300 open sites, a rich resource indeed, from quarries to shell middens. So while some may think that a desert coastline may be quite uninhabitable without large caves to provide shelter, the vast quantity of shell middens along this coast proves otherwise and will hopefully reveal evidence of prehistoric patterns of mobility and systems of exchange (cf. Sealy & van der Merwe 1986; Wadley 1989).

An unexpected advantage of studying the marginal Namaqualand desert is the close proximity and similar environment to the Kalahari desert (Fig 1). This means that analogies derived from extensive ethnographic research on the Kalahari (cf. Lee & Devore 1976; Beisele 1993) are more relevant when applied to archaeological evidence for human behaviour from Namaqualand deposits. In addition, Bleek and Lloyds' /Xam informants (1911) were from the Northern Cape, introducing an historical ethnographic approach to interpreting archaeological remains from Namaqualand. Also, it is important to study human adaptations to arid environments as we face the onset of global warming in our own time.

The beauty of the region, the importance of Spoegrivier Cave, the vast number of identified sites, the potential of integrating archaeological data with ethnographies and histories, and the potential to study arid adaptations makes this a truly exciting region to study.

The study region

The research area is a strip of coastline within the winter rainfall zone of the north-west coast of the northern Cape. All of the identified sites are located within De Beers property, from just below Port Nolloth to just below Spoegrivier (Fig. 1). My research covers the entire length of the property, including the shoreline, the coastal dunes and the plateau up to 10 km inland. There are three major rivers, the Buffels, the Swartlinjies and the Spoeg. Major landforms include rocky platforms and headlands, dune corridors and large dune seas along the shoreline and coastal plane, and an inland plateau that terminates at a marine terrace 7 km inland. However, coverage of these landforms has been patchy and focused primarily on the coastal plain, as access to the mining area was dependent on De Beers' scheduled mining activities.

Shell middens: who and when

Habitation of this coast from the Early Stone Age

is evident from the many hand axes and negative scar boulder cores found at silcrete quarries along the marine terrace. The region also has evidence of occupation right through the Middle Stone Age, including both the Still Bay and Howieson's Poort industries. Thus, we can say that *Homo erectus*, archaic *Homo sapiens* and *Homo sapiens* inhabited the region.

Evidence from the LSA (20 000 to 400 BP) is fragmented. The earliest evidence for LSA occupation is the large scrapers found in the base layers of Spoegrivier Cave (Webley 2002), suggestive of an early Holocene date (~8 000 BP, Albany industry), but without radiocarbon dates a definitive answer is elusive. As in other areas of the country (Deacon 1974 for the interior and Parkington et al 1988 for the west coast), there may have been a hiatus of human occupation along the Namaqualand coast until just after the arid mid-Holocene period, since the oldest radiocarbon dates cluster around 4 500 to 4 300 BP. Caution is needed, however, since the dates come from open sites located in deflation hollows of sand dunes that may only have formed during the mid-Holocene (Chase 2005). Thus, any sites that were deposited before the mid-Holocene would be hidden under many metres of sand. After the mid-Holocene there was continuous occupation along the coast right up to the arrival of the Trek Boers in the 18th century.

For many thousands of years, hunting and gathering was the sole mode of production at the coast. Eventually, herding and agriculture appeared in the region, but not until the second millennium AD and the 18th century respectively. More specifically, Spoegrivier Cave has early dates for the introduction of sheep at $2\,105 \pm 65$ BP (Sealy & Yates 1994), implying some form of herding subsistence strategy, but there is no other clear evidence yet for pastoralist culture in Namaqualand. While pottery is present in the region, there are few intact pots and so far the earliest radiocarbon date is $1\,930 \pm 50$ BP (Webley 2002), suggesting that pottery did not arrive as a package with sheep (Webley 2002). In addition, I have analysed well over 60 000 bones from seven open sites and not a single sheep bone has been identified. Possibly herder sites have not yet been identified or herders did not keep/slaughter sheep at open sites, only at cave sites. Archaeological evidence for pastoralists remains elusive, even in a region named for a Khoikhoi pastoralist tribe: the Namaqua (Elphick 1977; Penn 2005).

My interest lies in the survival strategies and culture of people who lived along the Namaqualand coast, with the focus on arid adaptations, analysis of what people ate (subsistence strategies) and where they sat to eat it (settlement strategies). While I have not yet compiled the data to answer these questions for the broader region, I will discuss the results from a few individual sites. I chose 11 LSA sites with good organic preservation to determine subsistence strategies, using a behavioural ecology approach. To date, the sites with interesting faunal samples are SK400 (Dewar et al 2005), the micromammal site KV502 and the penguin midden LK2004-11.

The use of traps for hunting springbok is supported by the /Xam (Bleek & Lloyd 1911). According to Bleek and Lloyds' (1911) informants, the

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environmental record. The usual predators are carnivorous mammals, diurnal birds of prey and raptors, and extensive research has been done to identify species-specific patterns of bone modification in order to be able to identify the responsible predator by their signature of prey remains. Thus this study was important as it identified a human pattern of bone modification, placing them within category 5 predators following Andrew's classification scheme (1990). Now human tastes and biases can be accounted for when determining palaeoenvironments.

The third site, LK2004-011 (30.369°S 17.300°E) is radiocarbon dated at $1\,200 \pm 60$ BP (GX 32057), with a best fit calibrated date of 1 327 AD (ranging from 1 296 to 1 397 AD). The site is called the penguin midden because over 70 individual penguins have been identified here, plus over 100 tortoises. So far, the cut marks on the bones suggest that this is a feather processing site. In support of this hypothesis, drawings from the Gordon expedition (Cullinan 2003) show men wearing capes that seem to be made of penguin feathers (Fig 3). Other Namaqualand LSA sites have penguin bones in their assemblages, but certainly not on the same scale as this site. Preliminary analysis of the penguin midden suggests that people were processing feathers, maybe even eating penguin meat, but were also focusing on tortoise. The three sites discussed above are examples of out-of-the-ordinary subsistence behaviour and general patterns will have to wait until I have finished my thesis.

Research into settlement patterns has also provided interesting preliminary results. By using the vast database of over 1 300 sites that the Archaeology Contracts Office has created and merging it with the GIS program 'Mapinfo', I can quickly create a map and analyse the distribution of sites by specific traits, such as the distance to the shoreline or the presence of pottery. I originally hypothesised that the majority of sites in a desert environment would cluster around the rivers, the obvious source of fresh water, but in fact the sites are spread out along the coastline. This suggests that people were able to gain access to water through other means than river systems. The most parsimonious answer is that people had access to springs (cf. Humphreys & Thackeray 1983).

Preliminary analysis has provided interesting insights into this desert environment, namely that it is not as marginal as previously expected.

Water was seemingly more accessible and the coastal/land boundary supported a variety of wildlife available for human subsistence and cultural needs. The next few months will no doubt be filled with exciting new discoveries and insights into survival, culture and human adaptation in an arid environment.

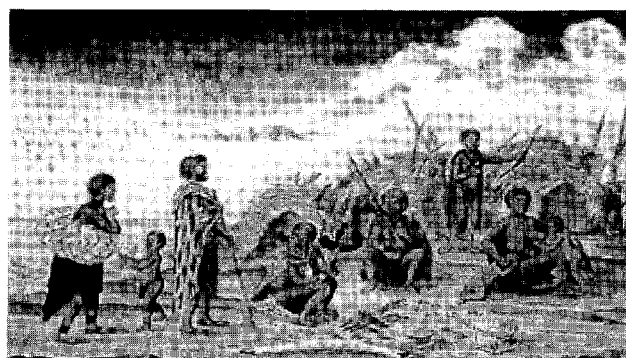


Fig 3: Are the men wearing black and white capes made from penguin feathers? (Cullinan 2003)

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SOCIETY NOTICES

Congratulations!

We wish to congratulate Professor Andrew B Smith and Mrs Jo Earle on their election as President and Vice-President respectively of the South African Archaeological Society for the period July 2006 to June 2008.

Prof. Smith is with the Department of Archaeology of the University of Cape Town and Mrs Earle has just completed her second two-year term as Chairman of the Trans-Vaal Branch of the Society.

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SETTING THE RECORD STRAIGHT

J David Lewis-Williams

The April 2006 issue of *The Digging Stick* calls for two responses.

Rock art in the Sahara

I must spring to the defence of the late Alex Willcox. Andrew Smith claims that the Abbé Henri Breuil's view that the so-called 'White Lady of the Brandberg' depicts a foreigner of Mediterranean origin was supported by Van Riet Lowe and Willcox (p 6). It needs to be noted that Willcox most certainly did not endorse the Abbé's interpretation. As long ago as 1963, in a thorough discussion of this (in)famous Namibian image, Willcox rejected almost every point that Breuil made (Willcox 1963:43–45). He showed that the 'White Lady' is neither white, nor female, nor foreign. Later Willcox repeated his rejection: '[T]here is nothing certainly identifiable in the paintings which does not belong to sub-Saharan Africa' (Willcox 1984:165–167). To counter any suggestion that he was attacking the Abbé *post mortem*, Willcox added that he had published his view in *The Star* newspaper in 1960, 1961 and 1963. We must pronounce Willcox not guilty.

Van Riet Lowe's supposed support is a more difficult case. As Willcox pointed out, Van Riet Lowe 'gave cautious and qualified support to Professor Dart in his interpretations, agreeing that foreigners were represented' (Willcox 1963: 43). It should be remembered that Van Riet Lowe was an associate of the South African Prime Minister General JC Smuts, who was a firm believer in the presence of ancient foreigners in South Africa. It was Smuts who saw to Van Riet Lowe's appointment as first director of the state-funded Archaeological Bureau (later the Archaeological Survey). Let us therefore remember that Van Riet Lowe's support for the Abbé's view was 'cautious and qualified'; perhaps one could add 'strategic'.

Northern Australian rock art, southern African rock art – so similar, so different

In his article, Christopher Chippindale says that southern African researchers have ignored ques-

tions of dating and change in southern African rock art: '*Is it the case that San societies, whose painters left us this visual record of their own worlds as they experienced them, were fairly stable over many hundreds of generation? And that Aboriginal societies in Australia shifted so much? Or is it more that the Australian researchers, interested for whatever reason in change, have searched for and found it, while southern African researchers have chosen – profitably! – to pursue other interests?*' (p 3)

Chippindale is wrong. Change in southern African rock art has been and still is an interest of researchers. Readers of *The Digging Stick* may like to look up some of these studies. Interestingly, they chart the development of southern African rock art studies from early times to the present.

In 1928, Miles Burkitt argued that rock art images should be treated as if they were stone artefacts. In rock art research, stratigraphy would become superpositioning and typology would lead to the elucidation of a succession of 'styles' (Burkitt 1928). Later, in a study that, like Burkitt's, is no longer considered valid, Walter Battiss believed he could identify a series of 'periods' (Battiss 1948). Later still, Willcox tried to establish a series of 'styles' in the Drakensberg. He found the task daunting: '[I]t is, in my opinion, quite impossible, first to classify all the thousands of individual paintings within one of the recognized painting areas into a number of clearly defined categories, and then with certainty to establish a chronological order' (Willcox 1960:59). Jalmar and Ione Rudner also considered change and sequences of styles in South Africa and to the north (Rudner & Rudner 1970:170-185).

More recently, and following the introduction of quantitative techniques, Tim Maggs detected a sequence in depictions of antelope paintings in the Western Cape Province (Maggs 1967). Working on a larger scale, Patricia Vinnicombe tackled the problem of classification that Willcox mentioned and, in her comprehensive survey of San rock art in the southern Drakensberg, identified four 'phases' (Vinnicombe 1976:137-143). My own work in the Giant's Castle and Barkly East areas of the Drakensberg tended to

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support Vinnicombe's findings (Lewis-Williams 1981:23-24). I also considered continuities through time (something archaeologists tend to overlook) as evidenced by the southern Cape painted stones, which are fairly common in deposits dated to about 2 000 to 6 000 years ago but do not seem to have been produced in more recent periods (Lewis-Williams 1984). Working in the eastern Free State, Jannie Loubser and Gordon Laurens (1994) produced a highly significant study of change in San painting traditions.

In the North West Province, David Whitley and Harold Annegarn (1994) undertook cation-ratio dating of rock engravings. Aron Mazel and Alan Watchman have and are currently still undertaking direct dating of painted images (Mazel & Watchman 1997, 2003). Much work has also been done by applying the Harris Matrix technique to southern African rock art to establish sequences (Loubser 1993; Russell 2000; Pearce 2002; Swart 2004). On a broader level, the relationship between history and rock art has also been debated (Mazel 1992; Dowson 1993; see also Dowson 1994).

Within the Rock Art Research Institute (RARI), with which Chippindale is associated, Geoffrey Blundell (2004) has published a well-received study of change in the rock art of 'Nomansland' in the Eastern Cape Province. Ben Smith, the director of the Institute, and other writers have also studied change brought about by contact between various groups (Eastwood et al 2002; Ouzman & Smith 2004; Smith & Hall 2000; Smith & Ouzman 2004; Smith & van Schalkwyk 2002). This work too is highly significant. Also in RARI Stephane Hoerlé and George Susino are currently researching new dating techniques. Further dating research in southern Africa could be cited; I have selected only a few studies. Together, all this work shows that southern African archaeologists have certainly not 'pursued other interests' at the expense of studying dating, sequence and change.

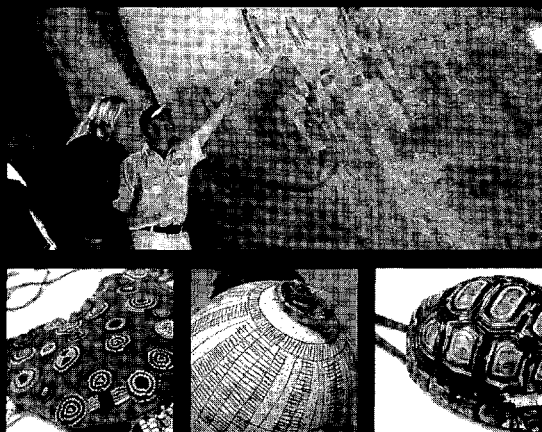
Apart from overlooking all this research, Chippindale does not mention a fundamental difference between southern African rock art and that in Australia. He is in fact comparing apples and pears. In the part of Australia where he works there are six rock art traditions in the pre-estuarine period of art alone. They are self-evident: the 'stylistic' differences between them are clear simply upon inspection. All Chippindale is doing

in Australia is sequencing self-evident traditions – a fairly simple task. In South Africa, there are at least three such traditions: San, Khoekoen and the Late Whites made by Bantu-speaking agriculturalists. The sequencing of these traditions has already been accomplished by various methods. Unlike the position in Australia, we can say (a) who made the South African traditions, (b) why they were made and (c) explain change between traditions. But there is more to it. Chippindale does not examine change *within* a tradition. By contrast, South African researchers are uncovering change within traditions, such as that of the San. This is a much more difficult and complex task.

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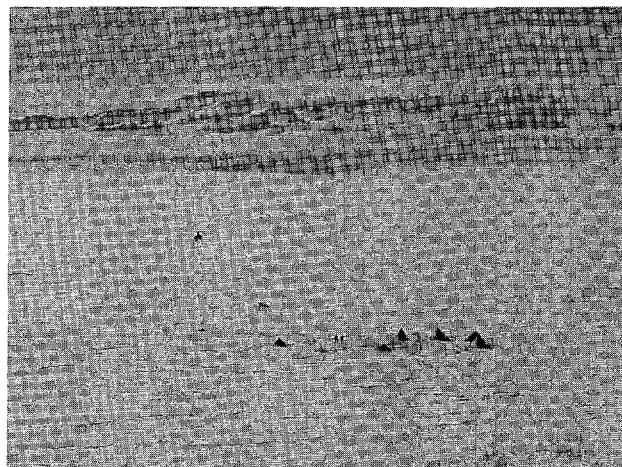
Roger Smith

Two hundred and fifty million years ago (mya), all the continents had come together into a single land area known as Pangea. This was a time, some 50 million years before the dinosaurs, when strange animals known as therapsids, or 'mammal-like reptiles' ruled the land. From delicate mole-like burrowers to fat cow-sized grazers to terrible predators with slashing teeth, these animals were part of a fully developed terrestrial ecosystem equally as diverse and complex as today's savannah lands. The name 'mammal-like reptiles' comes from the fact that they are transitional in the evolutionary pathway from reptiles to mammals. Fossils from South Africa and Argentina have proved that the first true mammal evolved from tiny shrew-like therapsids around 220 mya.

Life in the Pangean world was one of extremes. With all the land on the eastern hemisphere and one big open ocean on the other side, the climatic belts were very different to today. Animals were able to migrate throughout Pangea along the coasts and rift valleys, but most inland areas were so hostile that only the hardiest were able to live there. We also know that Pangean life was not without its natural disasters, one of which marks the end of the Permian Period, 251,4 mya. The very existence of life on planet Earth was threatened by a mass extinction of such devastating proportions that over 90 per cent of living species, both on land and in the sea, died out within a time-span of less than 100 000 years.

Scientists all over the world are trying to find out what caused this 'Mother of all Mass Extinctions'. There are several theories, but everyone agrees that it was brought about by a temporary breakdown in the systems that regulate the circulation or cycling of carbon, nitrogen and hydrogen between ocean, land and atmosphere. During this period of instability most living organisms were

subjected to rapid environmental changes that were too fast for many species to adapt. Fortunately, however, there were survivors, and it is from these organisms that our present-day ecosystems have evolved. Current theories for the disaster include –



Portal camp with one of the helicopters that was summoned on fair weather days to ferry the team to the mountain tops

- widespread volcanic eruptions in northern Pangea (now northern Siberia), which covered almost 4 million km², could have polluted the atmosphere with carbon dioxide, methane and sulphur dioxide, causing rapid global warming and acid rain;
- earthquakes along the mid-oceanic ridge could have set off a chain reaction of 'oceanic overturn' that released massive reservoirs of methane gas and carbon dioxide from the ocean bed into the atmosphere. The sudden increase of these so-called 'greenhouse gases' led to rapid global warming; and
- one or more meteorites or comets may have hit Earth, sending up a massive dust cloud and shock waves triggering both of the above effects.

Karoo studies

As a research geologist/palaeontologist at the Iziko South African Museum in Cape Town I have for the past 10 years headed up a research unit looking at the rocks of the Karoo for clues as to

Even though this article concerns palaeontology and Antarctic adventure rather than archaeology, it is being featured because it will interest a wide range of readers. Aside from this, both the Trans-Vaal and Western Cape Branches have in the past year visited fossil sites in the Karoo around Graaff-Reinet – Editor.

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what caused the extinction. After hundreds of man-hours systematically searching extensive outcrops near Bethulie and Graaff Reinet we were able to demonstrate that the End-Permian extinction event is preserved in these outcrops by an abrupt disappearance of therapsid fossils. With the assistance of American specialists in isotope geochemistry and palaeomagnetism, we were able to prove that this was indeed the 251.4 million-year event and make some observations as to what happened to the terrestrial ecosystems in this part of southern Gondwana at that time.

Detailed investigation of the rock geochemistry, palaeomagnetism, palaeosoils and sedimentological structures combined with taphonomic analysis of the death assemblages of therapsid fossils suggest that carbon dioxide and methane gases caused a large and rapid increase in global temperatures both on land and in the sea. Within as little as 100 000 years, rapid global warming, perhaps as much as an increase in mean annual temperature from 25 to 35°C, caused the wet floodplains of the Permian to dry up. This in turn caused the *Glossopteris* trees and bushes to die off, leaving thousands of therapsids and other reptiles without enough food to survive. Such was the severity of this 'globalwarming' episode that most organisms could not adapt quickly enough and thus died out.

During this great drought, the dicynodonts that were adapted to the wet floodplain conditions were the worst affected. Herds of *Dicynodon*, *Aulacephalodon*, *Dinanomodon* and *Diictodon* had to migrate towards the centre of the Karoo basin in pursuit of an ever-shrinking food supply, all the time dwindling in fitness and in number until they finally became extinct. The gorgonopsians such as *Rubidgea* and *Cyonosaurus* managed to survive by scavenging on the dicynodont carcasses, but eventually they too disappeared. Cynodonts and therocephalians were also badly affected, but being more generalised predatory carnivores, some of the smaller species managed to outlast the drought by burrowing underground.

When the atmosphere returned to normal and the rains became more reliable, the vegetation grew back and the few surviving herbivore species such as *Lystrosaurus* had plenty of food and few predators. They grew in number and slowly began to colonise all the lowland areas of Pangea. In the early Triassic, the crocodylomorphs

such as *Proterosuchus*, small insectivorous cynodonts and therocephalians quickly recovered, finding favourable niches in which to settle, and they too rapidly evolved into many different species. The evolutionary 'march toward mammalness' was given a boost during this post-apocalyptic recovery period with improved respiratory ventilation in the burrowing cynodonts, possibly as an adaptation to the arid, oxygen-depleted environment underground.



Coalsack camp at the start of a gale that lasted four days and buried the tents under banks of spindrift

Research opportunity in Antarctica

In the early 1970s reptile fossils identical to those found around Bethulie and Graaff-Reinet were found in Antarctica by the late Prof. James Kitching of Wits University and his American colleagues. These finds not only confirmed that 250 mya Antarctica was joined to Africa as part of the Gondwana supercontinent, but that cold-blooded land animals could freely migrate between these two regions. Nearly 30 years later I was invited to join my American collaborators in Antarctica for the 2003 summer season, this time to help them find out more about the End-Permian mass extinction.

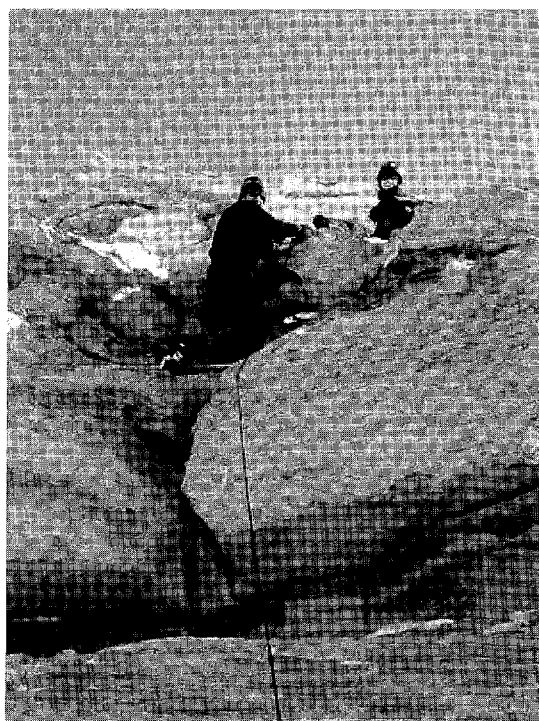
Funded entirely by the US National Science Foundation, this expedition was aimed at testing a recently proposed hypothesis that atmospheric pollution with large volumes of methane from flood-basaltic volcanism in the Siberian part of Pangea caused the extinction and that this was possibly triggered by a large bolide (comet or meteorite) impact. Meteorite impact is generally accepted as having played a major part in the end-Cretaceous mass extinction that wiped out the dinosaurs some 65 mya. However, no evidence of impact had ever been found in Permo-

Triassic boundary rocks until 2001 when Dr Luann Becker of the University of California, Santa Barbara (whose research unit is funded by NASA's Astrobiology Research Group) reported on an anomalous presence of so-called 'noble gases' (niobium and rubidium) and spherical carbon molecules known as Buckminster fullerenes ('bucky balls') in samples collected from the Permo-Triassic boundary rocks exposed on Graphite Peak in the Trans-Antarctic Mountains. These elements do not normally occur in this abundance on the Earth's surface, but they are common in the coma of comets and in some meteorites. The aim of the 2003 research trip was to re-sample the Graphite Peak locality to duplicate the geochemical results and collect sedimentological and palaeontological data in this and several other mountaintop exposures deep in the Transantarctic highlands.

To qualify for such 'deep deployment' I was subjected to a very thorough medical examination and physical stress tests to make sure that the risk of an airlift evacuation was kept to a minimum. I then flew to Christchurch, New Zealand, for a few days of gearing-up and getting to know the rest of the team before joining 80 other scientists and support staff in the hold of a C130 transport plane. Eight long, noisy, nervous hours later the plane landed on a temporary ice runway on the ice shelf at McMurdo Sound in front of the smoking volcano of Mount Erebus. McMurdo is by far the largest and most sophisticated of bases on Antarctica, really a small town with around 1 000 permanent residents whose main mission is to service the polar base and support the summer influx of scientists.

Rigorous working conditions

The first week in McMurdo was spent learning to prussick out of crevasses, pitch a Scott tent in a blizzard, build an ice shelter, drive a snow cat, fit crampons and manage yellow water, grey water and solid waste according to strict environmental regulations. Enough food and equipment for eight people to last on the ice for five weeks had to be boxed and packed onto two large palettes, and when the window of opportunity arrived we were airlifted to the Beardmore Glacier. Here a temporary helicopter base had already been established with a few heated Jamesway huts for the pilots. Our equipment was slung beneath two helicopters and an hour later our motley team of five men and three women was dropped on a



Roger and Carolyn logging the sedimentary rock succession through the P-T boundary on Portal Peak

glacier near Portal Peak in the middle of nowhere and left to fend for ourselves. Abandoned in an absolutely abiotic (life- less) snowfield – the only living things for hundreds of kilometres – in brilliant and perpetual sunshine at an average temperature of minus 20°C, we pitched our four Scott tents in a neat row with mine on the upwind side.

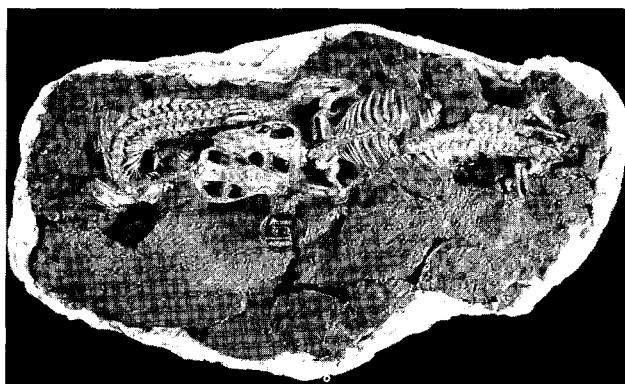
After only two days' work, the wind picked up to 48 knots and we were confined to our tents for four days. During this time, keeping the temperamental benzene-fuelled Colman pressure stoves alight became the most important activity, for it was the only way to melt snow for water and to raise the temperature inside the tents high enough to take off gloves and outer coats. Temperatures never rose to the point that our body-lining 'polypro' jump suits could be taken off – not for five weeks! Washing was minimal mainly because water was too valuable a commodity to waste on washing. Christine and I whiled away the blizzard playing Scrabble; Nathan and Rama tried to remember all the words to Hotel California – what they couldn't recall they made up, then treated the camp to a fully harmonised rendition. Greg wrote in his diary about Greek gods and character-types, and Luann tinkered with her solar-powered laptop with a satphone link to her webpage in Santa Barbara.

When the wind finally died down we had to dig out our equipment from deep beneath drifted snow and wait for the helicopters to carry us up to the mountain top exposures. Every day we were dropped on a narrow ledge, with our survival packs, and left for up to 12 hours. The survival pack included a tent, food and fuel to keep us alive for four days should the weather suddenly close in. My job was to log the sedimentological sequences through the Permo-Triassic boundary sections and find as many *in situ* fossils as possible, recording their exact stratigraphic positions. This task was made particularly difficult by the fact that I had to climb up cliffs on a fixed rope in the shade. It was impossible to remove my gloves for more than a few seconds before the wind chill would freeze my fingers and make it impossible to write. So it became a job for two people – I hung on a rope on the rock face and called out my observations to Carolyn, who sat in the sun where she could write continuously.

Maintaining our fluid intake was vital and melting snow became a constant chore that was mostly done by our mountaineer guide Sean, who led us across the ice fields, communicated with the 'helo' pilots and put in the fixed ropes for us. We had to keep cameras, batteries, GPSs and water bottles inside our overcoat, against our bodies, to prevent them from freezing. Another daily chore was managing ones' urine collecting bottles, which are almost as important as the drinking bottles for if they freeze whilst full they become non-functional. The women in the party were especially pleased with their female urinary devices (FUDs) that allowed them to 'pee like a man,' but they too had to be kept frost free inside the body suit.



Thrinaxodon skull in Early Triassic strata on Graphite Peak. After preparation at the Iziko SA Museum, this specimen was identified as T. liorhinus – the same species as found in the Karoo.



A pair of young Thrinaxodon skeletons recently collected from the Graaff-Reinet district demonstrate juvenile aggregation in underground burrows 250 mya. It is possible that burrowing was a survival strategy that enabled this species to endure the aridity of the Early Triassic in southern Gondwana.

Migration between the Karoo and Antarctica

Despite the rigorous working conditions I managed to find several therapsid fossils, including a curled-up skeleton of *Thrinaxodon* – a taxon that I recognised from the Karoo. Excavating the fossil from near the summit of Graphite Peak was extremely difficult; not only was the rock very tough, it was also frozen. The fossil had to be collected in pieces because no glue works in sub-zero temperatures. To add to my difficulties, the downdraft from the helicopter that came to pick me up scattered all my carefully excavated fragments so I had to find them all over again with the pilot yelling at me for holding things up. Having argued my way through the rigours of Australian customs (they make no distinction between soil and rock), I managed to hand-carry the pieces all the way back to our palaeontology laboratory, where it was finally glued back together and prepared. It is now on display in the new Stone Bones exhibition.

This specimen is exactly the same species as occurs in the Karoo, proving that there must have been migration between these two parts of southern Gondwana. Yet it comes from a latitude that was much closer to the pole, begging the question of how a reptile could withstand such cold conditions.

All in all after six weeks in Antarctica I had managed to do 65 hours of work, which I am told is above average. That is how it is in the coldest, driest place on Earth – strenuous, breathtaking, a little dangerous and a whole lot of fun.

TWO RELATED ROCK CONSERVATION/EDUCATION PROJECTS IN LESOTHO

Pieter Jolly

While conducting research in Lesotho in the 1990s on the rock paintings and history of the San, I came across a considerable number of paintings that had deteriorated badly as a result of human and animal action. The main causes of this are: wetting of the paintings, which ultimately causes them to fade; the use of paintings as 'targets' for stones thrown at them; livestock rubbing up against the paintings on the walls of caves where they were kraaled; smoke from fires made by herders occupying caves in the mountains; deliberate chipping of the paint; scratching the paintings with stones; outlining the paintings with scratch marks or charcoal; and adding details to the paintings with charcoal 'crayons' or by scratching the rock face (Fig 1). Much of this damage, it seems, is caused by children, or sometimes by older people who look after livestock in the mountains.



Fig 1: An example of the many damaged paintings in Lesotho.

In 1999, after consultations with Amanda Esterhuysen and Susan Buss at the Archaeological Resource Development Project (ARDP) at the University of the Witwatersrand, as well as with members of Lesotho's Ministry of Tourism, Sports and Culture, the Morija Museum and Archives, and Taole Tesele (representing the Lesotho Highlands Water Scheme), it was decided to make a start with the design and production of a poster to educate people, younger children in particular, about the need to preserve the art.

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Poster design, production and distribution

Over the next few months the concept was worked on by the ARDP, the Ministry, Morija and myself. The ARDP liaised with the artist, Christine Andrews. It was agreed to target young children in the education campaign as it seemed likely that young people, rather than adults, were responsible for most of the incidents of defacement of the Lesotho paintings. This would also allow us to reach people and educate them about the need to preserve the art at an early age, hopefully before they began to think about interacting with the art in ways that might damage it. Schools would then become the main repository for the posters, where they would be used as a teaching aid. The main route for distribution of the poster would be through the Lesotho Ministry of Education, which officially supported the project.

We decided on the creation of a story line that centred on the revered 19th century Sotho sage, Mohlomi. The poster would show him, in a series of vignettes, teaching young children why the art should be preserved. A draft poster with English text was created. Final decisions were taken relating to the text, the dress of the characters portrayed and the general use of imagery in the poster. The text was then translated into Sesotho and 1 000 copies of the poster were printed in July 2001, subsequently followed by another 1 000. The printing costs were borne by the De Beers Fund Educational Trust.

Supplies of the poster were issued to the Rock Art Research Institute at Wits University, the Rock Art Department of the National Museum in Bloemfontein and the Morija Museum and Archives. The remaining 800 copies went to Lesotho's Ministry of Education, with whom the Ministry of Tourism, Sports and Culture were to liaise concerning distribution. The intention was that, after as many primary schools as possible had been allocated one copy, the remaining posters would be distributed through visits to the communities living in the areas where 100 of the finest painted sites are situated. This would constitute a rock art conservation/education project directly related and integral to the poster project.

The outreach project

Aside from the need to educate schoolchildren about the need to preserve the art, it is important that steps are taken to ensure that the communities closest to the finest rock art sites in particular are educated about the art and its value. I felt strongly that there was a need to enlist the help of communities and their leaders in conserving the art, in fact, to encourage the communities closest to these sites to become their curators. I therefore decided to make a start on a project to visit 100 selected rock art sites in Lesotho and to talk to the nearby communities. I was aided in identifying these sites by Luca Smits, who initiated the ARAL project and documented close to 700 rock art sites in Lesotho.

It was anticipated that by visiting the sites and making direct contact with the communities and their leaders, the impact of the conservation message would be increased significantly. The project would also allow us to assess the condition of the paintings at the sites selected for conservation, and to determine which sites are in need of, and suitable for, rehabilitation. The De Beers Fund Educational Trust agreed to fund the first stage of the project: visits to 25 selected sites and nearby communities.

The first poster to be distributed as part of the outreach project was handed over in 2002 to the community living near one of the largest and best-known rock art sites in Lesotho, Ha Baroana, where many paintings have been damaged as a result of vandalism. A *pitso* (meeting of the community) was called. The poster was accepted by the area chiefs, other community leaders and staff from the local school at a ceremony attended by community members, including schoolchildren, and officials of the Ministry of Tourism, Sports and Culture (Fig 2). Subsequently, I was able to visit and talk to communities living close to one or more of 12 other sites of particular importance (Fig 3). The first phase of the outreach project ended in 2004 when funds were depleted.

Conclusion

While there appear to have been some problems associated with the dist-



Fig 2: Ministry officials and community leaders with the poster after the Ha Baroana meeting.

tribution of the posters, and we need to communicate more closely with the herders in the mountains, on the whole the projects appear to have achieved a significant degree of success in educating people about the need to preserve the art. I found that people were very interested in the subject of rock art preservation and had many questions to ask. The general response was extremely positive, with several people saying that they had not known about the importance of the art or that it was connected to the religious beliefs of the San.

In particular, I think that the latter point, that the art was a sacred art, made a deep impression on people. The Basotho are in general a religious people and when I made the comparison at my talks between destroying the paintings in a cave and destroying paintings in a church it appeared to make a strong impact. Future efforts will be directed at reaching communities living near the remainder of the sites identified as being of particular importance. Hopefully, we will also be able to use the media to reinforce the conservation message associated with the poster and community visits.



Fig 3: One of the *pitso*'s held during the outreach project

NAMIBIAN DECORATED OSTRICH EGGS REDISCOVERED

Leon Jacobson

Decorated ostrich eggs are rarely discussed in the literature apart from the recording of decorated fragments from excavations. Yet they form an important subset of decorated artefacts from the Later Stone Age (LSA), such as engraved wood and bone. Here, I illustrate three forgotten vessels from Namibia.

Ostrich eggshell containers

The use of ostrich eggshell containers for general storage purposes, as well as the practice of caching, principally for storing water against future needs, has been well documented ethnographically (Schapera 1930). A number of caches of whole, pierced containers are also known, particularly from the northern Cape (Morris 1994; Morris & von Bezing 1996; Henderson 2002), one cache alone yielding 15 containers (Morris 1994). Most containers are either found empty or filled with sand, possibly as a result of being buried (Rudner 1953), although they could have been filled deliberately to prevent their being broken (Morris 1994). Two instances are known when containers were filled with specularite (Rudner 1971; Humphreys 1974). In the Brandberg, Namibia, an ostrich eggshell was found hidden amongst stones making up a hut circle and containing ostrich eggshell fragments (Sandelowsky 1971).

Occasionally holes are plugged, generally with grass, or else had spouts made from resin or mastic (Henderson 2002). Generally, no other archaeological material was associated with the containers except for the Thomas Farm cache, which included an upper grindstone that was possibly buried with the shells (Henderson 2002). They have also not been associated with other features such as hearths, which could be interpreted as a living area. All known finds were deliberately cached by being buried and were discovered accidentally as a result of erosion or animal disturbance. Although ostrich eggshell fragments are commonly found on sites, evidence for their use as containers, characterised by the ground edge of the aperture (Wendt

1972), is more rarely found. Kandel (2004), however, cautions that such apertures may be made by hyenas eating eggs.

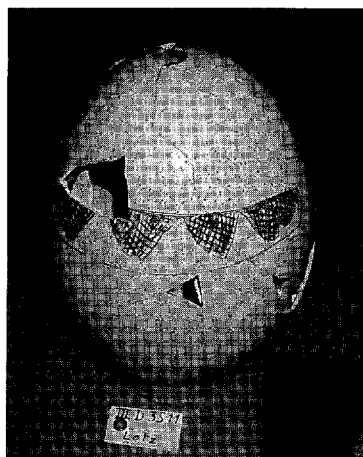
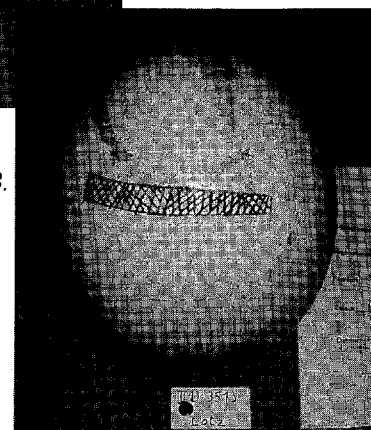


Fig 1: Egg III D 3511. Simple figure of a rectangle with cross-hatched triangles.

Fig 2: Egg III D 3513. Simple rectangle filled with cross-hatching.



Engraved ostrich eggshells and fragments

Engraved fragments of ostrich eggshell are frequently found in excavations of LSA sites (e.g. Wendt 1972; Humphreys & Thackeray 1983), although one occurrence could date to the late Pleistocene (Wadley 1993). Whilst they occur as a small percentage of the total eggshell fragments in most assemblages, the highest frequency of fragments and variety of designs appear to occur in the northern Cape (Humphreys & Thackeray 1983) and southern Namibia (Wendt 1972). Only one attempt has been made to rejoin shell fragments, namely by Wendt for Pockenbank (Wendt 1972: plate 7d).

Just four archaeological caches are known with decorated shells. A cache of seven shells excavated by I Rudner (1953) contained five shells decorated with double rows of engraved dots. J Rudner (1979) described two decorated eggs from the Gordonia district with engraved lines and cross-hatched bands in a grid design. One of them included three flying birds. Morris & von

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Bezing (1996) reported a cache of four whole shells and one fragment, with the possibility of another two still being buried in the bank of a donga in the Vaalbos National Park near Barkly West. One whole shell and the fragment were decorated with an incised linear ladder decoration. Masson (2004) reported an egg from north of Upington with an engraved female buffalo.

In addition to these archaeological specimens, a number of eggs were collected from Khoisan people up to the late 19th century. In the 1770s Sparrman collected a number of items from Khoisan people, including two engraved eggs, one of which had two grids, the other engraved with two Khoisan (?) figures and an elephant (Rudner & Rudner 1957). Other, more recent examples of naturalistic engraving are also known (Meiring 1943; Hoffman & Baard 1969) and there are no doubt others in museum collections.

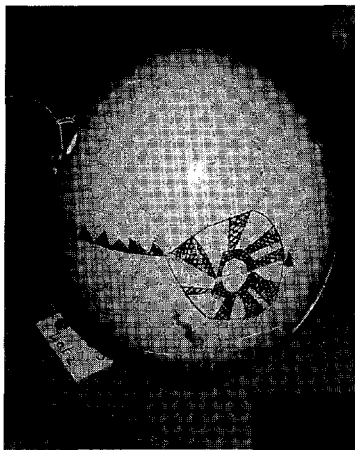
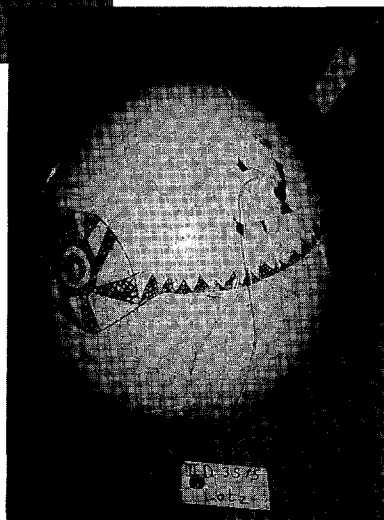


Fig 3: Egg III D 3515. Design showing two circles containing spokes and joined by a line of incised triangles: the first circle.

Fig 4: Egg III D 3515. A view of the second circle.



In the course of doing research for an article on engraved eggs I was able to track down the location of a group of decorated eggs described by Von Luschan in 1923. These numbered some 14 decorated eggs donated to the Ethnological Museum, Berlin, in 1907 by a Mr Lotz. Although Von Luschan published drawings of the design

motifs, which range from simple cross-hatched grids and triangles to complex filled-grid and circle designs, I was interested to see the originals to assess how accurate his description of the motifs are. Accurate they are, but how striking it is to see them on the actual shell! Today, however, only four of the eggs still exist, the rest probably having been lost during or after the Second World War. One of the four is on a long-term loan and there is no photo of it in the museum. According to the museum's accession book, they were collected in the Lüderitzbucht area from a, presumably San, group named 'Sao-Kaosib'. The four photos illustrate very nicely the range of design motifs and their placement. Eight other decorated eggs illustrated by Von Luschan possibly come from the Kalahari, but this needs further research. One wonders what other ethnographic gems from Namibia are hidden in the storerooms of German museums!

Conclusions

Decorated ostrich eggs were a definite part of the household inventory of the LSA community. Whilst geometric motifs were the most common form of decoration, more naturalistic designs are also found, but these could date from the historical period and reflect a European influence. Whether such influence resulted from direct requests by, for example, missionaries or travellers seeking more naturalistic motifs, or were the artists' own decision to change or alter their subject matter after seeing illustrations (possibly in books or newspapers), is not known.

The simpler geometric motifs are similar to entoptic phenomena (Lewis-Williams & Dowson 1988) and to rock engravings (Dowson 1992). As the containers were utilitarian objects, however, it is unlikely that they were directly associated with any trance activity. There could also be a link to decorated pottery or other objects. Perhaps they simply reflect an individual's desire to mark an object, possibly one involved in *hxaro* exchange routes. The complex patterns could even result from patterns being added to shells by a number of engravers as they travelled across an exchange network. Wendt (1972) also raised the possibility that some eggs were painted not simply with a wash, but with lines.

There is much still to do. Eggs can be radiocarbon dated using AMS that does not need a large sample. Provenancing studies also need to be developed (Jacobson et al 1996) to assess

how far eggs may have been exchanged across the landscape. Finally, a proper inventory needs to be made of museum collections so that when combined with dating, a better understanding can be obtained of these fascinating but understudied objects. Ostrich eggs are still today being painted and decorated by artists both modern and traditional, and are very popular in the tourism market. A better understanding of their origins can only increase people's fascination with them.

Acknowledgements

The pictures of the decorated ostrich eggs are reproduced with the permission of Ethnologisches Museum, Staatliche Museen zu Berlin, who own the copyright. I thank Dr Peter Junge of the museum for his assistance in locating the eggs and providing photos of them. Dr Tilman Lenssen-Erz, Cologne University, kindly obtained the Von Luschan article for me. Dr D Noli of Cape Town is thanked for getting me interested in the subject.

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WORLD ARCHAEOLOGICAL NEWS

Technology spurred world colonisation

Wide-ranging technological developments were crucial in the eventual colonisation of much of the world by man. Prof. Paul Mellars of Cambridge University suggests that *Homo sapiens'* dominance of the world was triggered by a technological revolution that caused a demographic explosion between 80 000 and 60 000 years ago. As a result, the population of one particular ethnic group expanded up to 1 000 times over. The dramatic population increase then forced tribes to search for new hunting grounds, first within Africa and then outside it. Technological developments included improved cutting tools and new animal-skin cleaning equipment, abstract art and more effective weaponry. African tribes invented the world's first man-made projectiles, light-weight throwing spears and bows and arrows. The technological revolution was triggered by cooler and drier climatic conditions, and possibly by human brain mutations linked to language development. The research explains for the first time why our species started to expand across much of the planet a mere 60 000 years ago – despite having existed in Africa for the previous 100 000 to 140 000 years.

The Independent, 13 June 2006

Ancient tomb paintings found near Rome

Italy has unveiled an archaeological site that some experts say houses the oldest examples of the Western tradition of art developed by the Greek and Roman civilisations. A large, square tomb found under a field outside Rome, in an area known for its Etruscan remains, is decorated with colourful frescoes that archaeologists say are 2 700 years old. The room, which has niches that would once have stored cremated remains, contains remnants of a bright red painted ceiling and frescoes of birds and roaring lions. It is the primitive nature of the paintings that has convinced the experts that they are at least a generation older than any others yet found dating from 700 to 680 BC. Fragments of decorated pottery were found together with remnants of a wheel, part of a cart buried along with the bodies. In Etruscan art, birds symbolised the passage between life and death and lions the underworld.

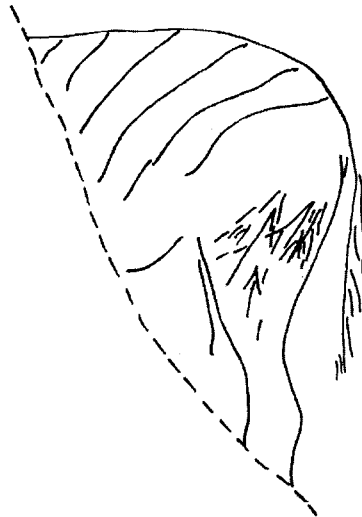
16 June 2006

A 'SYMBOLICALLY WOUNDED' ENGRAVED ZEBRA FROM WONDERWERK CAVE, AND LINGUISTIC EVIDENCE

J Francis Thackeray and David Morris

In 1979, an engraving of part of a zebra (Fig 1) was discovered at Wonderwerk Cave situated north-west of Kimberley (Thackeray et al 1981). The associated deposits have been dated to $3\,990 \pm 60$ BP (Pta 2785). The dolomitic rock is about 20 mm thick and had been broken (apparently deliberately) through the middle of the animal. In addition, incisions on the rump of the zebra, as copied by Marshack and published by Beaumont & Vogel (1989), have been interpreted as symbolic wounds (Thackeray 2005). The engraved stone is associated with ochre. It has been suggested that the engraved zebra was symbolically 'wounded' in the belief that this contributed to success in a hunt, reflecting the principle of 'sympathetic hunting magic' (Thackeray 2005).

Fig 1: Copy of an engraved zebra from Wonderwerk Cave dated to about 4 000 BP (Thackeray et al 1981, Beaumont & Vogel 1989). The stripes on the rump have been interpreted as symbolic wounds, associated with belief that 'wounding' the engraved animal would contribute to success in a forthcoming hunt.



San words for rock engraving and art were recorded by Bleek (1956). *_soa* means to scratch (engrave) or to draw. A similar San word is *tsoa* (red colour, ochre). The San word *tsom* means a picture. Taken together, a *_soa tsom* means 'he scratched (engraved) a picture.' A Xhosa term including *-tsom*, as in *intsomi*, refers to a folklore story, from *ukusoma*, to speak a foreign language, or to tell stories (Kropf and Godfrey 1915). It was said that if a person told *intsomi* by daytime, he would develop horns, that is, he would become a therianthrope (Kropf & Godfrey 1915).

It is interesting to find the common form *-tsom* in San and Xhosa words, referring to art and folklore respectively. We suggest that the common form in these words reflects a conceptual association.

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ARCHAEOLOGY IN AFRICA

Three human migrations out of Africa

A new, more robust analysis of recently derived human gene trees by Dr Alan Templeton of Washington University shows three distinct major waves of human migration out of Africa instead of just two, and statistically refutes the 'Out of Africa' replacement theory, which holds that *H. sapiens* left Africa 100 000 years ago and wiped out existing populations of humans. Templeton has shown that African populations interbred with Eurasian populations. 'I set up a null hypothesis and the program rejected that hypothesis using the new data with a probability level of 10 to the minus 17th. In science, you don't get any more conclusive than that.' The results were published in the *Yearbook of Physical Anthropology*, 2005.

Another novel find is that populations of *H. erectus* in Eurasia had recurrent genetic interchange with African populations 1.5 million years ago, much earlier than previously thought, and that these populations persisted instead of going extinct. The new data confirm an expansion out of Africa 700 000 years ago. 'Both (the 1.9 million and 700 000 year) expansions coincide with recent palaeo-climatic data that indicate periods of very high rainfall in eastern Africa, making what is now the Sahara a savannah,' Templeton said. 'That makes the timing very amenable for movements of large populations through the area.' The fossil record indicates a significant change in brain size for modern humans at 700 000 years ago, as well as the adaptation and expansion of a new stone tool culture first found in Africa throughout Eurasia at about that time.

Washington University, 10 February 2006

NOTES ON THE APRIL 2006 ISSUE

Comments have been received on three articles and a news brief published in the April 2006 issue of *The Digging Stick*, as follows.

Rock art in the Sahara (p. 1)

Figs 1 and 3 were received in the incorrect order and are thus reversed, while the following reference to Dupuy in the caption to Fig 4 was omitted:

Dupuy, C. 1998. Reflexion sur l'identité des guerriers représentés dans les gravures rupestres de l'Adrar des Iforas et de l'Air. *Sahara* 10:31-54.

A homecoming of rock art (p. 13)

Dr Tilman Lenssen-Erz of the Forschungsstelle Afrika, University of Cologne, Germany, submitted a request for publication of the following 'small correction on the paper which Beatrice Sandelowsky wrote (pp 13-14)':

'Differently from Dr Sandelowsky's assertion, Ms Shirley-Ann Pager and her daughter knew about the planned conference *A Homecoming of Rock Art* in Windhoek in April 2005 and Ms Pager was invited to participate (her ticket from Scotland to Namibia as well as the living costs in Namibia would have been provided for by the German part of the organisers).'

Since this view is quite contrary to what was stated in the article, considerable correspondence ensued between Dr Sandelowsky, Ms Shirley-Ann Pager and Dr Lenssen-Erz. From this we must conclude that Dr

Lenssen-Erz is quite correct in requesting a correction, but that Dr Sandelowsky's comment in her article about Ms Pager not being invited was, to the best of her knowledge, correct since Ms Pager apparently had sight of the article prior to publication. The whole debacle appears to be the result of a misunderstanding following a confrontation about the donation of Harald Pager's diaries to the National Archives of Namibia.

Archaeology and geomorphology: Eensaamheid Pan, northern Cape (p. 15)

A grave error crept into dates given in the second column on page 17, which are all 100 000 years too old. The editor apologises to John Masson for inadvertently adding an extra nought to the six dates. For clarity, the reference to the 'episodes in the southern Kalahari' in the sixth last line in column two refer to periods 27-23 000 and 15-10 000 years ago.

French caver finds oldest art (p. 11)

Sven Ouzman sent through the following comment:

'The reference to a "hand in cobalt blue" painted in a French cave [in the Vilhonneur forest] is, in fact, incorrect. The hand is in black, probably manganese, but the flash used to photograph the hand made it appear blue, otherwise it would be very unusual indeed.'

ARCHAEOLOGY IN AFRICA

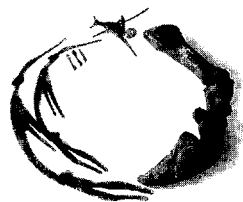
Sine-Ngayene: How did they die?

Sine-Ngayene south-east of Dakar has become the latest name in Senegal's cultural history. In 1980 excavations by the French-Belgian archaeological team led by Prof. Guy Thilman found huge skeletal remains within a megalithic environment at Tiekene Boussoura within the mammoth megalithic Senegambian archaeological corridor. He reported a 170 BC skeletal find that exhibited an elaborate mass funerary system where the dead were deposited in a ringed formation of 18, 32 and 45 bodies. Huge stone monuments standing as pedestals were then hauled from local quarries to the burial sites and erected to form circular tombstones. Thilman characterised the Boussoura finds as evidence of a culture of primary burial and also posited that the multiple burials indicated some forms of decapitation resulting from mass burials in war or other forms of mishap.

Now archaeologists are having second thoughts about his theories. Megalithic monuments are basic-

ally huge unhewn stones used in pre-historic construction, usually for funerary rites. Archaeologists speak of four major types: megalithic circles, which are generally upright and carved; stone circles that are created and lined; stone tumulus; and earth tumulus. Africa has four megalithic regions, the oldest in Ethiopia, constructed in the 3rd millennium BC, the Central African Republic megalithic monuments built in the 2nd millennium BC, the Senegambian corridor built in the 1st millennium BC and the Madagascar monuments built in the 2nd millennium AD.

Within the 300 km wide by 150 km long Senegambian corridor there are about 2 000 sites, of which only about 10 have been visited. Compared to the 170 BC Tiekene Boussoura monuments, the Sine-Ngayene sites excavated by the University of Michigan were constructed in 11th century AD. Michigan University's Prof. Holl contends Thilman's thesis is fundamentally flawed because all evidence from the monuments indicates not a primary, but a secondary burial culture. 'We might be dealing here with a culture of prestigious families re-burying their own in a manner that recalls the practice of erecting halls of fame,' he said. Sine-Ngayene is a Unesco World Heritage Site.



origins centre

The Origins Centre offers visitors a unique experience of Africa's rich, complex and sometimes mysterious past. Combining cutting-edge technology with the creative vision of South Africa's foremost artists, the narrative structure of the museum takes visitors through an extraordinary journey of discovery.

The journey begins with the origins of humankind in Africa and then moves through the development of art, symbolism, technology – the very things that give us our humanity. The journey then continues through the destruction of the great and diverse southern African rock art traditions – the world's oldest continuous art forms – at the hands of colonists, before ending, more positively, with the re-discovery of these ancient masterworks in a contemporary world.

Unashamedly Africa-centric, the Origins Centre seeks to restore the continent to its rightful place in history – as the place where everything that makes us who we are today originated.

16 display areas: Wander through the world's leading rock art museum either on a self-guided tour with audio-guide player, or join a scheduled tour with guide. For either, adults pay R45, children (under 12) R25, and pensioners and students R35. Prices for private tour groups are available on request.

Origins Shop: On completion of your tour visit the museum shop with its superb collection of African arts and crafts, gifts and a book section specialising in an unequalled range of books on African rock art, San and Khoi studies, archaeology, history, art, peoples and cultures, etc, as well as books for the children of Africa.

Café fino serves coffees and light meals.

ORIGINS CENTRE is situated at 1 Yale Road, Wits University (East Campus), Braamfontein, Johannesburg.

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The South African Archaeological Society

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.

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This is the society for members of the public and professionals who have an interest in archaeology and related fields such as rock art, palaeontology, geology etc. 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.

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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 2007 are as follows: Individuals: Single – R160; Joint – R185; Students and Concessionaries – R130. Institutions: Local – R350; African – R350; Overseas – R650.

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