

**EDITORS**  
**Johan Binneman**  
**Lita Webley**  
**Alex Schoeman**

The aim of *Southern African Field Archaeology* is to communicate basic data to professional archaeologists and the public.

Manuscripts of original research undertaken in southern Africa will be considered for publication. These may include reports of current research projects, site reports, rock art panels, rescue excavations, contract projects, reviews, notes and comments. Students are encouraged to submit short reports on projects. *Southern African Field Archaeology* also welcomes general information on archaeological matters such as reports on workshops and conferences.

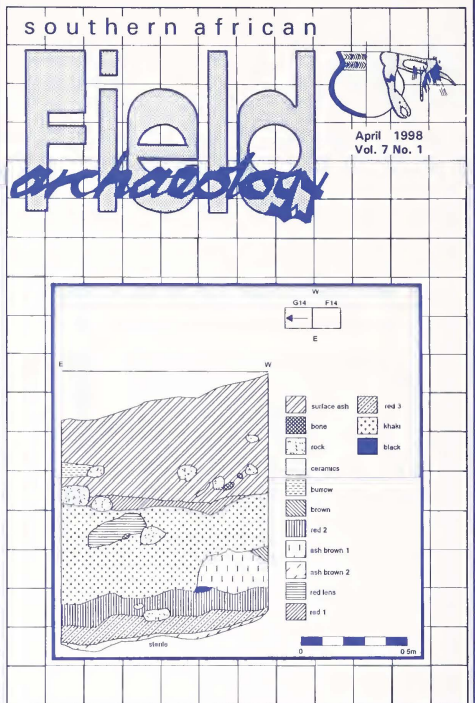
*Southern African Field Archaeology* is published twice a year.

Subscription rates are as follows: R40,00 per annum for individuals and R60,00 for institutions. Outside of southern Africa U.S. \$25,00 for individuals and U.S. \$30,00 for institutions.

The views expressed by authors are their own and neither the Editors nor the Trustees of the Albany Museum take responsibility for them.

Copyright: Trustees of the Albany Museum, Somerset Street, GRAHAMSTOWN, 6139. South Africa.

ISSN 1019-5785



**Cover illustration:**

Section of the Midden 1 excavation at KwaMaza B, Ndzundza Ndebele site in the Steel Poort valley, p. 42.

**ADVISORY EDITORIAL BOARD**

**G. Abrahams**  
*South African Cultural History Museum, Cape Town*  
**J. Brink**  
*National Museum, Bloemfontein*  
**S. Hall**  
*University of the Witwatersrand, Johannesburg*  
**Z. Henderson**  
*National Museum, Bloemfontein*  
**A. Malan**  
*University of Cape Town*  
**A. Mazel**  
*Natal Museum, Pietermaritzburg*  
**D. Miller**  
*University of Cape Town*  
**A. Morris**  
*University of Cape Town*

**D. Morris**  
*McGregor Museum, Kimberley*  
**A. Solomon**  
*University of Cape Town*  
**A. Thackeray**  
*Pretoria*  
**F. Thackeray**  
*Transvaal Museum, Pretoria*  
**J. van Schalkwyk**  
*National Cultural History Museum, Pretoria*  
**L. van Schalkwyk**  
*KwaZulu Monuments Council, Ulundi*  
**G. Whitelaw**  
*Natal Museum, Pietermaritzburg*  
**R. Yates**  
*Cape Town*

southern african

# Field archaeology



April 1998  
Vol. 7 No.1



## CONTENTS

**OPINIONS** . . . . . 1

### ARTICLES

Did the Seacow River Bushmen  
make backed microliths?  
**Angela E. Close &  
C. Garth Sampson** . . . . . 3

Archaeological collections from the  
Anglo-Zulu war in the collections  
of the British Museum.  
**Peter J. Mitchell** . . . . . 12

Populations, prehistory, pens  
and politics: some reflections  
from north of the Orange River.  
**A.J.B. Humphreys** . . . . . 20

Metal artefacts and slags from  
archaeological sites on the  
Congo coast.  
**Duncan Miller** . . . . . 26

Archaeological investigation of the  
Beauley Early Iron Age site in the  
Blouberg, Northern Province.  
**J.A. van Schalkwyk** . . . . . 35

Excavating Ndzundza Ndebele  
identity at KwaMaza.  
**M.H. Schoeman** . . . . . 42

Report on isolated human remains  
from K2, South Africa.  
**M. Steyn, A. Meyer &  
M. Loots** . . . . . 53

## BOOK REVIEW

The Tsodilo jewellery: metal  
work from northern Botswana.  
Reviewed by A. Kousaris.  
A reply.  
**Duncan Miller** . . . . . 59

## OPINIONS

### ARCHAEOLOGY IN THE TRENCHES? Part II

In a recent Guest Editorial in the *South African Archaeological Bulletin*, Mazel (1997:87) wrote "... all is not well in South African archaeology". Mazel's main concern with the current state of South African archaeology is employment or more specifically the 'power base' behind the employment structures. On the one hand he cites the closure of the Archaeology Department at the University of Stellenbosch and possible similar threats to other departments, as of concern to future employment prospects in archaeology. On the other, Mazel criticises what he perceives as an imbalance between the 'centres' and 'peripheries'. Mazel identifies the 'power' at the 'centres' as being responsible for the "unwillingness of archaeology graduates to pursue careers in the peripheries". According to Mazel, at the root of this unsatisfactory situation is that 'peripheral' archaeologists are not invited to the 'centres' to present their research. If this were to happen, Mazel argues, they (the 'peripheral' archaeologists) "would significantly enrich the students' appreciation of the broad spectrum of South African archaeology".

I would like to briefly comment on the first part of Mazel's concerns, namely the closure of the Stellenbosch Archaeology Department (also Binneman 1997). I feel that the decision by the University of Stellenbosch was one of short sightedness and one which may be seriously questioned (but then we do not know the reasons). On the one hand, the university is closing a department which has dealt explicitly with the early history of the peoples of South Africa, while on the other hand, the Department of Ancient Studies is now presenting MA courses in Ancient Near East Studies ("courses for those who are interested

in Ancient Near Eastern Cultures") and in Classical Culture ("courses for those interested in ancient Greek and Roman civilisation"). I do not question the demand for these courses at that university. However, I should like to know why there is no space for South African 'ancient studies', which are becoming more and more popular and relevant everyday? Not only is the university depriving Afrikaans speaking students of the privilege of experiencing archaeology in their home language, but it is also contradictory to the 'spirit' of cultural Reconciliation and Development.

Another burning question which needs to be asked is why was the lecturing post (vacant since 1990) never filled, and what role has this played in the decision of the university.

Unfortunately there is more bad news concerning archaeology posts in addition to that of the University of Stellenbosch. It is now almost certain that the vacant post at the South African Museum will not be filled in the future. A similar situation is evident at the Albany Museum, where a vacant post has been frozen indefinitely - which effectively means that it probably never will be filled in the future.

To return to the second part of Mazel's editorial, I agree with Mazel's statement that 'peripheral' archaeologists can [and certainly do] make a significant contributions and/or even make differences to the enrichment of students perceptions of South African archaeology.

'Peripheral archaeologists' generate and add a considerable amount of new and important data to the 'pool' of archaeological knowledge. For example, it is interesting to note that of all research papers published in this journal during the past seven years (counting only first authors), 49% were submitted by researchers at museums, 29% by universities (staff 15,6% and students 13,5%), 11,5% by researchers from other institutions and 10,4% from overseas researchers.

Although I do agree with Mazel that the perception may exist among students that the 'civilised centre' of archaeology is either in Gauteng or Western Cape (whether it is "the nature of information presented to students", or not), I would like to believe that it is not deliberately created by the teachers. However, I do agree that there exist a certain degree of ignorance on the part of some university teachers regarding the nature of research taking place in the 'peripheries', and, as Mazel has correctly remarked, this can only be rectified by inviting 'peripheral' archaeologists' to present their research. An alternative would be that between SA3 meetings (which in recent years have not been well attended by university teachers), workshops be held on various topics.

Whatever the case may be, one reality is that at the end of the day we are dealing with people's choices and quality of life, when it comes to making decisions on whether they want to practice archaeology in the crime and killing fields of KwaZulu-Natal or the Eastern Cape. Hereby not for a moment suggesting that it is any safer in Gauteng or the Western Cape.

Playing devil's advocate for a moment; there is the

alarming trend among senior and experienced archaeologists in recent years to leave active research posts to take-up more senior administrative positions at museums and parastatals. Is this not another form of using "archaeology to suit their own careers and political positions ..." (Lewis-Williams 1993:49; also quoted by Mazel 1997:87) and to create own power bases?

This is also of great concern, because these archaeologists leave enormous knowledge gaps which must be filled by unexperienced 'unwilling' graduates.

**Johan Binneman**  
Department of Archaeology  
Albany Museum

## REFERENCES

- Binneman, J. 1997. Opinions: archaeology in the trenches? *Southern African Field Archaeology*. 6:1-2  
 Lewis-Williams, J.D. 1993. South African archaeology in the 1990s. 48:45-50.  
 Mazel, A.D. 1997. Guest editorial: thoughts on posts, provincialism and power in South African archaeology. 52:87-88.

\* \* \* \* \*

Alex Schoeman who joined the Albany Museum last year as Historical Anthropologist is now also a co-editor.

In previous years *Southern African Field Archaeology* received generous donations from the Albany Museum. Due to financial constraints this is no longer possible and printing of the previous issue (September 1997, Vol. 6 No. 2) was made possible by a donation from the self-generated funds of the Editors.

This issue received generous donations from Prof. Garth Sampson, Dr Peter Mitchell, Dr Duncan Miller, Mr Cobus Dreyer and the self-generated funds of the Archaeology Department at the Albany Museum. The Editors would like to thank these researchers for their support.

Due to special requests and opposition by several researchers to certain in-house rules, for example the use of mm instead of cm, which we agree is an awkward unit to express measurements in archaeology, we have decided to follow the system authors prefer, *i.e.* as indicated in the manuscripts.

We have also received other requests from authors as with regard to general layout and grammar, for example the use artifact instead of artefact *etc.* In future, we will try to accommodate authors special preferences if they so request in writing.

Although the Editors take utmost care to limit errors to the minimum, these happen from time to time. We would like to apologise for mistakes which have occurred in the past and any inconveniences which were caused by these.



**BOOK REVIEW: A REPLY****THE TSODILO JEWELLERY: METAL WORK FROM NORTHERN BOTSWANA. REVIEWED BY A. KOUSARIS. A REPLY.**

DUNCAN MILLER

*University of Cape Town, Archaeology Materials Laboratory,  
Department of Archaeology, University of Cape Town,  
Rondebosch 7701, Cape Town*

*email: dmiller@beattie.uct.ac.za*

I wish to thank the editors for printing A. Kousaris's review of the book *The Tsodilo Jewellery* which made some very useful criticisms and highlighted some inadequacies. It shows that neither authors, nor reviewers and editors can be too careful! I would like to deal with several points in the review, which if they went unclarified might leave your readers with some misapprehensions.

1. The full title of the book is "The Tsodilo Jewellery: metal work from northern Botswana", not " ... Northern Province" <sup>1</sup>.
2. It is difficult to work out quite what went wrong with the sentence "The author states on numerous occasions that the carbon content of near non-metallic inclusions in different ways (*cf.* pp. 54, 58, 59)", but presumably it refers to the fact that the iron in the vicinity of both oxide and slag inclusions tended to be depleted in carbon, which is not mysterious. As stated in various places in the book, this was due to diffusion of the carbon from metal to the slag or included oxide. This presumably took place while the metal was hot, and Kousaris's proposed mechanism of ongoing reduction of slag inclusions is no doubt true in some cases. Nevertheless, in other instances this decarburisation may represent an externally decarburised layer formed during forging in an oxidising atmosphere, and subsequently trapped in the metal with a layer of oxide scale during poor quality welding or folding over to thicken a section (as in the example on p. 54). Of course, diffusion of carbon could also have taken place towards the included secondary oxide during further hot forging.
3. Kousaris is correct that glass does not "transform". A more appropriate term would have been "glass transition temperature", a broad range of temperature over which the behaviour changes from predom-

inantly plastic to brittle. This is indeed dependent on composition, as stated in the book (*eg.* p. 87) but for simple silicate glasses it is in the range 500 °C to 700 °C according to standard references (also cited). One doesn't have to resort to such technicalities to appreciate the point that some working took place at high temperature when the glass was plastic, and some at lower temperature when it experienced brittle fracture.

4. Bloomery iron smelting takes place under conditions far from thermodynamic equilibrium, which inhibits the usefulness of equilibrium phase diagrams in the interpretation of these archaeological slags. For this reason it was stated in the book that "They were obviously not equilibrium structures because of their inhomogeneity and the localised KEVEX analyses were not representative of their bulk compositions. Therefore it was not possible to relate their compositions to the relevant phase diagrams to obtain estimates of the temperature of the smelting or smithing process from these slags." (p. 82).  
From a purely materials analysis point of view, it would have been possible (and enjoyable) to have reconstructed in more detail the thermodynamic history of each nodule, but this would not necessarily represent the overall conditions operating in the smelting furnace or forge. One simply cannot reconstruct a smelting technology from half a dozen pieces of very inhomogeneous slag. From the point of view of assessing the metal working behaviour archaeologically, what was meaningful was to try to distinguish smithing from smelting slags. The distinction between what is technically analytically possible, and what analyses might be archaeologically meaningful, is an important one to make in archaeometry.
5. Kousaris is quite correct that the fine wüstite particles in regular arrays in the larger fayalite crystals are eutectic structures, and should not be described as

"exsolved" because both the fine wüstite and the fayalite crystallised together from solution in a residual melt. As far as its former molten state is concerned, this example was described in the book as a "smelting slag" (p. 61) which in the context of bloomery iron production implies that it was liquid and crystallised from above about 1400 °C. A fairly comprehensive glossary was included, which defined slag as "The molten, or solidified, waste product of smelting..." (pp. 99-101).

6. Perhaps I should also have elaborated on the implications of the observation that some specimens contained what appeared to be fused silica, in the absence of evidence for cast iron. The physical implication was that locally at least conditions must have exceeded 1723°C. This is possible in a bloomery furnace. Droplets of molten iron may well form in a bloomery furnace, and subsequently be decarburised in situ to contribute to a medium to low carbon bloom, incorporating any fused silica inclusions in the process. There is now a considerable literature recording the variability of bloomery furnace operation, internal mechanisms, and products. Any reconstructions must take this intrinsic variability into account.
7. The nodule containing martensite (p. 68) was probably a primary bloomery nodule. Its constituent martensite was described as "the product of very rapid cooling usually associated with quenching" (emphasis added) (p. 68). It is possible that the nodule cooled (rapidly) in air, as Koursaris has remarked. I also observed "How the nodule came to be quenched from a temperature above 900 °C could not be determined from the analysis, but the quenching of hot blooms with water has been recorded ethnographically elsewhere in Africa (reference given) (p. 69)." The quenching of blooms is simply to cool them quickly so that they can be handled. There was no suggestion of deliberate fast cooling to produce martensite or harden the material intentionally. On the contrary, this nodule had been discarded, possibly because it was too hard to forge easily.
8. Two of Koursaris's points I find very interesting. The technical literature records that the spheroidisation of pearlite necessitates very prolonged annealing. In many instances the spheroidised material retained a Widmanstätten structure or consisted of equiaxed ferrite with a dispersion of spheroidised cementite. If these microstructures can be produced in a matter of minutes while hot working during the formation of pearlite, experimental evidence of this would have important implications for archaeometallurgical reconstructions. The technical literature also records

explicitly that characteristic narrow, parallel, twin lamellae in annealed copper are diagnostic of prior cold working. Obviously, hot working without prior cold work also involves recrystallisation, but if it produces the supposedly characteristic annealing twins then I (and other archaeometallurgists) would like to see experimental evidence of it. These two points highlight the major inadequacy of forensic archaeometallurgical interpretations, and that is the lack of experimental verification of the reconstruction of the supposed sequence of fabrication. This is a real criticism that I am very willing to level at my own work.

9. Indigenous smiths appear not to have practised a standardised set of techniques of hot and cold working as would be recognised by modern metallurgists and this makes the precise application of modern terminology problematic. Any meaningful interpretation of an assemblage of microstructures necessarily must take a broad view. Even the applicability of modern technical terms like annealing and quenching are brought into question by smithing at temperatures ranging from 900 °C to room temperature with no standardised final heat treatment, using the inhomogeneous product of a bloomery furnace which can range from nearly pure iron to nodules of high carbon steel and even cast iron. Very diverse microstructures can result, without implying any conscious change in metal working strategy on the part of the smith. Archaeometallurgists have to attempt to interpret these microstructures against an inadequate body of comparative experimental examples simply because these days realistically inhomogeneous material is very difficult to obtain for experimental verification.
10. Finally, one minor point. Rusty bits of metal look like rusty bits of metal when they are photographed. The sketches were drawn by a technically trained artist to enhance structural features that otherwise would have been obscure. They actually cost less than professional photography would, and are far more informative.

#### EDITORS NOTE

1. The manuscript was re-typed from a hard copy to disk. The typist by mistake typed "... Northern Province" instead of "... Northern Botswana" and it was not detected during the final editing. The Editors would like to express their sincere apologies to Prof A. Koursaris and Dr Duncan Miller for any inconveniences this may have caused.