

## KEEPING THE WATCHMEN WATCHING

### Faunal and artefactual contents at Baboon Point Terrace, West Coast

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In an earlier article published in *The Digging Stick* (Jerardino 2010), I presented the first observations from a site known as Baboon Point Terrace (BPT) in Elands Bay. This is a north facing, 35 m long and nearly 6 m wide flat rock floor stepping up to a similarly long overhang abutting the Baboon Point cliff face (see photo on right). The rocky surface under the overhang is likely to have been the living area, from where food remains were tossed to the lower floor (lower photo on right). Currently, low bushes and succulent plants cover some of the edges and middle areas of the terrace. Excellent views of the surrounding landscape are afforded from the small overhang (BPT1) situated to the west of the main terrace, such as Mussel Point and sandy beaches to the south, the bay reefs and more sandy beaches to the north.

Successions of short occupation events at BPT took place over 400 years (900–1280 AD, at  $2\sigma$ , namely a combination of two calibrated dates plus two standard deviations on either side of the mean date). BPT was probably used because of the need to watch the landscape closely because of likely competitive relationships among indigenous groups at a time when warm and dry climatic trends (the Medieval Warm Epoch from 800 to 1300 AD) were dominant locally, as in many other regions of the world (Seager et al. 2007; Wanner et al. 2008). Simon se Klip (SSK) (Jerardino and Maggs 2007) is an encampment atop a kopje near Lamberts Bay and its two youngest calibrated dates (with  $2\sigma$ ) overlap significantly with BPT's 400-year long age bracket. SSK is a formidable lookout point with views all the way to Baboon Point to the south and to Nortier Government experimental farm to the north.

While people (men?) kept an eye on the horizon, they surely needed to eat and replenish liquids like anybody else. Other group members would have taken food and water up the cliff so that watchmen kept to their task without much interruption. The analysed food and artefactual debris from the three



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samples recovered at BPT are presented and discussed here.

Table 1 shows the great dominance of marine shell, with bones from different species and Cape rock lobster (*Jasus lalandii*) remains being the second and third dominant. Ostrich eggshells (OES) are present only at BPT1 (Jerardino 2010). In the absence of water flask holes or rims, it is not clear whether OES fragments reflect diet or the use of one or more eggshells as water containers. Ceramic fragments might well have been part of one or two containers for transporting cooked food. Medium to fine grained black or dark grey matrix with little temper fragments along with coarse-grained and quartz-temper shards characterise the recovered ceramics at BPT. The small stone artefact assemblage still needs to be analysed, but much of it appears to be chunks and chips.

The amount of charcoal recovered from the three samples and observed along the extension of BPT is minimal, suggesting little food preparation on site. It is possible, however, that food was cooked on site, but that much of the charcoal was swept away by the wind. Woody plants needed for cooking are present at BPT1, but not in a quantity that would have lasted for long. Hence, firewood might have been taken up to the site for warming people during cold days or when staying overnight.

Tortoises and mammals were the main food categories in the watchmen's diet, as indicated by teeth fragments and post-cranials (Table 2). An indeterminate ungulate and medium bovid could be identified among small fragments of bone. The presence of microfauna seems to be the result of bird predators, as both cranial and post-cranial bones were found (Dewar and Jerardino 2007). Only a few penguin (*Spheniscus demersus*) bones and a small sea barbel otolith (*Galeichthys feliceps*) re-

veal the presence of these species as well. Perhaps another fish is also represented as inferred from a small fish tooth. With the exception of the fish, small Cape rock lobsters (indicated by small calcareous mandibles) and tortoises (carapace, plastron and limb bones were found), only body parts of mammals and a penguin were transported to BPT. Given the small food parcels taken up to BPT and post-depositional factors such as trampling and exposure to the elements, it is not surprising that BPT bones are represented by small and at times tiny size of bone fragments.

Even though marine shells dominate the food remains by volume and weight, the samples are small (Table 3) when compared with those recovered from nearby

**Table 1:** Quantities of faunal and artefactual remains from three of the samples recovered from Baboon Point Terrace. Rock lobster (*Jasus lalandii*) remains are quantified by the number of calcareous mandibles (very small in this case), and ceramics by the number of shards. The remaining categories are computed by weight (grams). Asterisks indicate radiocarbon-dated samples.

	Marine shell	Rock lobster	Bone	OES	Charcoal	Ceramics
<b>BPT1*</b>						
Surface	141,8	–	3,0	3,1	–	7
Spit 1	88,7	1	2,2	2,0	–	2
Spit 2	109,8	1	2,7	0,4	0,05	1
<b>Total</b>	<b>340,3</b>	<b>2</b>	<b>7,9</b>	<b>5,5</b>	<b>0,05</b>	<b>10</b>
<b>BPT2*</b>						
Surface	241,0	1	2,2	–	0,38	1
Spit 1	126,4	–	1,0	–	0,16	–
Spit 2	66,8	1	1,1	–	0,18	–
<b>Total</b>	<b>434,2</b>	<b>2</b>	<b>4,3</b>	<b>–</b>	<b>0,75</b>	<b>1</b>
<b>BPT3</b>						
Spit 1	142,8	–	0,9	–	1,03	–
Spit 2	144,8	–	2,5	–	0,34	–
<b>Total</b>	<b>287,6</b>	<b>–</b>	<b>3,4</b>	<b>–</b>	<b>1,37</b>	<b>–</b>

**Table 2:** Presence or absence of vertebrate categories from three of the samples recovered from Baboon Point Terrace. Presence of fish was identified through an otolith, possibly catfish.

	Tortoise	Ungulate	Medium bovid	Indeterminate mammal	Micro fauna	Penguin	Fish	Unidentifiable
<b>BPT1</b>								
Surface				X		X		X
Spit 1			X					X
Spit 2	X	X			X			X
<b>BPT2</b>								
Surface	X			X	X			
Spit 1	X			X	X		X	
Spit 2	X				X			X
<b>BPT3</b>								
Spit 1	X	X		X	X			X
Spit 2	X	X		X				

archaeological sites (e.g. Jerardino et al. 2009; Parkington 2008). The BPT list of shellfish species is very similar to that of several other sites in the Elands Bay area. In terms of percentage weight, black mussels (*Choromytilus meridionalis*) are dominant, followed by limpets (mainly *Cymbula granatina* and *Scutellastra granularis*) and smaller percentages of whelk species (*Burnupena* spp. and *Nucella* spp.). Interestingly, relative abundances by weight of barnacles at BPT are comparatively very small. It seems, however, that barnacles were detached from mussel shells before these were transported up to the lookout point in order to reduce the load. A similar practice appears to have been adopted at two other local sites, one situated high up and the other further away from the shore, namely Spring Cave and Tortoise Cave respectively (Jerardino 1997: Table 6).

## Conclusions

It is unlikely that indigenous groups of hunter-gatherers, hunters with sheep and full time herders living during the Medieval Warm Epoch did so without problems. As a marginal area today, Elands Bay would have been more arid and water supplies would have been scarce and highly seasonal. Nonetheless, contrary to Khoisan groups up north in Namaqualand who abandoned that region (Dewar 2008), Elands Bay and Lamberts Bay groups developed resilience to more arid conditions, with the likely result of inter-group competition at some level. The need to maintain access not only to water, but also to terrestrial resources would have required people with sharp eyes to monitor the landscape for possible competitors. Food remains at BPT shows that people were still able to access marine and terrestrial resources despite the tense social environment in which they probably lived. The next step will be to evaluate this scenario in the context of other local sites dating to that period.

## Acknowledgements

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**Table 3:** List and relative frequencies of shellfish species calculated for all three sampling locations at Baboon Point Terrace. MNI means minimum numbers of individuals.

	BPT1		BPT2		BPT3	
	% MNI	% weight	% MNI	% weight	% MNI	% weight
<i>Choromytilus meridionalis</i>	28,6	48,8	44,2	62,9	51,6	51,3
<i>Aulacomya ater</i>	0	0,1	3,8	0,1	0	0,1
<i>Cymbula granatina</i>	19,0	16,4	34,6	28,4	41,9	39,4
<i>Scutellastra granularis</i>	35,7	5,2	13,5	2,6	6,5	2,3
<i>Scutellastra barbara</i>	0	5,1	1,9	4,0	0	0,4
<i>Scutellastra argenvillei</i>	0	0,4	0	0,6	0	0,1
Limpets (unidentified)	0	0,2	0	0,1	0	1,2
Total limpets	58,8	27,3	50,0	35,7	48,4	43,4
<i>Burnupena</i> spp., <i>Nucella</i> spp.	16,7	11,7	0	0,4	0	1,5
<i>Argobuccinum pustulosum</i>	0	0	0	0,2	0	0
<i>Oxystele</i> spp.	0	0	0	0,1	0	0
Total whelks	16,7	11,7	0	0,7	0	1,5
Barnacles	–	10,4	–	0,6	–	3,7
<i>Venerupis corrugata</i>	0	1,8	1,9	0,1	0	0
<b>Totals (MNI/grams)</b>	<b>(42)</b>	<b>(340,5)</b>	<b>(52)</b>	<b>(434,2)</b>	<b>(39)</b>	<b>(287,6)</b>

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**Ancient primate fossil.** Researchers in Uganda have unearthed the well-preserved fossil skull of a 20 million-year-old primate, *Ugandapithecus major*. Preliminary analysis shows the tree-climbing herbivore was roughly 10 years old when it died. The skull is about the same size as that of a chimp, but its brain is smaller.

BBC News 13/08/2011



# LESOTHO'S METOLONG DAM: A LASTING LEGACY?

Charles Arthur and Peter Mitchell

In this second article on the Metolong Dam (MCRM Project) – see 'The archaeology of the Metolong Dam, Lesotho', *The Digging Stick*. 29(1) April 2012 – we look beyond the mitigation work of the project and examine its other key aim, namely to develop a lasting legacy of archaeological practice in Lesotho. We first describe the origins of the project in a country where, despite a long history of dam construction and an incredibly rich archaeological record, there has only ever been one practising archaeologist. We then outline our attempts at contributing to a more developed archaeological infrastructure that will be sustainable in the long term, including initiatives put in place for training and community engagement. We end by reflecting on the project's relevance to wider transformations in southern African archaeology.

## Lessons learnt the hard way

Pioneering rock shelter excavations and surveys in Lesotho from the 1960s until the mid-1980s carried out mainly by British archaeologists and largely in remote parts of the country's eastern highlands allowed little time or provided few funds for training or community engagement. One exception was a two-year rock art survey based at the National University of Lesotho (NUL) and directed by Lucas Smits, in the course of which Taole Tesele was trained as rock art recorder (Smits 1983). By the time the Lesotho Highlands Water Project (LHWP) was up and running in 1986 there was, however, no archaeological infrastructure to speak of (Mitchell 2005; Arthur *et al.* 2011).

Unfortunately, the situation did not improve much in the following 20 years, despite the construction of two very large dams and a notable amount of fieldwork, and even though specific recommendations were made for a field unit to be set up right at the beginning of the LHWP (Lewis-Williams and Thorp 1989). Instead, work was carried out by a variety of contractors and university staff from South Africa. To their credit, Tesele was employed by the LHWP and went on to complete an honours degree at the University of Cape Town during this period. Regrettably, however, on his return to Lesotho there was no post for him to

fill. Considering that with its five dams and a US\$ 7.5 billion price tag the LHWP was and can probably still claim to be the largest development project ever undertaken in Africa, the scale of this underinvestment is clear.

Four other archaeologists from Lesotho have completed post-graduate degrees in the last ten years, but all now work in South Africa, at least in part because of much higher salaries across the border. This means that Lesotho's Department of Culture struggles to attract and retain staff. By 2008 NUL appeared to have a brighter future (Arthur *et al.* 2011) following the appointment of an archaeology lecturer and founding of the first archaeology modules as part of a broader cultural heritage course, although the archaeological component of this course has now been suspended because of financial constraints. The 2011/12 national budget also cited the upcoming development of a national museum, but the figure was not disclosed and sceptics would say that this project has now been in the pipeline for well over a quarter of a century (Vowles and Dugast 1985). In lieu, the privately funded Morija Museum and Archives has taken on much of the responsibility of such an institution, having even undertaken historical landscape surveys and temporary storage of palaeontological materials. But it too is severely constrained by limited funding.

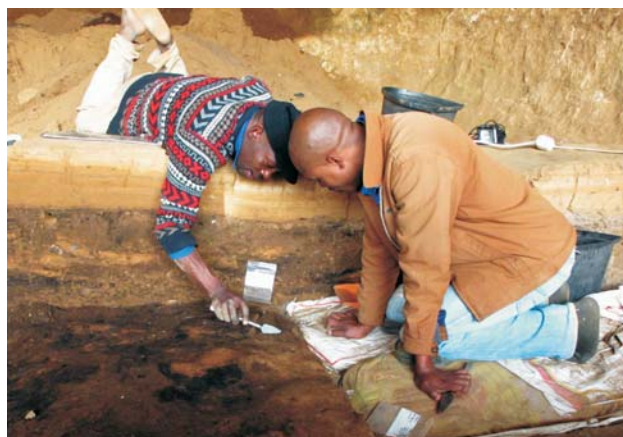


Fig. 1: Rethabile Mokachane explains how to excavate an Early Holocene hearth feature to Tlaleho Maloro, a 2011 trainee (photo: Charles Arthur)

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## The project takes shape

Taole Tesele was still practising archaeology on a part-time basis in 2008 and took responsibility for the initial Environmental Impact Assessment for the Metolong Dam, which included an agenda for the training of local archaeologists and the public

dissemination of knowledge (Tesele 2008). We then developed his outline into a proposal that, in contrast to LHWP, was designed to help develop archaeological infrastructure within Lesotho through sustained skills transfer. Perhaps the most crucial aspect was the inclusion of a continuous 18-month fieldwork programme between October 2008 and August 2010.



*Fig. 2: Rethabile Mokachane explains the excavation process to villagers on a site tour (photo: Adrian Stokes)*

We knew that there was an opportunity to do things differently this time and go beyond the usual archaeologist and labourer relationship, but exactly how we were to make this work as a sustainable venture was less clear. Some initiatives that later proved to be a success were planned from the start, such as printing newsletters and donating our equipment to and recruiting interns from the Department of Culture. However, when we began the Phase 1 survey and started meeting villagers in the project area we soon learnt that the true success of our project did not depend solely on a one-way skills transfer from archaeologists to community members. It was equally about us learning from and sharing responsibility with local communities.

### **Mentorship and sharing responsibility**

Almost immediately after our initial survey work commenced in November 2008, two highly motivated teachers realised that we needed help and attached themselves to us at weekends, showing a keen interest in how to record rock art and lithic scatters. Morija Museum also played a crucial part by recommending a young graduate to join us in the far southeast of the country for an excavation conducted between phases 1 and 2 of the MCRM Project at Moshebi's Shelter, the first ever site to be excavated in Lesotho (Carter 1969). Together with the teachers and another enthusiastic excavator from the local community at Ha Moshebi's, the first group of trainee archaeologists for the Metolong project had emerged of its own accord.

Phase 2 of our work at Metolong began in October 2009 with a team of five professional archaeologists

from the United Kingdom (UK), Ireland, South Africa and Australia who acted as mentors for the initial three Basotho trainees. As the project progressed, we increasingly gave responsibilities to the trainees. After six months, another community member from the Metolong area, the most enthusiastic participant in the sieving and sorting team, became our fourth trainee, and not long afterwards, the group was experienced enough to take responsibility for running small test excavations in rock shelters without supervision.

The 2011 and 2012 seasons saw those trained in 2010 take on the mentorship role as a new crop of trainees were intensively trained during a further four months of excavation (Fig. 1). Other aspects of our methodology were fundamental to the success of our training programme, most notable the use of the single context recording system developed on complex urban sites in the UK, which encourages every excavator to take charge of all aspects of the recording and interpretation process (Berggren and Hodder 2003).

At Metolong we extended this approach to the sieving and sorting station, for which recording sheets were designed so that people were not passively sieving and bagging material and only interacting with excavators when an unusual find could not be identified, something that is sadly all too often the norm on many archaeology projects. Instead, they were able to record the volumes of various finds by category, note differences in residue content and make notes on what this might mean for the interpretation of the site. In this way everybody who took part in the excavation took on an active role in constructing the archaeological record.



*Fig. 3: Pupils from Ino Primary School receive their first taste of excavation on the spoil heap at Ntloana Tsoana (photo: Jess Meyer)*

### **Student involvement and university support**

Unlike most previous archaeological work in Lesotho, the MCRM Project has taken place within easy reach of the NUL campus. To take advantage of this, a formal training day for final-year NUL students was provided at Ntloana Tsoana in February 2010. Twenty-four undergraduates from the NUL's cultural heritage



degree course were able to gain firsthand experience of a range of archaeological field techniques, including excavation, survey and planning, sieving and sorting, and stone artefact analysis. Subsequent to this visit, students joined us on Fridays to receive further training.

After excavations ended at Ntloana Tsoana and Ha Makotoko, some students were able to gain further experience of finds processing by helping to sort excavated material back at the campus. Two went on to excavate at the 19<sup>th</sup> century village site of Ha Makoanyane in July 2010. In addition to the final year students, one graduate was recommended by Dr Moleboheng Mohapi (then of the NUL) to join the MCRM Project for a four-month internship in 2010. The programme developed for her consisted of two months of intensive excavation training, one month of finds processing and one month of rock art tracing. This intern returned for the 2011 field season to gain another two months experience and has now gained a place on the 2012 honours degree course in archaeology at Wits University.



Fig. 4: MCRM team member Joseph Ralimpe talks at a *pitso*, Ha Makotoko village (photo: Charles Arthur)

### Community engagement

Our community programme was launched at the beginning of the second phase of our fieldwork in October 2009 with a short newsletter in both Sesotho and English. One thousand copies were distributed to local communities and as a result of this many villagers came to see the excavations (Fig. 2).

A number of school visits were co-ordinated from 2010 to 2012, often including mock excavations on the spoil heaps outside Ntloana Tsoana (Fig. 3). In 2011 and 2012 we began a programme of village meetings, either organised by ourselves with the help of the local chiefs, or, if the timing was right, tacked on to a more general *pitso* or village meeting (Fig. 4). The meetings were organised to explain briefly the results of the project and to formally invite the village to an open day. Three such days were held at Ntloana Tsoana during which over 120 villagers passed

through the shelter with local trainees leading the guided tour (Fig. 5).

Fortunately the stratigraphy at Ntloana Tsoana is impressive and can be seen very clearly, but we were still surprised at the level of interest and found that people were particularly drawn to the narrative of climate change and the flooding of the site at different times in the past.

At the *pitsos*, villagers also expressed an acute awareness of rock paintings as a resource that can bring tourism to an area. Questions were asked about the exact number of sites that would be impacted by the dam and whether any others exist nearby.

Media exposure to raise the profile of archaeology amongst the wider public was co-ordinated with the help of the Department of Culture. This included a small news feature on Lesotho TV about the excavations and training programmes that marked the first appearance for archaeology on national television. It was followed by an interview with one of our trainees in *The Informative* newspaper.

### Discussion: transformation through practice

The major limitation of the Metolong project is that it is, by its very nature, contract-based and therefore has a fixed lifespan. Two new archaeological fieldwork projects not tied to construction deadlines are, however, underway in or close to Lesotho and we have collaborated with the project leaders to enable our trainees to gain valuable employment beyond the end of our work at Metolong in mid-2012. Thus, in July 2011 one member of our team joined Brian Stewart and Genevieve Dewar's Adaptations to Marginal Environments in the Middle Stone Age (AMEMSA) Project digging at Sehonghong in the Lesotho highlands. Two of our senior excavation team have also recently secured four months employment as excavators on Sam Challis's Matatiele Archaeology Rock Art (MARA) Project based on South Africa's border with Lesotho in the Eastern Cape (<http://www.marasurvey.com>).

Employment of this kind on research projects is of course seasonal and will not provide enough of a salary to keep our well-trained excavators and graduates in the archaeological profession. A graduate may find employment in the Department of Culture or perhaps one of the few small private museums in Lesotho, but there are so few posts that even those with an honours degree will find it difficult to remain in Lesotho. The situation is even more uncertain for three of our senior excavators who do not have university degrees, as even in South Africa there are few, if any, positions for archaeological technicians.

Therefore, something has to change post-Metolong if we are going to secure longer-term employment for archaeologists in the region. For one, we must push for funding arrangements so that we do not have to

wait until construction of the next big dam commences. Ideas for a more varied funding pool have recently been explored elsewhere in more detail (Arthur et al. 2011). The important point here is that there is enough money in the many large dam schemes and the industries that consume Lesotho's water in Gauteng to warrant a funding programme for at least another two decades.

Second and more broadly, something is needed to boost all sectors of the heritage profession. One possibility is a non-governmental organisation (NGO) that takes some – but, importantly, not all – of its funding from dams and other resource exploitation projects, such as diamond and coal mines. The World Bank has recently indicated that it is committed to providing funds outside of specific projects, meaning that an initiative such as this could be seen in a favourable light (World Bank 2006). We envisage an organisation that can conduct cultural resource management (CRM) both in the rescue and conservation spheres, whilst serving as a capacity building centre until there are more positions available inside the state, museum and university sectors of the archaeological community.

Such an organisation would be better placed to deal with forthcoming dam projects in Lesotho that will undoubtedly have a political dimension. The much larger Polihali Dam, for instance, which forms the first part of Phase II of the LHWP and has just been given the go-ahead by the South African and Lesotho governments, will submerge five villages (<http://www.lhda.org.ls>). Independence from the dam builders will be crucial if archaeologists are to offer impartial advice in matters relating to exhumation, loss of ancestor worship sites and other heritage resources that might help manage the trauma of resettlement. As shown by impassioned testimonies that highlighted the destruction of ash middens containing infant burials following the poorly implemented Phase 1a of the LHWP (TRC 2000), and viewpoints recently expressed during the *pitso* at Ha Matjeke, there is a real awareness and concern about the impact of dams on cultural heritage amongst Lesotho's rural population.

The MCRM Project is an unusually large and long-term venture that has allowed us to implement programmes of training and community engagement, some of which may not be widely replicable. Nevertheless, we feel that the ideas discussed here are of significance for the transformation goals outlined recently by the Association of Southern African Professional Archaeologists – ASAPA (Smith 2009: 89). Although this charter is limited to South Africa at present, the movement it represents is of course relevant for the whole of southern Africa.

Ben Smith's 2009 paper that accompanied the publication of ASAPA's Transformation Charter identified the uptake of trainees by CRM companies

as a crucial aspect of the transformation process. The MCRM Project has trained a combination of graduates and technicians from local communities and shown this to be successful. The project has, however, been limited by the fact that it is tied to a specific dam-building scheme, thus exposing the weakness of the contract archaeology system for tackling transformation issues. For Lesotho, we have proposed an NGO-type organisation that could receive funds from varied sources and thereby provide longer-term employment and act independently in the face of politically sensitive construction projects. The first steps towards an organisation such as this have recently been taken by NUL graduates and trainees from the Metolong Project who together formed the Lesotho Heritage Network (LHN 2012). Starting out as a platform for communication, the organisation hopes to develop into a job creation and heritage monitoring initiative.

Other parts of southern Africa are also severely affected by natural resource exploitation – coal mining in Mpumalanga, for example – and perhaps archaeologists working in these areas could campaign for funds outside of specific mitigation schemes. Sharing staff members across projects has also provided some relief in our region. A similar system could be imagined across southern Africa, with smaller archaeological units formally sharing experienced technicians.

The success of our on-site methodology for sharing responsibility is also something that could be replicated. There is no reason that the supervisor-labourer model of the African construction industry should remain a common feature of 21<sup>st</sup> century archaeological practice. The benefits in terms of the transformation of the site into a place where local community members feel welcome far outweighs any financial gain provided by preserving that outmoded model.

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Fig. 5: Lineo Mothopeng and Matikoe Matsoso show finds to visitors during one of the 2012 open days (photo: Tlalero Maloro)

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## ARCHAEOLOGY IN BRIEF

**Older dates for cave paintings in Spain.** The exquisite art in Europe caves has been thought to be produced during the time of last glaciation by recently arrived modern humans, but dating the art has been problematic. Dr Alistair Pike from Bristol University has now obtained uranium-thorium series dates on the calcite crusts that formed over the art in 11 caves in north-western Spain, including Altamira, El Castillo and Tito Bustillo. Three caves were found to be older than 35 000 years and one motif, a faint red dot, dates to nearly 41 000 years ago. The earliest art used primarily red and was relatively formless; animal depictions appeared later. *Science* 336 (6087) & BBC News, 06/12

**Early pottery at 20 000 years ago in China.** The earliest pottery has been thought to have appeared in China and Japan 18 000 years ago. But broken pieces of pottery from Xianrendong Cave, Jiangxi Province, China, have now been dated to 20 000 years ago. Scorch marks on many pieces imply the pottery was used in cooking. The invention of pottery introduced fundamental shifts in human subsistence practices and socio-symbolic behaviours. The Xianrendong dates are 2 000 to 3 000 years older than pottery found in East Asia and elsewhere. The pottery was produced by mobile foragers. *Science* 29/06/2012

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# EMU HUNTING IN AUSTRALIA

## A comparison with the use of ostrich disguises among the San

J Francis Thackeray

I recently had the opportunity to visit Australia, including some time at Uluru (Ayer's Rock). There I spoke to a person who was directly descended from indigenous hunter-gatherers. He described the ability of a hunter to take advantage of 'curiosity behaviour' among emu by simulating the behaviour and appearance of an emu (by bending forward, with the body covered by spinifex grass). The hunter used his 'killer boomerang' to simulate the neck and head of an emu.

A 'killer boomerang' is different from other (symmetric) boomerangs in the sense that it is long with a 'hook' at one end, and is thus similar in appearance to the long neck and head of an emu. The hunter would stalk an emu by occasionally flicking the 'head' of the killer boomerang, to the left or to the right, to mimic the turning head of an emu. This attracted the attention of an emu. When the emu had approached the hunter sufficiently closely, the hunter aimed his killer boomerang at the emu's neck or the legs.

The principle of taking advantage of 'curiosity behaviour' among emu in Australia is reminiscent of the use of ostrich skin disguises in South Africa as documented by Moffat, for example, and described by Thackeray (1983) with reference to the use of a stick (club) to simulate an ostrich neck. The accompanying figure is a South African example of the use of an ostrich disguise in the context of hunting a giraffe. The hunter appears to be holding a stick with a hooked end to represent the head of an ostrich, which is very similar to the use of a hooked 'killer boomerang' in the context of an emu disguise as described by my informant at Uluru.

With reference to this figure, Thackeray (1983) stated: 'This engraving graphically demonstrates the ability of the disguised hunter to take advantage of the vulnerable posture of the giraffe, and further, it implies a successful disguise since giraffe do not drink if they are aware of predators'.

Among San, the ability to take advantage of 'curiosity behaviour' of animals may have been perceived in terms of 'supernatural potency' (*/num*) associated with shamans/medicine-men who wore animal skins in hunting contexts, but probably also in ritual (cf. Burchell's reference to 'be-creeping caps' made of springbok skin, and Bleek's reference to the use of skin caps by 'sorcerers').

---

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Incidentally, Chippindale, Smith and Tacon (2000, 83: Fig. 8) recorded a painting of a hunter and an emu in Australia, depicting a line or dashes drawn between the bird and the human who appears to be holding grass (spinifex), perhaps to be elusive in a grassland context. They question whether such dashes represent what is called *marr* or spiritually derived power'. Perhaps in such cases the *marr* power is based in part on the ability to take advantage of curiosity behaviour in emu.



*The apparent use of an ostrich disguise by a hunter approaching a giraffe drinking. The hunter appears to be using a hooked stick to represent the head and neck of an ostrich. From Thackeray (1983), based on Dora Fock's copy of a rock engraving at Klipfontein, northern Cape. Reproduced with permission of the South African Archaeological Society.*

### Acknowledgement

I am most grateful to Marshall Weisler and Jessica Thompson at the University of Queensland for the opportunity to visit Australia. I thank the community at Uluru for the opportunity to discuss Australian hunting techniques, and I thank Ben Smith for drawing my attention to the emu hunt represented in Australian rock art.

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# RHEBOKSFONTEIN 1

## Do we have Khoekhoen in the Darling Hills?

Jayson Orton

**Numerous cultural resource** management (CRM) surveys in the Swartland area north of Cape Town have yielded archaeological artefacts, but very seldom are they in good context because of the many years of ploughing that have occurred in this fertile area. Most of these artefacts are well weathered and pertain to the Early and Middle Stone Ages, but occasional Later Stone Age items are also found. Most farmers have at least one bored stone on their living room mantelpiece!

This article places on record a site recently found in the Darling Hills at the far south-western edge of the Swartland, also during a CRM survey (Orton 2010a). In this area rocks of the Cape Granite Suite have intruded the Malmesbury Shales to form a very prominent area of high ground between about 6 km and 12 km from the coast.

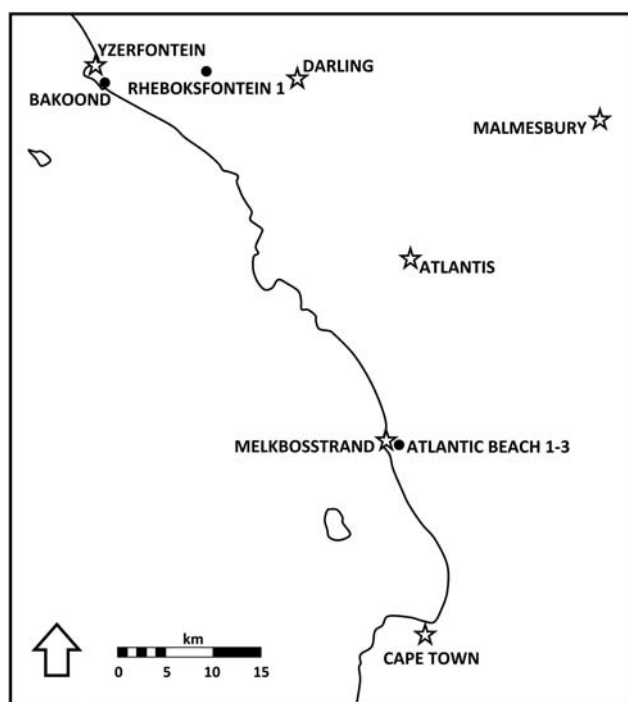


Fig. 1: Locations of sites mentioned (dots) relative to local towns (stars)

### The Rheboksfontein 1 site

The site, an artefact scatter, was found on the far western edge of the Darling Hills in ploughed land around a granite outcrop. It has been named Rheboksfontein 1 after the farm on which it is located. The outcrop forms part of a ridge overlooking the

coastal plain and is some 6,5 km from the Atlantic Ocean and just less than 11 km from the nearest rocky shore at Bakoond, south of Yzerfontein (Fig. 1). The majority of artefacts were observed in a 20 m diameter area around the outcrop, but additional artefacts, presumably from the same site, were scattered at least 20 m to 30 m further afield. The archaeological survey covered extensive areas of the western-most high ground with ridges, outcrops and river valleys targeted as likely locations for pre-colonial occupation. No other sites were located and randomly occurring artefacts were generally rare (Orton 2010).

A feature unique to just two of the granite outcrops examined was the presence of large water-filled basins, one of which was at Rheboksfontein 1. The latter was some 4 m to 5 m in maximum dimension and had at least 20 cm of water in it, possibly representing a volume of between 2 m<sup>3</sup> and 2,5 m<sup>3</sup> (Fig. 2). Although no site was found near the second basin, I believe that the presence of a temporary water supply may well have been the reason that people made use of Rheboksfontein 1.

The nature of the survey meant that the site was recorded rather quickly, but even so enough artefacts were found to provide some sort of characterisation of the scatter. My first thought while examining the artefacts was that this site was not a typical west coast site. Near the coast, ephemeral scatters of quartz flakes, perhaps with the occasional artefact in fine-grained silcrete, and including shell are most common. Rheboksfontein 1 is different; ground artefacts and broken cobble manuports dominate visually, but with various flaked artefacts also present, among them a large, coarse-grained silcrete flake, several similar pieces in quartzite and a core in quartz porphyry (Fig. 3). A few smaller flakes in quartz and quartzite were found but retouch was not noted.



Fig. 2: The water-filled basin at Rheboksfontein 1

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Fig. 3: Stone artefacts from the surface of Rheboksfontein 1 (scale: 15 cm)

Undoubtedly, many more flaked artefacts are present on the site with larger artefacts perhaps more likely to remain visible on the surface after ploughing. Many of the latter actually display rusty-coloured streaks where they have been impacted by ploughshares. A lower grindstone with a prominent groove and two faceted upper grindstones testify to long-term use, while another less well used upper grindstone preserves traces of ochre. With the soil being shale-derived and draped over granite, the cobble artefacts and manuports must have been brought to the site from the coast.

Also present at the site was half a bifacial point of the sort commonly ascribed to the Stilbay period of the Middle Stone Age. It is of very fine-grained, dark grey silcrete and was presumably collected as a curio (Fig. 4). Three historical artefacts were also found, namely two fragments of Chinese coarse porcelain, one of which is part of the basal rim of a bowl, and part of the base of a wine bottle. No organic material was seen and, perhaps significantly, no pottery.

### Discussion

The stone artefact assemblage at Rheboksfontein 1 is very informal in the sense that retouch is absent and the flaked artefacts are variable in size, shape and material. Smith et al (1991) and Yates & Smith (1993) have argued that 'informal' assemblages, characterised specifically by low frequencies of retouched formal tools and silcrete among their flaked component, indicate the presence of herders. Despite the limited observations I am confident that this site can be placed into the group of sites with 'informal' assemblages and suggest that ascription to herders seems plausible.

It should be noted that the above 'definition' of informal assemblages and their association with

herders is only applicable to sites in the south-western part of South Africa. Further north, in Namaqualand, a similar pattern may prevail, but with cryptocrystalline silica rather than silcrete, and the added complexity of the presence within the last 2 000 years of crystal quartz assemblages rich in backed tools (e.g. Orton et al 2005). However, the Namaqualand region is as yet too poorly understood to make definitive statements in this regard. The well-researched south coast and its hinterland are completely different. Here one finds assemblages strongly dominated by larger quartzite flakes. Several good examples have been published and it is quite clear that these assemblages first appeared on the landscape some 3 500 to 3 200 years ago, well before herders arrived in Southern Africa. These assemblages probably reflect the easy availability of quartzite cobbles, particularly along the coast, and hence represent an expedient industry with artefacts made for immediate use and discard. The same may well be true of strongly quartz-based assemblages on the west coast, except that there the artefacts are substantially smaller.

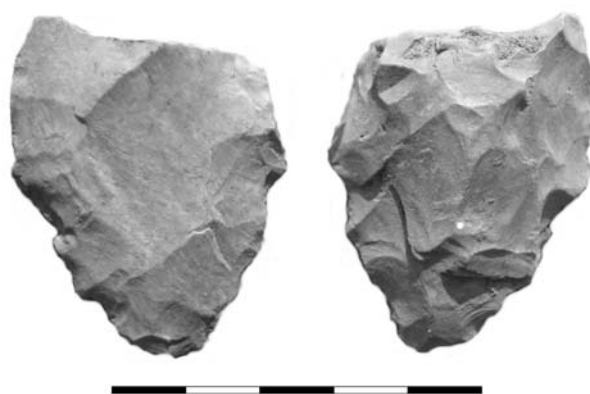


Fig. 4: Both sides of the broken bifacial point from Rheboksfontein 1 (scale: 5 cm)

Sadly, many archaeological sites on the south-western coastline have been destroyed by development. Few excavations have taken place and even fewer are published. Although Bakoond contained substantial Holocene deposits, the cultural finds from that site seemed to indicate a hunter-gatherer occupation (Orton 2009). Near Melkbosstrand, some 44 km to the south, the three excavated sites at Atlantic Beach seem to reflect herder occupation. Sealy et al (2004) noted the presence of sheep bones, informal stone artefact assemblages, pottery and many beads greater than 6 mm in diameter. On one of the three sites, sheep were the most frequent animal identified to species level.

Sealy et al (2004) see the Atlantic Beach sites as being very specifically located close to the rocky shore, fresh water and the fertile clayey soils that provided good grazing. The slightly higher ground in the dune cordon afforded good views over adjacent

pasture lands. Although somewhat further from the coast, Rheboksfontein 1 certainly has water, good soil and a great view. If herders were the responsible party then good grazing and water must surely have taken priority. Interestingly, no survey has ever targeted this area specifically to search for the Khoekhoen (A Smith, pers. comm. 2010).

The finds at Rheboksfontein 1 include a few colonial period items. Whether these arrived there independently of the indigenous inhabitants or not is unknown, but the possibility nevertheless remains that the site could represent a late Khoekhoen camp. Organic material (ostrich eggshell, marine shell or bone) that could be radiocarbon dated was not evident on the surface and neither was any cultural material other than stone artefacts. Ostrich eggshell beads and pottery in particular might have been instructive. Without a proper excavation taking place at Rheboksfontein 1 little further can be surmised.

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#### New scanner at Wits to boost discoveries

Wits University ushered in a new era of palaeosciences with the installation of a new micro-CT scanner in the Palaeosciences Centre in April. The National Research Foundation awarded a grant of R8,2 million and the Wits Research Office made available another R2 million. It is the only device of its kind in South Africa and rivals the performance capability of any other microfocus CT system connected to a palaeontology research group worldwide. For several years the Bernard Price Institute and the Institute for Human Evolution at Wits have been setting up a laboratory for virtual image processing. Wits is the custodian of one of the largest collections of fossils in the southern hemisphere.

*Wits News, 23/04/12*

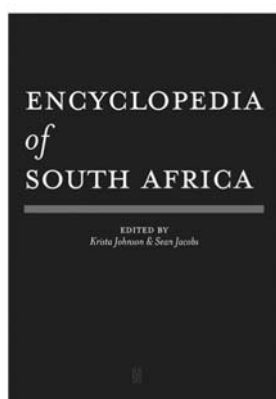


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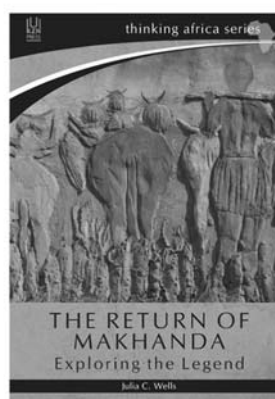


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# Three issues in San rock art research: a series of short contributions

## Part 3: LET'S COMPILE A DATABASE

David Lewis-Williams

**There is a saying** that irritates some archaeologists but amuses others: 'When in doubt, categorise'.

Today, when young archaeologists confront possible fields of research they inevitably have to deal with the work of their predecessors. First and foremost, they inherit a set of categories that has come to define the field. Aspiring Stone Age archaeologists, for instance, accept that they will be studying hand-axes, cleavers, scrapers, blades and so forth. As they progress with their work, some may question these received categories, rejecting some and combining others. Having spotted features that their predecessors missed, some may even create new sets of categories altogether.

Those who feel the need for adjustments find themselves facing a fundamental principle not just of archaeology but of logic. It is this: a single set of categories is not inherent in data. Categories are the creations of researchers. To bring this point home to students, lecturers sometimes hand them a box of assorted buttons and ask them to divide them up into categories. Some divide the buttons up according to colour, others according to size, still others according to whether they think they come from men's or women's garments, and so forth. It then becomes obvious that the categories do not come from the buttons themselves but rather from the minds and interests of the students. The next step is to realise that sets of categories are created to answer specific, certainly not all, questions that researchers may wish to investigate. Students who grasp this principle are set on promising careers.

In the 1960s some archaeologists considered rock art research to be vague and unworthy of professional attention. They felt that the discipline should be 'scientific' and that intuitive categories of images established on the basis of a researcher's experience were suspect. Categories should be defined 'objectively' and should be subjected to statistical techniques.

Some rock art researchers responded by proposing quantitative techniques that they thought would meet the requirements of their more scientific colleagues. The initiators of this approach were Patricia Vinnicombe and Tim Maggs. Each began by compiling a list of supposedly objective categories and then recording all the images in a given area according to

these categories – in other words, a database. I and others followed them. These were monumental research projects involving thousands of images and years of fieldwork and subsequent analysis.

At first it seemed to quantifying researchers that their categories were 'valid' and, above all, objective. But the features that they quantified were, like the students' buttons, not objective 'givens': their categories depended on ideas, no matter how vague, that were already in their minds and that derived from what they thought the art was all about. Their explanations of the art therefore did not emerge inevitably and logically from the quantified database. Rather, explanations governed the formation of the categories.

Some examples illustrate this point. In his unequalled 1971 book *Ndedema*, Harald Pager listed nine major categories, including human beings, man-made structures, mythological creatures, animals and landscape features. Each of these had subdivisions. For example, 'man-made structures' comprised fence, ladder, rope bridge and so forth. Problems soon emerged. Each of these categories depended on subjective interpretations of what was painted on the rock. For instance, it is not clear why some images should be listed as merely 'animals' when they (e.g. eland) appear in myths. Then, too, the subdivisions of the 'human' category did not recognise postures that were significant but at that time still unknown (e.g. arms back, hand to nose).

The situation was worse when it came to groups of images. Pager distinguished: hunting, dances, fighting, camp scenes, flight, food gathering, honey gathering, herding cattle, burial scene and ceremony. Underlying this set of categories is the assumption that the art is *primarily* a depiction of daily life. Examined from a more informed point of view, 'camp scenes', for example, may turn out to depict rituals.

Problems continue when fieldwork begins. For instance, in a 'procession' of ten human figures, one may bleed from the nose. Does this mean that only ten per cent of the figures are related to the trance dance, or does it mean that *all* the figures in the group are thus related?

The conclusion is that researchers should design categories to deal with specific issues and that the categories inevitably involve interpretations. The categories that researchers create were not necessarily in the minds of the image-makers. Category creation

*Continued on page 16*

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# OF MONUMENTS AND RUBBISH HEAPS

## An alternative look at megamiddens on the former Transkei coast

Gareth Angelbeck

**Many scholars** are under the impression that despite their obvious archaeological value, shell middens are technically little more than ancient rubbish heaps. The *Oxford Concise Dictionary of Archaeology* defines a shell midden as 'an extensive rubbish heap consisting largely of shells discarded after the removal of the soft edible body portion, the result of many years of exploitation of marine resources as a main or supplementary food source' (Darvill 2008). This definition may, in fact, be incomplete as there is strong evidence from many parts of the world which suggests that some shell middens may have been created for cultural or religious purposes (Claassen 1998). This article explores the possibility that some former Transkei coast shell middens may also once have had monumental value.

### Megamiddens

Archaeological evidence suggests that between 2 000 and 3 000 years ago, humans living along South Africa's west coast abandoned coastal caves and relocated inland. Unsuitable environmental conditions during this period may have dissuaded humans from settling at the coast for any extended period of time (Parkington 2006: 76). Despite the bad weather, humans still made regular visits to the coast, but now they preferred to set up temporary camps near the resources of exposed rocky points (Parkington 2006: 71). It was these brief yet productive visits to the same exposed rocky points year after year that eventually resulted in the build up of massive shell heaps known as megamiddens.

Most middens predating 3 000 years contain remnants of bone, pottery, ash, charcoal and a mixed variety of shell species. On the other hand, the composition of megamiddens is overwhelmingly dominated by shells, mostly mussel with relatively few limpets or other species (Jerardino 2011: 14). Humans must have found it best to harvest and dry as much shellfish meat as possible (from an abundant and easily accessible species) before retreating inland (Parkington 2006: 74). Their shell refuse would then be piled into large heaps, presumably to avoid having it lie around. If this was the case, then why do large middens exist in places where there was actually no need to pile refuse up in the first place? Below we will look at three such examples.

### Mound Point

Mound Point lies about 15 km north of Kei Mouth on

what is now the former Transkei coast. The point must have once been a favourite camp site as it boasts an impressive grass-covered midden that is visible from several kilometres away. The point is more of a platform and has steep sides nearly all the way around. One would assume that if people wanted to discard their rubbish for good they would have simply walked a few metres and thrown it over the edge of the platform. Why pile it up in the centre and waste camping space? This suggests that the Khoesan may have deliberately saved their shell refuse in order to pile it up. Another similar example can be seen at Mazeppa Bay, just a few kilometres north of Mound Point.



*Mound Point as viewed from the south. The megamidden is clearly visible in the centre of the photograph.*

### The Mazeppa island midden

At Mazeppa Bay there is a small, predominantly rocky islet lying just off the beach. The islet can easily be reached by walking across the sand during low tide. It is dominated by a spectacular midden that lies near its centre. Sea-side grass grows near the centre of the islet and over the midden itself. There is no guess as to why the Khoesan would have wanted to camp here, but the islet must in ancient times have supported vast colonies of shellfish. As in the case of Mound Point, there is no reason why the ancient campers could not have discarded their shell refuse over the side of the islet and into the sea. Was the midden a deliberate construction?

### The Black Beach midden

Just south of Mound Point lies a picturesque stretch of coast with small cliffs and narrow inlets. The sand here contains rich deposits of black titanium ore that

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gives the beach its name. Among the cliffs there is a small, unimpressive pillar of rock that juts out towards the ocean. Despite the top being flat, the rock itself is way too small to have accommodated even a small camping party. Right on top of this pillar of rock, and appearing to have no business there at all, lies a shell midden. It is clear that shells must have been placed there in the past for some reason, but why?



*Mazeppa Bay islet. The enormous shell midden can be seen in the centre.*

### Why build a midden?

The motivation behind wanting to create a shell midden on a small habitable point or islet must have outweighed the disadvantages. Most people will agree that it is very annoying and painful to tread on a discarded shell, especially a broken one. Now imagine how the chances of this happening are increased if a camp site is littered with discarded mussel shells. Another disadvantage would have been the unpleasant odour of the mussel shells within a few days of being heaped in a pile. The intended function of the midden must have been quite important if the builders were willing to put up with these small yet easily avoidable irritations.

### Shining white beacons

There is no doubt that it took a long time for shell middens to reach the size of the Mazeppa Bay island midden, perhaps months if not years. Megamiddens were probably never actually completed but rather abandoned after a while. As the years would go by, the midden would eventually become covered over by grass, thereby preserving its morphology. However, it takes a very long time for grass to grow over a midden, even a small one. This means that for a great deal of its life the midden would have stood out as a huge, spectacularly white object, not dissimilar to a beacon. Is it a coincidence or were some shell middens created with the intention of being seen from far away? If so, then what could be the reason behind this?

One possibility is that the middens were constructed to act as a landmark so that favourite harvesting areas could easily be located. Religious reasons cannot be ruled out either as many human remains have been found inside middens (Claassen 1998). My preferred theory is that ancient coastal dwellers, like so many other cultures, simply liked the idea of creating something big and impressive for others to admire.

### Middens elsewhere

Large middens are relatively common and can be found in many parts of the world (Parkington 2006: 120-125). However, most of these middens differ substantially from those on the former Transkei coast, mostly resembling informal dumping sites with shells being scattered over a large area, almost in a haphazard fashion. In contrast, former Transkei megamiddens appear neat and are restricted to a limited area. Despite being massive, most open-air middens in the Cape and on the west coast are generally low lying and cover a large area (Jerardino 2011, 15: Fig. 2, Parkington 2006, 71: Fig. 57). Heaped middens are rare but there are a few situated near the entrance to caves and overhangs as can be seen at De Kelders and Matjes River respectively (Parkington 2006, 65: Fig. 51). In such cases, however, they usually represent many thousands of years of build-up and often predate the megamidden phase.

The Khoesan of this region either never bothered much to pile their shells in neat heaps, or the heaps that they did make have been levelled over the years as a result of a lack of grasses to help hold the middens together.



*The Black Beach midden. Notice how close the midden is to the edge of the cliff. It would have been just as easy for the campers to throw their shells over the edge.*

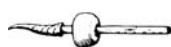
### Conclusion

The Khoesan are well known for their impressive rock paintings and engravings. Could some of these 'monumental' middens represent another side of their cultural heritage? It just may be that South African

archaeologists have focused too much on the contents of middens and have overlooked their structural value altogether. Very little in-depth research has been undertaken on this topic, especially in South Africa, as is apparent from the scantiness of my reference list. It is an interesting time for coastal archaeology and perhaps this article will inspire discussion or even further research on the topic.

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### ARCHSOC TRANS-VAAL BRANCH

#### CALL FOR 2013 FUNDING PROPOSALS

The Trans-Vaal Branch of the South African Archaeological Society invites applications for funding by researchers and educators in the field of archaeology for the 2013 year. South African archaeological research projects and educational programmes that promote knowledge about and an understanding of archaeology will be considered. The deadline for applications is **30 November 2012**.

Funding by the Trans-Vaal Branch may be split over more than one project and the branch committee's awards decision will be final.

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7. Proposals for publication of research results.

Successful applicants will be required to provide six-monthly progress reports and a final project report. An article for *The Digging Stick* on the grant project may be requested on project completion.

Applications should be forwarded to the Secretary, Trans-Vaal Branch, South African Archaeological Society, PO Box 41050, Craighall, 2024, or by e-mail to [secretary@archaeology.org.za](mailto:secretary@archaeology.org.za). Enquiries to: Reinoud Boers, [fox@boers.org.za](mailto:fox@boers.org.za), tel. 011 803 2681.



#### Let's compile a database (from page 13)

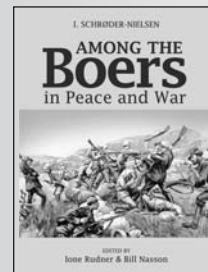
and explanatory research should therefore go hand in hand. Those who wish to compile data bases on which other researchers can found their research should realise these problems.

#### Further reading

- Lewis-Williams, JD. 1990. Documentation, analysis and interpretation: dilemmas in rock art research. *South African Archaeological Bulletin* 45, 126-136.
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- Lewis-Williams, JD & Pearce, DG. 2004. *San Spirituality: roots, expressions and social consequences*. Cape Town: Double Storey.
- Walnut Creek, CA: AltaMira.

### Among the Boers in Peace and War

**Ingvar Schröder-Nielsen**  
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Among the many little-known stories of the Anglo-Boer War is that of a young Norwegian land surveyor who lived among the Boers in west Transvaal and described their ways with humour and empathy. Appalled by the destruction of farms and the incarceration of civilians, he joined the Boer forces and took part in a number of battles. His descriptions of their military tactics, improvisations and onerous circumstances vividly bring to life the people enmeshed in these conflicts. Nielsen was captured and witnessed the tragic execution of his comrade Piet Schuil, a Hollander sentenced to death on trumped-up charges. Nielsen's account of Piet's execution is very moving. Very interesting and often amusing is his description of life in the prisoner-of-war camps in Bermuda.

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# THE SALVOR AND MARITIME ARCHAEOLOGY

Charles Shapiro

As a commercial salvor interested in historical shipwrecks in the Western Cape during the 1980s and 1990s, I thought it would be of interest to readers of *The Digging Stick* to know something of the archaeological lessons I learned while investigating three wrecks dating to the 17<sup>th</sup>, 18<sup>th</sup> and 19<sup>th</sup> centuries. [See Editor's Note below.]

## The *Johanna* (1682)

An English East Indiaman of 550 t, 3 decks and 36 guns, the *Johanna* left England destined for Surat in India on 27 February 1682 in the company of four Bengal-bound ships. The *Johanna* and the *Welvaert* approached Cape Agulhas early on 8 June. A shift of wind and heavy cross-winds resulted in the *Johanna* running onto a reef about 60 km to the east of the cape at around 04:00. The *Welvaert* managed to throw her anchors and waited till morning, but then continued on her journey.

The *Johanna's* principal cargo consisted of 70 chests of pieces-of-eight and silver bullion valued at £72 000 for English factories in Bengal. Ten people drowned and 104 reached Cape Town. A salvage party dispatched by Simon van der Stel and headed by Ensign Olaf Bergh of the Dutch East India Company found four bodies washed up on shore and besides bottles and casks of wine, brandy and beer, and various ship's items, recovered from the shallows a chest containing 613 Spanish reals and 15 bags of Spanish dollars, the total value of which came to 28 302 gulden. After that, the *Johanna* lay untouched for 300 years until we discovered her remains on the outer reefs of 'Die Dam', east of Quoin Point, in November 1982. Most of the shallow site lay under sand and after trial and error with a range of equipment the site was excavated with a prop-wash vessel.

When the National Monuments Council (NMC), now the South African Heritage Resources Agency

### Editor's note

There is an obvious conflict of interest between the work of marine archaeologists and salvors. Readers who wish to gain more insight into the debate are referred to a report entitled 'When is marine salvage "archaeology"?' by Andrew B Smith, Department of Archaeology, University of Cape Town, in the *South African Archaeological Bulletin* 43(148) December 1988, 122-123, as well as the paper 'Practice and policy in maritime archaeology' by HJ Deacon, Department of Archaeology, University of Stellenbosch, which appeared in the same issue (123-125).

Charles (Charlie) Shapiro is a salvor based in Cape Town. He is a member of the Nautical Archaeology Society (NAS) and the SA Archaeology Society. aquaexplor@mweb.co.za

(SAHRA), adopted new legislation pertaining to historical shipwrecks in the early 1980s, the *Johanna* became the second wreck to resort under the new act. A salvor, or permit holder, had to find his own way to comply with the archaeological requirements. From book knowledge and excavation techniques seen in Israel, I designed a 3x3 m grid system of reinforcing rods. The grid system over the *Johanna* worked well for a couple of weeks until the first strong sea destroyed it, and with it all referencing. The different conditions along our coast and those of a sheltered area of the Mediterranean became very apparent. Apart from over 23 000 cob coins and a few hundred kilograms of silver bullion in the form of disc ingots, the only other complete artefacts found were 44 iron cannon, a grindstone, a lead container, a sharpening stone and a wine bottle.



A cob coin from the *Johanna*

## The *Colebrooke* (1778)

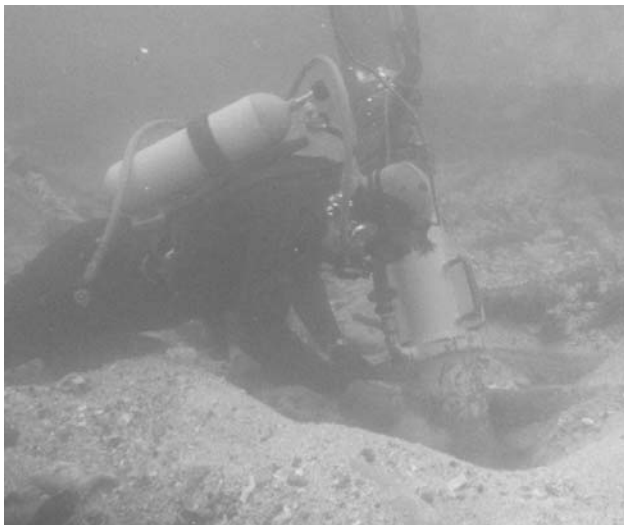
An English East Indiaman of 739 t, the three-deck, 137 ft long *Colebrooke* was on her third voyage. Loaded with lead ingot, shot, copper, gunpowder, wine, guns, corn and livestock, she stopped at Madeira to load wine and on 26 May set sail for Bombay with 212 people on board. On rounding Cape Point at 11:30 on 24 August, she struck hard upon a submerged reef known as Anvil Rock. She took water rapidly and at 16:00 the vessel ran ashore in Kogel Bay. Seven people drowned in the surf when their pinnacle capsized. The vessel broke up on the sixth day and no cargo was saved.

The wreck was located in 1984 on the basis of clues obtained from charts in the Dutch Archives in Cape Town. Since its discovery I have only seen the site naturally exposed once for seven days. At other times the sand cover varies between 1 m and 4 m. Sand-covered sites pose many difficulties as only a small section can be opened at any one time. Each opened hole is documented separately and only when something is recognised from a previous hole can one start joining one's plans together. At the time the site was uncovered I managed to jot down the rough layout of the exposed objects.



A coil of rope from the *Colebrooke* site





Salvors with an hydraulic blower and 6-inch airlifts opening an excavation hole

The *Colebrooke* was where I started to develop and employ the technique of triangulation, using fixed points such as anchors or cannons. Fixed points are usually objects that remain in place throughout the excavation, while baselines are created by measuring the length of any long object. This procedure is repeated from one fixed point to the next until all relevant fixed points have been measured in. This network of triangles allows objects to be placed accurately relative to each other. The technique proved successful on all the sites I excavated.

While still excavating the *Colebrooke*, a task yet to be completed, the SA Cultural and Maritime Museum employed archaeologist Jaco Boshoff. He had an interest in diving and we invited him to join us on site. The museum provided him with his own restoration laboratory to take charge of its share of artefacts. As the years went by, the NMC also employed an archaeologist, John Gribble, and he became involved as well. The three of us had many discussions about site measuring and archaeology. It was John who taught me how to make plastic tags to number the *Colebrooke* hull ribs as they were exposed.

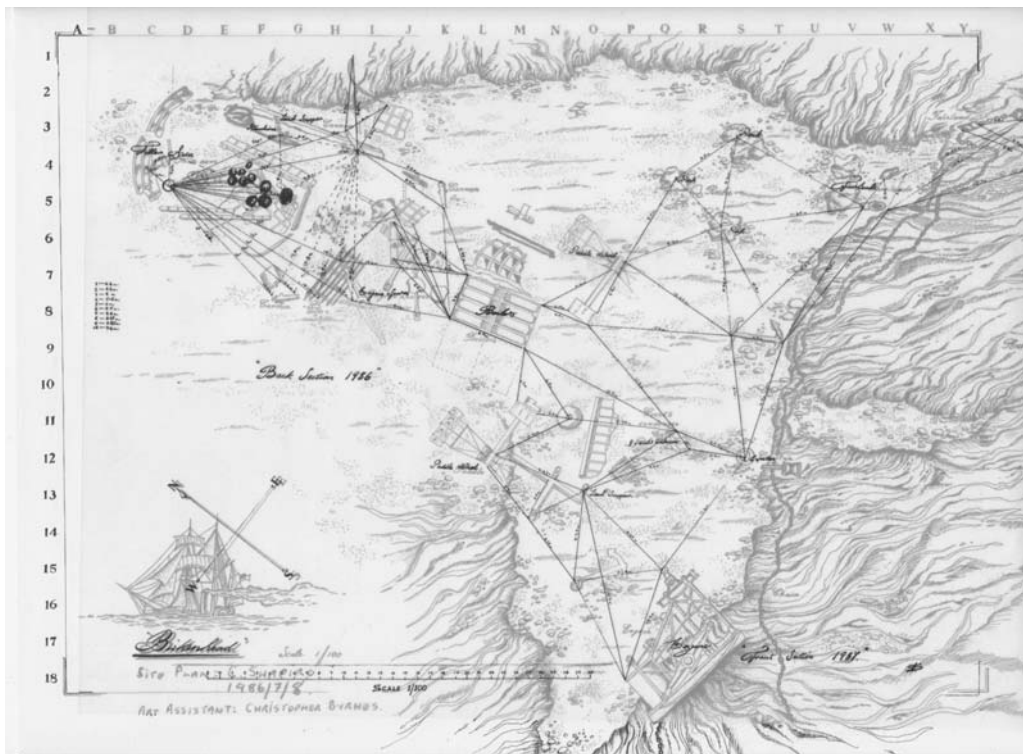
Over the years, Jaco, John and I worked well together, but the elaboration of the UNESCO Convention on the Protection of the Underwater Cultural Heritage in 2001 ended this relationship. [Its guidelines stipulate that signatories to the convention may not approve permits for salvage of historical wrecks if the material recovered from the wrecks is to be sold commercially. In South Africa this area is governed by the South African Heritage Resources Act of 1999 as the country has not yet signed the UNESCO convention. The act classifies shipwrecks as archaeological sites – ed.]

### The *Birkenhead* 1852

A British paddle-wheel iron frigate of 1 400 t, the *Birkenhead* was built in 1845 and converted to a troopship in 1848. In December 1851 she sailed from Ireland under the command of Captain Robert Salmond. Leaving Simon's Town on the morning of 25 February 1852 after loading coal and provisions, her compliment of 638 people included 20 women and children, 138 crew and 480 army officers and drafted men who were to join Lieutenant-General Sir Harry Smith at the Cape's Eighth Frontier War. At around 02:00 that night she struck a submerged rock off Danger Point and the lower deck flooded rapidly, drowning many men in their bunks. The surviving men, officers, women and children gathered on deck. Lieutenant-Colonel Seton of the 74<sup>th</sup> Foot took charge of the military personnel. Apart from about 60 men sent to man the pumps, the rest were commanded to stand in line and await orders.

Captain Salmond made a grave mistake by ordering the *Birkenhead* to be put astern, which caused the hull to rip open further. The sudden inrush of water swamped the boiler fires and the vessel began to break up. The funnel crushed the paddle-wheel lifeboat, killing the men who were trying to launch it. Thick layers of paint frustrated the men who were trying to launch the boats. Eventually two cutters and a gig managed to leave the ship with all the women and children who all survived. The horses were cut loose and then Salmond shouted that everyone who could swim should save himself by jumping overboard and making for the boats. But Seton countermanded this order to prevent the boats from being swamped. Because of the great gallantry of her men in standing fast, the *Birkenhead* has secured a place in history. Their action became known as 'The *Birkenhead* drill – women and children first!' The ship broke up rapidly; 25 minutes after she had struck the rock only the topmast and topsail yard were visible above the water, with about 50 men clinging to these. The bow broke off after 12 minutes and then the vessel broke in two abaft the engine-room, whereafter the stern sank. Of the 638 people on board, 445 lost their lives.

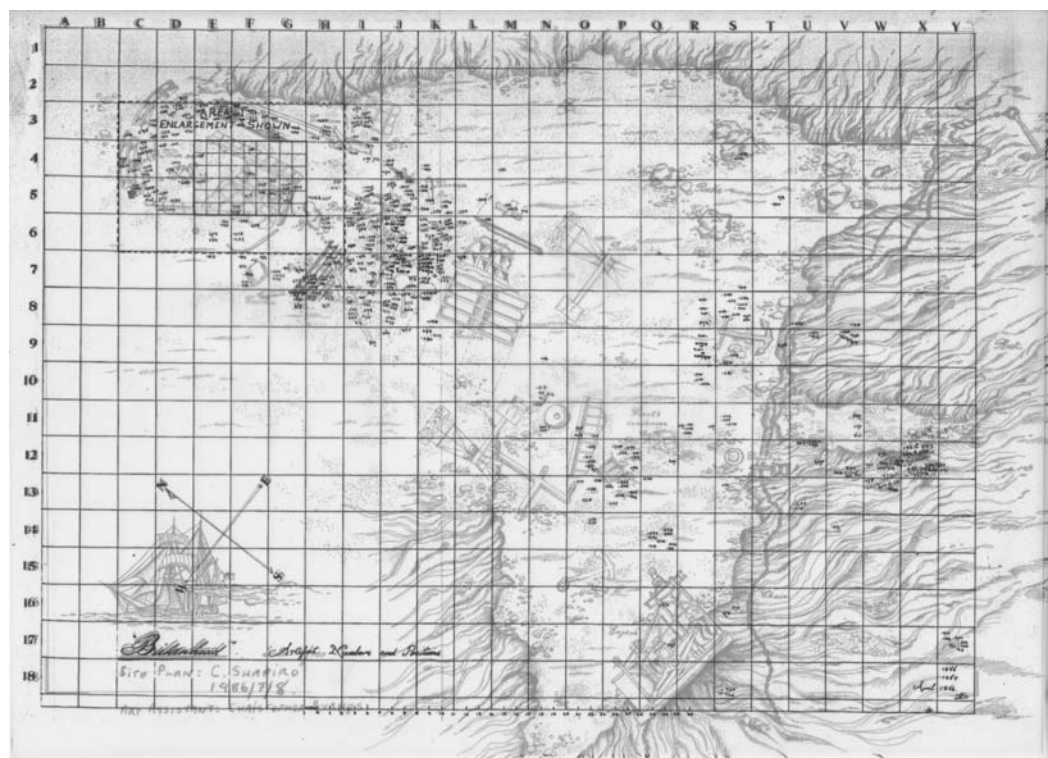
The wreck of the *Birkenhead* lies in 32 m of water. It was my main learning ground as an amateur maritime archaeologist. Initially without the possibility of assis-



Site plan of the Birkenhead showing the triangulation grid

tance from maritime archaeologists, we nevertheless had to follow the regulations of the National Monuments Act. Mike Keulemans and I shared responsibility for the archaeological aspects of the project, with Mike overseeing the preservation in particular. The *Birkenhead* was a high-profile project laying us open to criticism and the technique I had employed on the *Johanna* and the *Colebrooke* was still in its infancy. Dr Allan Kayle, Italo Martinengo and I had numerous discussions about the archaeological aspects of the excavation. We decided to try out a

'triangulation ring' as shown in Keith Muckelroy's book, *Archaeology under Water*. However, the 1 m diameter ring standing on a four-legged stand was abandoned on the very first day. I realised the shortcomings of this and other proposed systems because of either poor visibility, a strong surge or current, or the varied terrain of rocks, reefs and sand. For the development of a site plan I decided the only viable and practical system was what I had been using on the *Colebrooke*, namely triangulation.



Site plan of the Birkenhead with the artefacts' grid reference



With our system it eventually only required one diver to make the triangulation measurements as long as the end of the tape could be tied to an object. Divers were then instructed to work next to this baseline in the target area and to note the marking on the line before removing any artefact. This made it possible to plot the location of a particular artefact accurately. Artefacts were numbered upon being brought to surface, given a grid reference, placed into wet containers for stabilisation and stored until bad-weather days when they were entered into the main artefacts register along with the date of recovery. Between 31 January 1986 and 25 April 1988 a total of 827 artefacts were registered.

### Plotting of the artefacts

The plotting of artefacts proved to be uncannily accurate when I correlated my ever-increasing site plan with the *Birkenhead* deck plans. For example, when I targeted Seton's cabin by overlaying a plan of the ship on the site plan it fell over an area where I had plotted in a huge boulder. Over the years the hull had rusted away on top of the boulder and the remains now lay neatly around its foot. Here I found the finest identification tag I could wish for – a piece of leather with Seton's brass nametag riveted to it. It had obviously once been part of Seton's leather suitcase. The next target was the purser's cabin and here we found 40 gold sovereigns. In the area of Dr Culhane's cabin we found 20 gold sovereigns, medical instruments and bottles containing various medicines, including mercury.



*Assorted artefacts found at the Birkenhead wreck site*

We also found some very confusing artefacts on the site. They made no sense at all until we correlated our plans with the various deck levels of the ship plans. For example, we found brass rudder pintles, almost as good as new, and wondered how the rudder could have ended up near the bows of the vessel, especially as we had no reports of the rudder being torn off. We eventually discovered that the pintles were spares, lying where the engineer's stores had been located. In another instance I came upon a heavy conglomerate of what looked like a ball of little half-moon-shaped



*View of the Causeway Adventurer at the Birkenhead excavation in 1986*

brass objects. To our amazement this turned out to be a conglomerated mass of cap badges from the 43<sup>rd</sup> Regiment of Foot. Nearby we also found leather shoes in conglomerate. We identified this area as the ship's slop store. The bottom piece of a drinking glass with the letters CP etched into it led me to check through the list of officers to discover who CP might have been, but I could only find an unranked soldier by the name of Charles Prince. A private would certainly not have been in the stern area, which was reserved for officers, women and children. Then another glass marked CP from the same area was brought up. Correlating the site plans with the original deck plans solved the mystery: the area matched the locale of the commander's pantry.

The site plans revealed where all the breaks were in the ship and where the bows eventually ended up. We could clearly define the whole saga of her wrecking and breaking up, and piece together some of the tragedies that took place. One such case was a horse halter strapped around a horse bone, which was obviously from a horse that was unable to be set free. The two most prominent items mentioned in our research of the *Birkenhead* that seem to have left no trace were the 120 boxes of specie and the 350 rifled carbines of a 'new pattern' that used percussion caps for the use of the 12<sup>th</sup> Lancers. We did, however, find a number of double-barrelled shotguns packed in boxes that also contained ramrods, powder measures, fine lead shot, percussion caps and a cleaning brush. Could these have been the 'new' carbines? Although the specie was not found, we did retrieve a total of 145 gold sovereigns and a few silver and copper coins, which were obviously from private purses.

One day, when the sea was exceptionally calm and clean, two of us decided to check out the rock from its crest down to where it met the sand. Not far below the top of the rock we began finding brass fittings and small depth-sounding weights. Slowly drifting down the rock, I sank into a crevice and found scores of brass buckles from horses' halters and various items of soldiers' uniforms. Then I saw a gold pendant that



at one time would have had a family seal clasped in it. As it turned out, this crevice would be the most important and significant recovery area. It yielded numerous personal artefacts consisting of hair, shaving and tooth brushes, and regimental buttons. The brushes were made of bone and all of them were engraved with their owner's regimental numbers and sometimes their names.

A strange, almost eerie feeling came over us when we started recovering these personal items. It made the tragedy of the sinking come alive and more personal. We had the roll of honour listing every soldier's name and regimental number, and were able to identify each and every marked artefact. It was impossible not to escape the vicarious sensation of reliving the terror, the anguish, the bravery and the sacrifice that were witnessed on that fateful night.

Some time after we had completed the excavation and finally bid the *Birkenhead* farewell, we returned to hold a memorial service at Danger Point during which Allan Kayle dropped a wreath over the site from a helicopter and three of us took it down and placed it with due solemnity on the actual wreck. The date was 26 February 1990, the 138<sup>th</sup> anniversary of her sinking.

After placing the wreath, I spent the rest of my dive on the stern section. I came to the area of the slops stores where we had removed large sections of hull plating, which had left a smooth, hard conglomerated imprint. A pothole had been scoured out in this conglomerate and to my surprise I could make out an earthenware jar in perfect condition stuck in the hole.

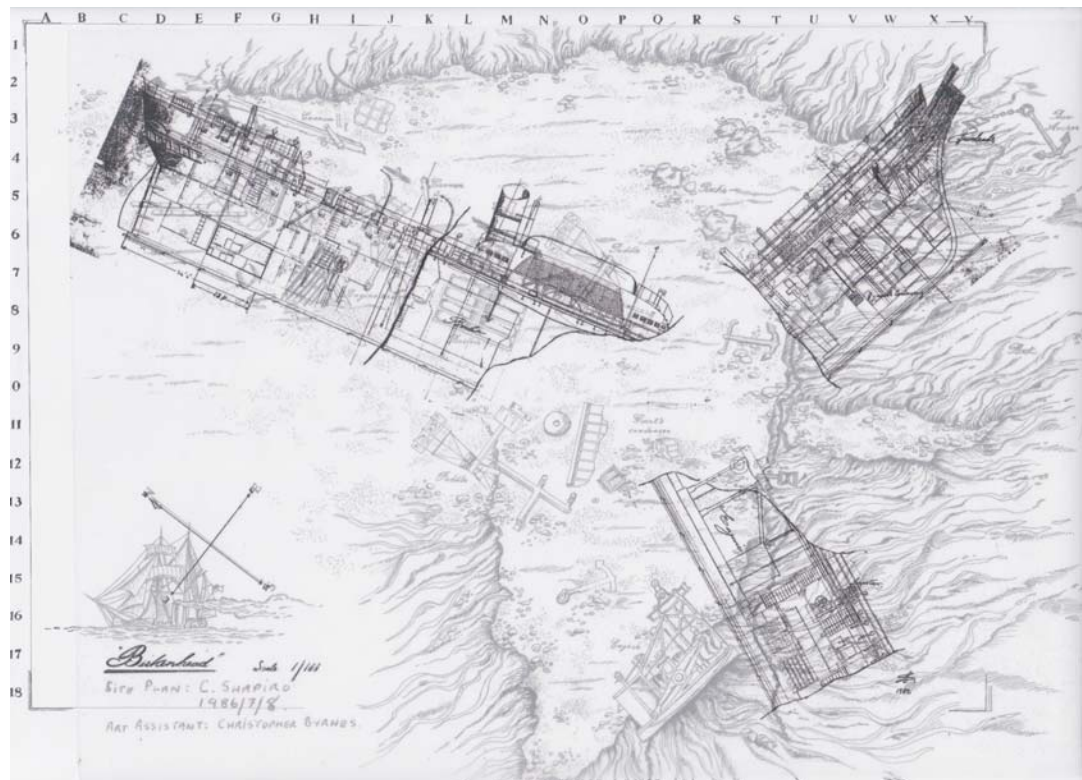
My immediate thought was, 'How did this mustard jar end up *under* the hull?' Mulling over this and taking into account the fact that we never came upon the keel of the vessel has led me to a possible answer about the location of the missing treasure: the sections of iron plate removed by us were side sections that had collapsed and fallen over the bottom section of the hull, thus covering the lower part of the vessel and its contents. I believe that the total consignment of 120 boxes of silver and gold lie together, buried under rubble/conglomerate down by the keel we never reached.

To date the *Birkenhead* is the largest and deepest archaeological site excavated by any salvor or academic in South Africa. Basic and practical measuring techniques were used to such accuracy that we were able to identify and target any desired area and determine why certain artefacts turned up in precarious places. In three seasons of excavations, with an average of 10 divers on site per day and 90-minute bottom times, we averaged 15 hours per day on the bottom and overall spent more than 6 000 hours on the site.

#### Sequence of the *Birkenhead* break-up

After I had written up my findings on the sinking of the *Birkenhead* and on discussing these with Italo, an astute engineer, we agreed on the sequence of the ship's break-up on the night of 26 February 1852. Everything could be pieced together from our underwater observations and the position of archaeological artefacts.

Site plan showing the suggested break-up sequence of the *Birkenhead*



In our opinion the ship had broken into four sections by the time she settled on the ocean floor. All the reports by survivors stated that the *Birkenhead* broke into three, but this was from surface observation. The stern, the fourth section, broke off almost completely, but did not drift away as has been presumed. It settled on the bottom with a widening gap on the starboard side as it was tearing itself open and was about to break off on the port side. Furthermore, because of the way parts such as the engine, anchor chains, capstan, fairleads and the Grant's condenser broke off and were deposited in their present positions, we were able to ascertain that the bow must have broken open and split into two, allowing these heavy pieces of nautical equipment to fall out. The two bow sections were so badly damaged that only parts of them remain; most of the hull plating has long since disintegrated or been carried away by tide and time.

The *Birkenhead* struck the rock on her starboard side. The fact that the impact gouged open the lower troop deck, which lay between 13 and 20 ft above the keel, clearly indicates that she struck the rock near the top. When giving the order to drop one bow anchor directly onto the rock, Captain Salmond must have thought that this would stabilise the ship. However, when he became aware that the continuous grinding and thumping of the vessel on the rock would cause further structural damage and lead to her breaking up, he gave the order to turn full astern. As the *Birkenhead* started to free herself the bow anchor must have taken up the slack and swung the ship hard onto the rock again, this time opening the hull under the bilge plating in the engine compartment. This is less than 6 ft from the keel, indicating that she had now struck a lower ledge of the rock.

Our assumption is that these two gashes in the hull caused two serious weak points that resulted in two breaks or tears in the forward section, one behind the foremast and the other between the capstan and the paddle-wheel boxes. These two closely related breaks caused the vessel to buckle upwards at both the bow and stern. While these sections were at this acute angle, the massive engine unit broke free and plummeted through the already damaged bulkhead, ripping itself away from the mass of pipes connected to various parts of the ship, including the heavy condenser. It thudded onto the steep rock and came to rest at its base. Then the condenser was wrenched off its mountings and dropped to the seabed as the stern and mid-section sheared away from the bows. At the same time, the lowered anchor chain pulled taut and ripped the capstan unit and chain-locking devices off their mountings.

At this point the vessel broke apart behind the foremast and the bows cracked open in two places. The capstan, along with two piles of chain in the chain lockers directly below it fell to the seabed. Both chains were connected to the torn-off capstan and from there

the one chain led up along the floating bow section, held aloft by trapped air, through the fairlead to the dropped starboard anchor. The other chain led up from the capstan along the bow section, through the fairlead and to the port bow anchor still in place.

As the bow section drifted with the current, the anchored starboard chain pulled taut and both port and starboard anchors dragged the capstan towards the rock. When it reached the base of the rock it snagged and at this point the starboard anchor chain freed itself from the capstan and the bows continued drifting towards the shore. The starboard chain ran itself completely out and slipped out of its fairlead, while the port chain was dragged in a parallel path until it took up the slack between the snagged capstan and the port anchor on the bow section, which was held in place until it lost its trapped air and sank onto the rocky bottom, where it totally broke up in a heavy surge area, eventually disintegrating and disappearing. All that now remains to tell the story of the bow's dying moments are the two heavy sets of fairleads, the port and starboard anchors, the stretched-out chains, the capstan and the Grant's condenser.

When the bow broke off and the engine tore free, the buoyancy in the skyward-pointing stern made it pop up before levelling again, opening the engine compartment to the sea. As the water flooded in it caused the stern to rise once again. While at that angle, the heavy funnel broke free and fell forward and sideways, landing on the starboard paddle wheel box. The acute angle of the stern put severe stress on the next weakest point between the boilers and the section aft of the mainmast. This caused the hull to crack and part, and the stern to tear off. On its way to the bottom, however, the predominant swell direction started parting these two sections. The paddle wheels remained fast to the upper section of the hull and together with the boilers and stern came to rest on both the sandy and rocky areas. A large section of the starboard hull, almost in line with the boilers, still shows where the rock gashed the ship open. The hull ribs were cut right through and all are bent in the same direction.

## References

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2. References pertaining to the *Colebrooke*: Cape Archives, VC 32; Logbook of the *Colebrooke*, East India Office, London, 10R L/Mar/B/532C; and Plan Van Die Baay Fals – VEL Series, Den Haag Archives.
3. *Drums of the 'Birkenhead'*, by David Bevan, 9. See also *Stand Fast* by the same author.
4. References pertaining to the *Birkenhead*: Court-martial, Public Record Office, London, ADM1/5615; *SA Commercial Advertiser*, 28 February & 3 March 1852; Shipping Register, Cape Archives, CC 2/17; National Maritime Museum, Greenwich, UK; Illustrated London News, 24 January 1846.
5. *Salvage of the 'Birkenhead'*, by Dr Allan Kyle's, 1990, Southern Book Publishers, ISBN 1868122603.



# MEMORIAL CELEBRATION TO PROFESSOR PHILLIP TOBIAS

Wits Great Hall, 20 June 2012

**Professor Phillip Valentine Tobias**, scientist, scholar and fellow human being, with an illustrious career of over 50 years at the University of the Witwatersrand, passed away on 7 June 2012 at the age of 86. A memorial celebration was held at Wits Great Hall on 20 June. **Gerry Gallow** reports and **Alan Woodman** researched his achievements.

Before the eulogies, the Wits Choir in colourful African-style outfits rendered African songs, including a moving rendition of Nkosi Sikelel' iAfrika and a very gentle song often sung at Zulu funerals and wakes.

Prof. Loyiso Nongxa, Vice-Chancellor and Principal of Wits, spoke first, relating how Phillip Tobias had been a mentor and friend to him. Prof. Beverley Kramer, Assistant Dean in the Faculty of Health Sciences, told how she had known and been a friend of Tobias for some 40 years. He not only taught her a great deal about anatomy, but also enriched her knowledge of the English language, for which he had had a great flair. Tobias had the ability to make the complicated and difficult simple, and was an unfailingly dedicated teacher.

Prof. Ron Clarke described how in the course of his work with Phillip Tobias they were able to piece together Little Foot, while Dr Ali Bacher, who had worked under Tobias in his early doctoring days, told of Tobias' passion for cricket and how he, when a major match was imminent, with thinly disguised hints always managed to get tickets for the game. His other great passion was 'Isidingo' and he would have no compunction of banishing important persons from his office when it was time for the TV serial. The professor had been a wonderful contributor to our society and to the Jewish Community.

In an excellent film, a cameo of Phillip Tobias' life, a many spoke about how Tobias had affected their lives. Some of his behavioural quirks were quite exacting: he thought nothing of phoning late at night or demanding a Sunday morning meeting. Next Graham Reeks, Chairman of the Trans-Vaal Branch of Arch Soc, delivered Prof. Francis Thackeray's tribute as President of the society (see below). Isaac Makhele, the foreman at the Sterkfontein excavation team, speaking in Tswana and English, described how Prof. Tobias had inspired and changed his life. The last speaker was Professor Emeritus Trefor Jenkins, who described Tobias' role as a fearless campaigner against racism and injustice.

Professor Tobias was one of South Africa's most honoured and decorated scientists, and a world-leading expert on human prehistoric ancestors. He

has been nominated three times for a Nobel Prize, received honorary degrees from 17 academic institutions in South Africa, the United States, Canada and Europe, and was awarded South Africa's Order for Meritorious Service. He published over 600 journal articles and authored or co-authored 33 books. He was elected as a fellow, associate or honorary member of 28 learned societies, including the National Academy of Sciences (USA) and the Royal Society of London.

Among the medals, awards and prizes he received were the Balzan Prize for Physical Anthropology (1987) and the Charles R Darwin Lifetime Achievement Award of the American Association of Physical Anthropologists (1997). Tobias is one of only two South African Honorary Fellows of the Royal Society of South Africa and one of very few recipients of its John Herschel Medal. At his death he held the positions of Professor Emeritus of Anatomy and Human Biology at Wits, Honorary Professor of Palaeoanthropology, Honorary Professorial Research Associate and Director of the Sterkfontein Research Unit, and Andrew Dickson White Professor-at-Large of Cornell University in New York. Phillip Tobias was the person who more than anyone ensured southern Africa was recognised as a cradle of humankind. He inspired generations of medical and science students.

## Tribute by Prof. Francis Thackeray, President of the SA Archaeological Society

It is with great sadness that we heard that Professor Phillip Valentine Tobias had died on 7 June. Prof. Tobias was an outstanding palaeoanthropologist, a scientist who made major contributions to the study of human evolution.

He was elected President of the SA Archaeological Society in 1964, the very year in which he described *Homo habilis* together with Louis Leakey and John Napier. It was Prof. Tobias who in meticulous detail described the skull of a new species he called *Australopithecus boisei*, discovered by Dr Mary Leakey at Olduvai Gorge in Tanzania.

Since 1966 he has directed excavations at Sterkfontein, within which about 600 fossils have been discovered, many of them just fragments of skulls. On 23 May 1979, the *Rand Daily Mail* in reporting on an exciting discovery of a fragmentary



set of fossils from Sterkfontein representing one individual wrote: 'The gift that Professor Phillip Tobias would like to receive most is another beautiful fossil skeleton from Sterkfontein'. Sixteen years later, Prof. Ron Clarke discovered the first part of the Little Foot skeleton. We can say, in retrospect, that Phillip Tobias was indeed granted what he most wanted in life: 'a beautiful fossil skeleton', virtually complete, one that was discovered through the efforts of Ron Clarke, Nkwane Molefe, Stephen Mostumi and the dedicated crew at Sterkfontein.

Science is usually undertaken dispassionately, but it has been said that 'Scientists have feelings too'. This certainly applied to Phillip Tobias who recently shed a tear of excitement on seeing the remarkable skeletons of *Australopithecus sediba*, discovered by Prof. Lee Berger.

South Africa is proud not only of our rich palaeontological heritage, but also of the eternal legacy of Prof. Tobias, the South African doyen of palaeo-anthropology and a champion of human rights. We express our sincere condolences to the family, friends and colleagues of Phillip Tobias. We have lost a great and special representative of our species, *Homo sapiens*. May he rest in peace.

[Prof. Thackeray is Director of the Institute for Human Evolution at Wits.]



## ARCHAEOLOGY IN AFRICA

### Quest to find Queen Sheba's wealth

A British excavation has made a discovery that may solve the mystery of where the Queen of Sheba derived her fabled wealth. Almost 3 000 years ago, the ruler of Sheba, which spanned northern Ethiopia and Yemen, arrived in Jerusalem with 120 talents of gold to give to King Solomon. Legend has it that he wooed her and that descendants of their child, Menelik, became the kings of Ethiopia. Now a large ancient goldmine together with the ruins of a temple and the site of a battlefield have been discovered on the Gheralta plateau in northern Ethiopia.

An initial clue lay in a 7 m high stele carved with a sun and crescent moon. Beneath the stone there was an inscription in Sabaean. On a mound nearby were found parts of columns and finely carved stone channels from a buried temple that appears to be dedicated to the moon god, the main deity of Sheba, an 8<sup>th</sup> century BC civilisation that lasted 1 000 years. The shaft of the mine is buried some 3,3 m down. A human skull bearing Sabaean chiselling is embedded in the entrance shaft. Tests show that it is extensive with a proper shaft and a tunnel big enough to walk along.

*The Observer, 12/02/2012*

## The South African Archaeological Society

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

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

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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 2012** are as follows: Individuals: Single – R245; Joint/Family – R255; Junior membership – R190; Africa ordinary – R270; Overseas ordinary – R480\*. Institutions: Local and African – R480; Overseas – R950\*. [\* Plus R100 bank charges]

### The Digging Stick

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