

## ■ LESOTHO

### Archaeological Fieldwork in the Metolong Dam Catchment, Lesotho, 2008-10

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## Introduction

We report here on recent work in the catchment of the Metolong Dam, Lesotho, which will inundate a 14 km long stretch of the Phuthiatsana River between the villages of Ha Makhale and Ha Monamoleli (Figure 1; Arthur and Mitchell 2010). As Arazi (2009) notes, systematic archaeological research ahead of such major projects is still not the norm in many parts of Africa. In this case, however, recognition of the importance of the area's cultural heritage by Lesotho's Department of Culture has combined with funding from the World Bank and real support from the government agency charged with oversight of the project, the Metolong Authority, to make Metolong an exception to this generalisation.

We first undertook a preliminary assessment of the area's archaeological resources and developed additional recommendations for building a sustainable infrastructure for cultural resource management in Lesotho. Funded via the University of Oxford, this initial phase of our work (Phase 1) ran from September 2008 until April 2009. We subsequently embarked upon a much fuller research programme, funded via St Hugh's College, Oxford. Beginning in October 2009 and ending in August 2010, Phase 2 was principally concerned with excavation of key sites within the area to be flooded, plus initiating detailed documentation – and in some instances conservation – of lo-

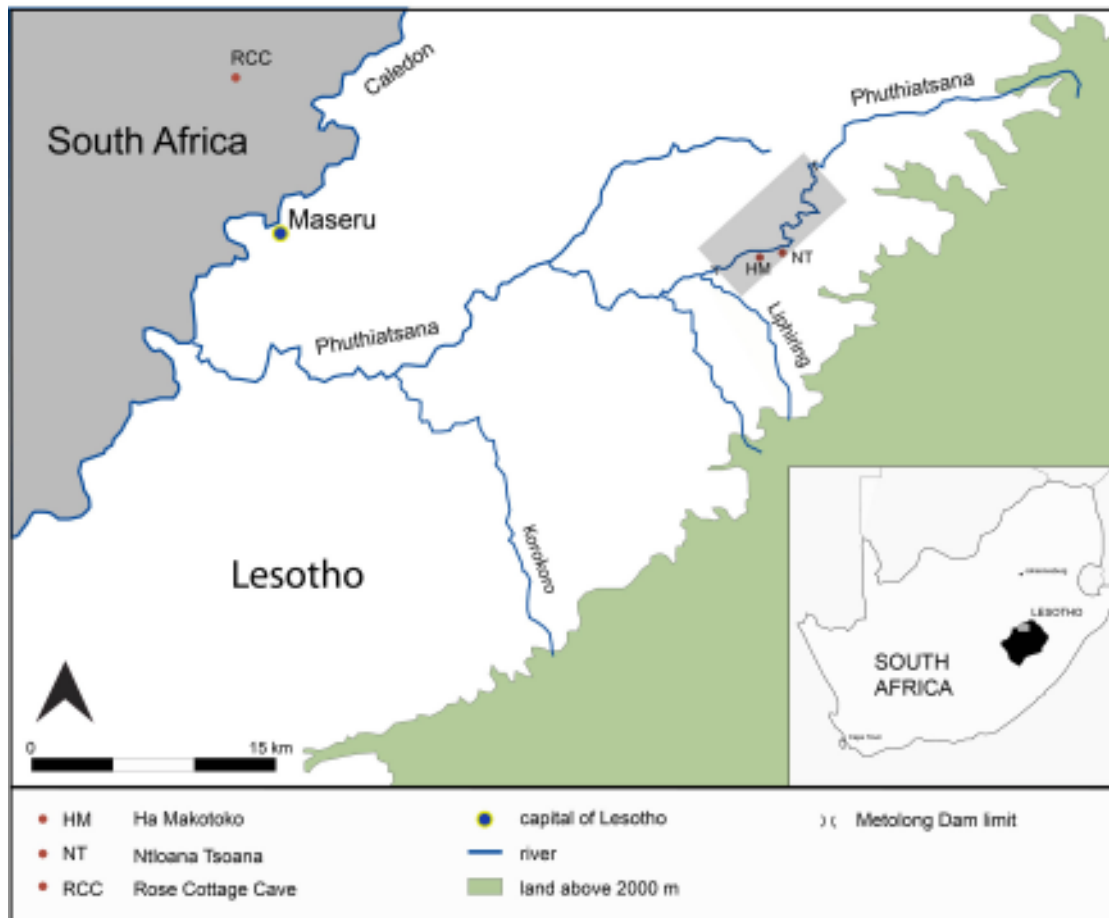
cal rock paintings. Continuing into mid-2012, Phase 4 will involve the post-excavation analysis of the finds arising from excavation and survey. Phase 3, for which separate funding is being sought, is intended to focus on the oral history of the area's inhabitants and the contemporary use and cultural construction of the Metolong landscape. In this paper we summarise the preliminary results obtained from Phases 1 and 2 of the overall project.

## Previous archaeological research

Mid-20<sup>th</sup> century explorations of Lesotho's archaeology located Middle Stone Age (MSA) artefacts downstream of our research area, while slightly closer the rich Bushman rock paintings at Ha Baroana attracted attention even earlier (Mitchell 1992). The first serious research along the Phuthiatsana River, came, however, with the Analysis of Rock Art in Lesotho (ARAL) Project of Lucas Smits (1983). Its surveys here in 1979 identified, photographed and sketched 27 rock art sites within the Metolong area, records now available via the SARADA database of the Rock Art Research Institute, University of the Witwatersrand (<http://www.sarada.co.za>).

A decade later, one of us tested the two largest rockshelters in the Metolong Catchment as part of a broader study of hunter-gatherer adaptations in western Lesotho (Mitchell 1994). Both Ha Makotoko and Ntloana Tsoana proved to contain important Later Stone Age (LSA) sequences relating to the Pleistocene/Holocene transition, the more recent component of which was characterised by distinctive Woodlot scrapers that combine convex scraper end-retouch with adze-like lateral backing (Mitchell 1993). Ntloana Tsoana also preserved MSA assemblages of Howiesons Poort and post-Howiesons Poort affiliation (Mitchell and Steinberg 1992). Subsequent OSL dating has shown that it was first occupied *ca.* 61 kya (Jacobs et al. 2008). Small as these excavations were, they established that Ntloana Tsoana and Ha Makotoko are important on a regional scale. Except for Rose Cottage Cave, just across the border into South Africa (Wadley 1997), Ntloana Tsoana is the only MSA sequence in much of the broader South African interior, while its closeness to Ha Makotoko provides an unique opportunity for examining cultural responses to environmental change across the Pleistocene/Holocene boundary at the local level. Further fieldwork in 1990 identified

**Figure 1:** Lesotho showing the location of the Metolong Dam catchment.



additional rockshelters with surface-visible artefact assemblages and possible surviving deposit, as well as other, open-air stone artefact scatters (Mitchell 1994).

### Preliminary investigations

As no additional research was undertaken in the Metolong area between 1990 and 2008, establishing the full scale of its archaeological resources was central to Phase 1 of our work. This involved extensive fieldwalking of both the reservoir catchment and the area identified for construction of the associated Water Treatment Works. All rockshelters within these areas were visited, including all 27 rock art sites previously recorded by ARAL. For each a detailed digital photographic record was made and an assessment of their current state of preservation undertaken. As a result of this fieldwork two further rock art sites

and 23 open-air artefact scatters were located. In addition, test excavations were undertaken at three smaller rockshelters thought to be threatened with inundation, and conservation measures put in place at Ha Makoanyane, an abandoned historic Basotho settlement. On the basis of the reports submitted in respect of Phase 1 (Arthur and Mitchell 2009a, 2009b), we were then asked to carry out the much more detailed investigations that comprise Phases 2 and 4.

### Ntloana Tsoana and Ha Makotoko

Ntloana Tsoana (29°19'S, 27°49'E) lies on the south side of the Phuthiatsana River less than a kilometre from the village of Ha Masakale (on the opposite bank) and not much further from the village of Ha Matjeke. It has a total area behind the dripline of approximately 280m<sup>2</sup> (Figure 3). Excavations took place between October 30<sup>th</sup>, 2009 and May 19<sup>th</sup>, 2010

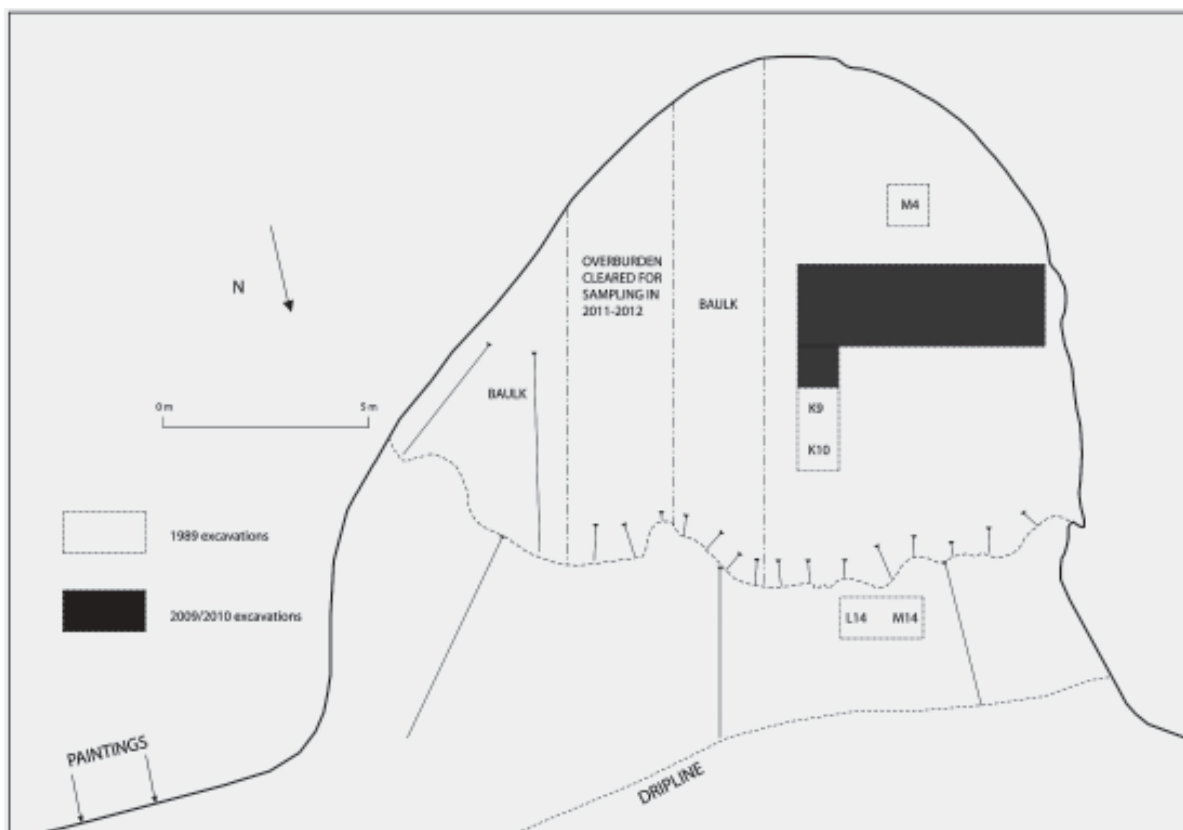
**Figure 2:** View of the Phuthiatsana Valley near Ha Makotoko (indicated by the arrow).



(Figure 4). After clearing vegetation, emptying the 1989 excavation trenches to expose their sections and establishing a permanent site grid, removal began of what was, on the basis of previous work, thought to be an archaeologically sterile complex of silt, clay and sand deposits overlying the site's early Holocene levels. In this process, however, several artefacts (including a bored stone digging stick weight) and *in situ* features (a hearth with adjacent stake hole) were encountered that derive from a hitherto unsuspected mid/late Holocene occupation. This presumably took place when the site's interior was much flatter than today's steeply sloping surface with all other evidence of this occupation subsequently being lost to erosion, most likely by repeated flooding. With these later occupation traces removed, excavation continued downward to expose the early Holocene horizons. A 2m wide baulk was left along a north/south axis through the middle of the shelter in order to provide a standing witness section of the geological deposits above them. This was subsequently sampled for palaeoenvironmental analyses and dating purposes.

Over an area of 13m<sup>2</sup>, we recorded, removed, sieved and sorted 575 stratigraphically separate contexts differentiated on the basis of colour and texture. Where contexts were more than 25mm thick, they were removed in arbitrary horizontal spits of  $\leq 25$ mm depth. To maintain close spatial control, excavation proceeded in 0.25m<sup>2</sup> quadrats within units measuring 1m<sup>2</sup> in area. All excavated contexts were recorded, planned and photographed in detail during excavation using the single context recording technique specifically tailored for use in rockshelters. Standard procedure in British contract archaeology (MoLAS 1994; Hodder 2008), single context recording has rarely been used in Africa (but see Finneran 2000). Because of the sediments' high clay fraction and moisture content all excavated archaeological deposit was wet sieved on-site through a 2mm mesh. On-site sorting into basic analytical categories (flaked stone, bone, charcoal etc.) proceeded once the sieved residues had dried. Samples were also regularly taken for a variety of specialist analyses, including macrobotanical remains (1-5 litres), particle size analysis (125ml) and phytoliths (125ml).

**Figure 3:** Ntloana Tsoana: site plan locating trenches excavated in 2009/10 relative to those excavated in 1989 (Mitchell & Steinberg 1992; Mitchell 1993).



The extraordinarily complex and fine-grained nature of the stratigraphy in the early Holocene/terminal Pleistocene part of the Ntloana Tsoana deposits (previously dated *ca.* 12.1-8.8 kya; Mitchell 1993) exceeded expectations, but meant that progress was slower than originally anticipated. As a result, only 3m<sup>2</sup> were excavated to bedrock, with another 1m<sup>2</sup> excavated to the base of the terminal Pleistocene LSA deposits; immediately adjacent to this, excavation ceased over a further 9m<sup>2</sup> closer to the Pleistocene/Holocene boundary. While detailed understanding depends on post-excavation analysis, several important conclusions are already possible. First, and contrary to previous assessments (Mitchell 1993), Ntloana Tsoana does preserve traces of mid/late Holocene hunter-gatherer activity. Second, discrete, well-preserved spatial patterning of features, flaked stone artefacts and bone survives in at least the upper part of the underlying terminal Pleistocene/early Holocene deposits. Moreover, it suggests significant changes in the kinds of fires built (and activities undertaken?); in younger contexts some hearths were

in small pits, while others spread over areas of up to 2m across, but lower down areas of burning were more restricted in nature. Several finely worked bone points and examples of ground red ochre document forms of material culture absent from the 1989 excavations. Also new was an assemblage characterised by small bladelet cores and numerous bladelets from the base of the LSA part of the sequence, the first time that the late Pleistocene Robberg Industry has been recovered from a datable context in western Lesotho. Lastly, we were able to refine stratigraphic understanding of the MSA deposits at the base of the site, dividing the GWS layer of the 1989 excavation, which may date close to the transition between MSA and LSA technologies, into at least two phases.

We also excavated at Ha Makotoko (29°20'S, 27°48'E), an even larger rockshelter (820 m<sup>2</sup>) some 2 km downstream of Ntloana Tsoana near the village of Aupolasi (Figure 5). Work there (February 22 to May 28, 2010) ran concurrently with that at Ntloana Tsoana and used the same recording and excavating proce-

**Figure 4:** Ntloana Tsoana, 11th December 2009, showing (clockwise from left) Teboho Mokotjo, Ros O'Maolduin and Charles Arthur excavating in the eastern end of the excavation area.

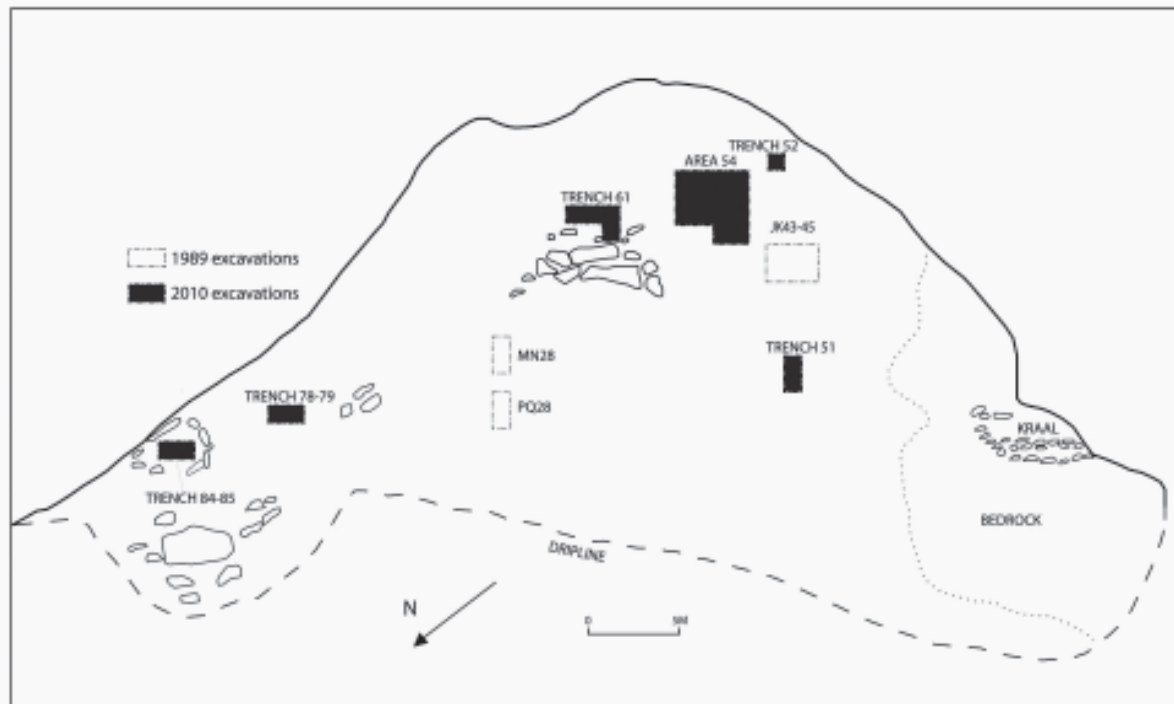


dures, except that the site's extremely fine, dry sediments meant that wet sieving was not necessary. A total of 229 individual contexts were removed. Several excavation areas were opened up to investigate the early Holocene (*ca.* 10-8.4 kya) deposits encountered in 1989 (Mitchell 1993). While intercepting layers of this broad age, our principal excavation, immediately behind the main 1989 trench, again produced surprises (Figure 6). First, and immediately below the dust covering the surface of the site, the remains of a small stone structure, tentatively interpreted as a livestock pen, were found; preliminary examination of the associated sediments indicates more than one sustained episode of livestock-kraaling with both animal hair and dung preserved. This structure may document an early (18<sup>th</sup>/early 19<sup>th</sup> century?) Sotho use of the site, although historical research undertaken by our colleagues Stephen Gill and Thabo

Ntloana of Morija Museum and Archives (Lesotho) suggests that the first permanent villages in the Metolong area were only established in the 1860s. A complete small pot found next to the stone structure is tentatively interpreted as evidence that early Sotho settlers also used Ha Makotoko as a rainmaking site (*cf.* Ashton 1952; Krige 1950: 320).

Equally unexpected was the presence of *in situ* MSA deposits. Preliminary analysis of the stone artefacts found in them suggests that they relate more to the later part of the Ntloana Tsoana MSA sequence than to its earlier Howiesons Poort component. Between the chronological extremes set by these new finds, excavation of early Holocene deposits yielded a small, but potentially informative, suite of carbonised macrobotanical remains, including grass. Our excavations also point to different uses of different areas of this large rockshelter, with small, discrete

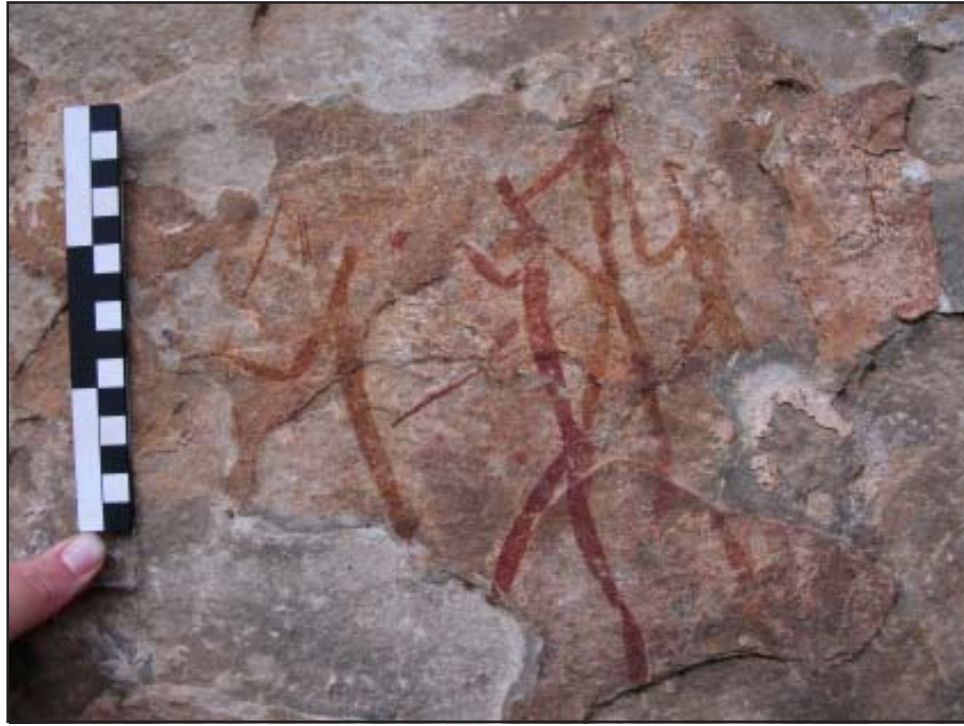
**Figure 5:** Ha Makotoko: site plan locating trenches excavated in 2010 relative to those excavated in 1989 (Mitchell 1993).



**Figure 6:** Ha Makotoko, 13th July 2010, the southeast and southwest facing sections through a substantial early Holocene hearth deposit composed of charcoal and ash-rich layers separated by thin layers of wind-blown sand. Horizontal scale is 2 m, vertical scale is 0.5 m.



**Figure 7:** ARAL 258, 15th March 2009, showing a close up of a group of humans. The leading figure on the left aims with a bow and arrow, the others hold sticks and march forward with arms raised.



**Figure 8:** Ha Makoanyane, 12th December 2009, as seen from a helicopter looking southwest across the lower ruins showing the new road and the location of Trench 1.



hearth features in our principal excavation area compared to the much more extensive ashy horizons found in 1989 and traces of both recent and early Holocene hearths (associated with surprisingly few artefacts) in trenches excavated in the western part of the site.

### Other rockshelter excavations

During Phase 1 we investigated three smaller rockshelters upstream of Ntloana Tsoana. At Lehaha Fateng Tsa Pholo, a painted site still used today by male initiation schools, artefacts, bone, and charcoal occurred through a 1 m thick archaeological deposit. The combination of Woodlot scrapers with small convex scrapers and occasional backed microliths, including segments, suggests that this excavation samples an early phase of the Wilton Industry, a conclusion supported by two radiocarbon dates ( $7030 \pm 40$  BP, UGAMS-04669;  $7150 \pm 40$  BP, UGAMS-04670). Faunal remains identified by Dr. Shaw Badenhorst of South Africa's Ditsong National Museum of Natural History mostly consist of taxa known from western Lesotho in the 19<sup>th</sup> century; the exception, roan antelope (*Hippotragus equinus*), may signal a warmer climate associated with good quality grassland and/or an expanded savanna vegetation (cf. Plug and Engela 1992).

Immediately adjacent to Lehaha Fateng Tsa Pholo, a second rockshelter (2927BD3) also produced a few Woodlot scrapers from what was clearly a disturbed and largely geological deposit. With more accurate plotting of the inundation area available in 2010, both sites were found to lie just beyond the area to be flooded. They have not therefore been investigated further. At the opposite, western end of the future reservoir, the disappointingly almost sterile deposits at 2927BD34 also failed to warrant further excavation. A fourth rockshelter was then investigated during Phase 2. Located downstream of Ha Makotoko and recorded by Smits (1983) as ARAL172, it produced ceramics, most likely of Sotho manufacture, plus a post-classic Wilton lithic assemblage rich in small scrapers.

### Open-air sites and landscape studies

Intensive survey of the Metolong Catchment during Phase 1 confirmed the presence of 18 open-air Stone Age sites within the Phuthiatsana Valley itself, plus a further five in the area surrounding the Water

Treatment Works. The majority are purely Middle Stone Age in content, but in some cases LSA artefacts were recorded and in one instance an Early Stone Age handaxe. Most of these scatters have been impacted more-or-less seriously by erosional and depositional events of non-human origin that have compromised their integrity or reduced the number of artefacts to uninformatively low levels. However, at three sites (OS3, OS16 and OS20) artefact density was high enough to warrant collection for further study.

Our team also explored the local landscape for sources of raw material used to make the stone artefacts found at Ha Makotoko and Ntloana Tsoana and we plan to integrate these results into forthcoming analysis of the lithic assemblages from both sites. In addition, our colleagues Adrian Parker and Mike Morley of Oxford Brookes University (United Kingdom) began a programme of landscape survey to locate and sample palaeoenvironmentally informative geological sequences along the Phuthiatsana River. This work complements their studies of the geoarchaeology and soil micromorphology of Ha Makotoko and Ntloana Tsoana, from both of which they also took samples for pollen and phytolith analysis. Other palaeoenvironmental studies will focus on the bone and charcoal samples retrieved and on stable isotope analyses of faunal remains and on- and offsite sediment sequences.

### Rock art

Although ARAL photographed the 27 sites that its fieldworkers identified, none of the Metolong Catchment's paintings have previously been traced. To produce a permanent record of them before they are lost a comprehensive programme of tracing and digital photography has therefore been instituted, with tracing undertaken by our colleague Lara Mallen (St Hugh's College, Oxford). Our own preliminary assessment of the imagery present shows that most paintings belong to the fine line tradition of Bushman rock art, although other traditions – perhaps linked to contemporary initiation rituals – may also be present. Some images, including therianthrope figures and individuals shown bending forward at the waist, lying prone, clapping, dancing or as if flying, probably relate to shamanistic beliefs and practices (Figure 7). Contact with Iron Age farmers is suggested by paintings at one site of men armed with shields,



**Figure 9:** Students from the National University of Lesotho visiting Ntloana Tsoana, 26th February 2010: a) the students are given an introductory site tour; b) one student learns how to clean the surface of an archaeological layer; c) team member Pulane Nthunya explains the processing of the sieve residue; d) students participate in wet sieving under the guidance of 'Me Nthunya.



**A**



**B**



**C**



**D**

while sheep may be depicted at another. We hope to undertake a programme of dating and pigment analysis after all paintings have been traced and after well preserved panels have been selected and removed for safekeeping and eventual display as requested by the Metolong Authority.

### Ha Makoanyane

A major omission of previous archaeological research in Lesotho has been the study of sites linked to its present population and their immediate Iron Age ancestors (but see Dreyer 1996). In addition to noting relevant material culture (especially ceramics), stonewalling or rock art in rockshelters within the area affected by the Metolong Dam, we therefore seized the opportunity provided by road construction near the abandoned village of Ha Makoanyane to explore the archaeology of this late 19<sup>th</sup>/early 20<sup>th</sup> century rural community, a subject thus far little investigated by southern African archaeologists (cf. Hall 1997). Building on conservation measures set in place during Phase 1 to prevent any further encroachment onto the site or its cemetery by the roads leading to the dam wall and the Water Treatment Works, we tested surviving midden deposits in the oldest part of the village in July 2010. These excavations demonstrated the presence of at least two phases of building activity and retrieved a significant quantity of pottery and glass beads, analysis of which is now under way.

### Cultural heritage management and community archaeology

In contrast to earlier projects in Lesotho, efforts to involve local communities and build capacity in archaeology and cultural heritage have been central to our work. This will continue into the post-excavation phase, in part through collaboration with Dr. Moleboheng Mohapi, archaeologist at Lesotho's National University, whose students have used the Ntloana Tsoana excavations and subsequent finds sorting as a training opportunity (Figure 9). At the same time, we have provided a significant level of training in excavation, survey and site recording techniques to senior Basotho members of our field team, a process facilitated by the responsibility for record-

ing and interpretation that devolves to individual excavators when using single context recording (Berggren and Hodder 2003). Basotho members of the project also contributed to presenting our fieldwork and wider heritage issues to visitors (including school groups) and national print and television media. Circulation of Sesotho- and English-language newsletters to local communities, government agencies and tourism outlets has been an important part of this.

We hope that the experience gained in these ways will assist with current plans to establish a functioning national museum in Lesotho and to develop a local heritage centre in the Metolong area. Additional efforts in this direction will be made during Phase 4 of our project, at the end of which all usable camping and excavation equipment will be donated to relevant cultural heritage bodies in Lesotho. In the meantime, we hope to secure funding from other sources for further fieldwork in the Metolong area before the sites that we have begun to investigate are permanently flooded. Continued excavations of the highly resolved terminal Pleistocene/early Holocene deposits at Ntloana Tsoana and Ha Makotoko and further investigation of the use of space at both sites will be among the goals of that work.

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