

■ ETHIOPIA

Archaeological and Ethno-Historical Investigations in Mursiland, S.W. Ethiopia: Second Interim Report

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Introduction

Since 2009 field survey and trial excavation has been conducted as a part of the 'Mursiland Heritage Project' within southwest Ethiopia, the first season of which was reported in NA73 (Brittain and Clack 2012; Clack and Brittain 2010, see also 2011a). This outlined a unique collection of monumental stone architecture and lithic scatter sites identified across a region of the Lower Omo Valley that had been previously considered to be devoid of archaeological potential following the Middle Stone Age (MSA). With two additional seasons of fieldwork the project has made considerable progress in determining the date, variability and broad purpose of these newfound sites. The following presents an interim statement concerning these findings, briefly outlining a programme of survey and excavation between July and August 2010 and further survey and the documentation of related

ethno-historical data from the region between January and February 2012.

Archaeological Background and Geographic Context

The Mursiland Heritage Project to date has been situated primarily within the territory of the Mursi ethnic group bordered by the Omo and Mago National Parks within the Lower Omo Valley of southwest Ethiopia (Figure 1). The Mursi (who refer to themselves as *Mun*) are a Surmic-speaking group numbering between 8,000 and 10,000, who practice an agro-pastoral livelihood. Mursiland occupies a dynamic environment, bounded by the Rivers Mago, Mara, and the Omo (Turton 1973), within a territory mainly consisting of the 'Mursi Formation', a volcanic plain sloping from the east to the west, and of longstanding interest to researchers engaging with hominin evolutionary periods. The lowlands are dominated and cut from the southwest to northeast by the Dara Range, from which branches the northerly spur of the Arichukgiron, an elevated 'spine' around which much of the survey has been centred. Relations between the Mursi and other ethnic groups bordering their lands are complex, which is reflected in the contrasting oral histories documented from within each of the groups, in particular concerning origins and intertribal associations. In addition to the Mursi a further eight ethnic groups occupy differing lands within the Lower Omo Valley – Bodi, Chai, Dassanetch, Hamar, Kara, Kwegu, Nyangatom and Suri – that together speak six different languages from Afro-Asiatic (e.g., Omotic and Cushitic) and Nilo-Saharan (e.g., Surmic and Nilotic) language families, thereby enframing the comparatively small region with a highly unusual phylogenetic linguistic diversity.

Findings reported in 2009 were from an area named Dirikoro along the River Elma which is one of a number of small perennial water sources traversing the landscape. These included fifteen partially buried circular stone platforms described locally as *benna kulugto* ('stone circle'). These

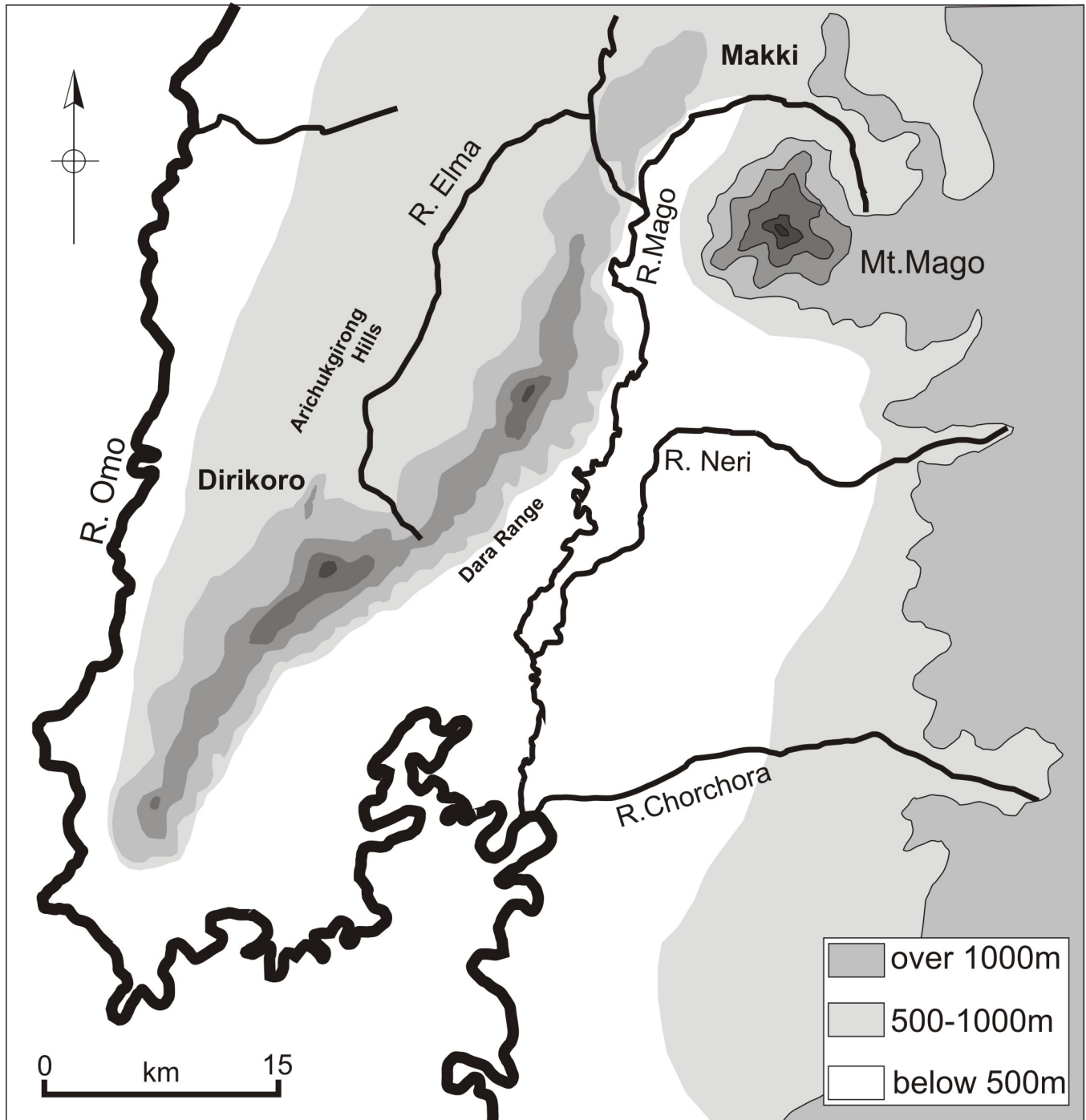


Figure 1: Location map.

enigmatic constructions comprised concentric circles of elongated volcanic stones with an interrupting gully oriented consistently to the northwest from the platforms' centre, together forming diameters between 2.5-13m. Fragments of burnt and unburnt bone as well as lithic debitage were collected

from between the stones of three of the platforms that had been cleaned for planning and recording, with a noted concentration towards the centre of each of the platforms. A 2m test square over one of the smaller and partially disrupted platforms indicated the possibility of sub-platform pit or post hole

features, perhaps having once held upright stones or stelae, but it was clear that further excavation was required for greater clarity. In addition, five locations were identified with surface scatters of struck lithic debitage, along with another location characterised by scatters of pottery sherds impressed with roulette design, although the latter of these is perhaps of more recent origin. It was clear that the survey required extension beyond Dirikoro and that local knowledge was hugely valuable in the sourcing of sites of interest.

Excavation and Survey

Additional seasons of survey and excavation in 2010 and 2012 have considerably increased the archaeological potential of the landscape, extending the breadth of the survey to a neighbouring area immediately west of Dirikoro called Ulumholi, as well as providing a preliminary assessment of a rock shelter and other nearby stone compound features at Makki on the northeast side of Mursiland. In addition, a small scale and targeted ethno-historic survey with the Bodi, an ethnic group inhabiting a territory to the north of Mursiland, has provided insight towards a greater understanding of the results drawn from investigations at both Dirikoro and Ulumholi, the significance of which is outlined below and elsewhere (see Clack and Brittain 2011b).

In brief the recent investigations may be summarised in the following way:

- i. *Benna kulugto* stone platforms were found at both Dirikoro and Ulumholi, evenly distributed around the lower northern flanks of the Arichukgirong range and extending northwards beyond its landfall.
- ii. The number of identified *benna kulugto* now totals to twenty-five, the largest of which is a considerable 25m in diameter, and all bear a northwest gully orientation irrespective of their position in the landscape.
- iii. Twenty-five per cent of one of these

was fully excavated, with another four subjected to test pitting.

- iv. Three small circular stone cairns with an encircling stone buttress were identified in close proximity to the *benna kulugto* along the eastern flank of the Arichukgirong.
- v. Stone circles and stelae were located at Maiholi to the south of Dirikoro.
- vi. A rock shelter with pottery, chipped stone and nearby stone enclosures was identified at Makki to the northeast of the Arichukgirong.
- vii. A well-preserved MSA struck stone assemblage was found along the River Elma in deposits eroding from layers sealed by alluvium.

In the following v-vii are reported in brief, with the focus primarily centred upon i-iv.

Dirikoro and Ulumholi Stone Platforms.

In addition to the fifteen *benna kulugto* stone platforms identified previously, a further ten were located through walkover survey, of which twenty-three were sited within the area of Dirikoro, and two within the outskirts of a Mursi village at Ulumholi and previously unknown to its occupants. Each of these was masked by a thin soil horizon measuring 1-10cm in thickness. Platforms were initially identified by partial sightings of concentric stone alignments differing to the natural geology protruding through this layer. For all *benna kulugto* no material culture was observed from within this layer, and it is clearly a post-abandonment accumulation.

The main area of investigation in 2010 centred upon a cluster of eight *benna kulugto* at the northern tip of the Arichukgirong landfall (Figure 2). This comprised four platforms aligned in a northerly series (Features 4 to 7), each measuring between 5m and 8.5m diameter, along with three small platforms approximately 2-3m diameter, and to the east of these the largest of all the platforms (Feature 34) at a little over 25m diameter. Five 1m² test pits were excavated across the area in which

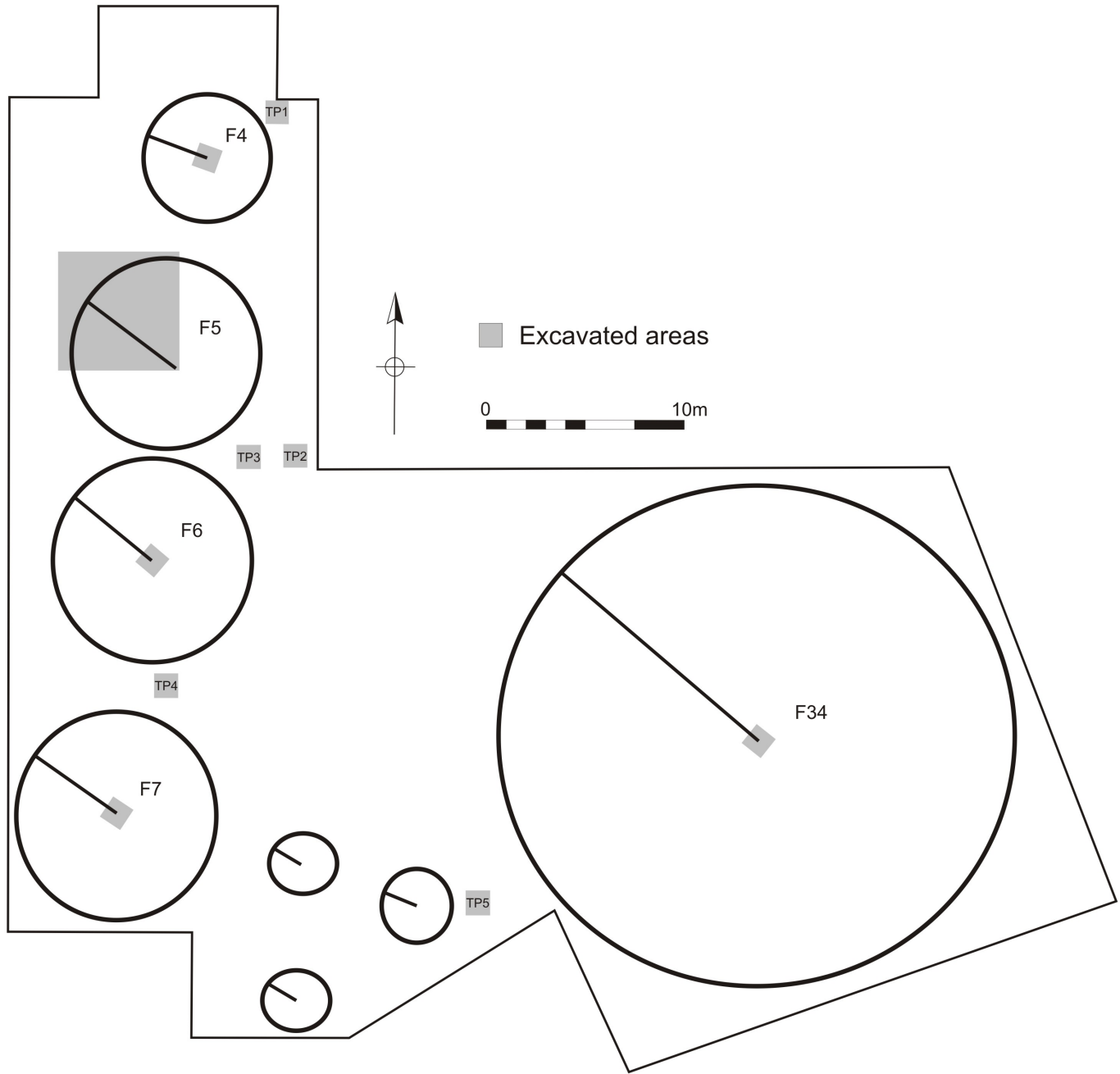


Figure 2: Plan of 2010 main excavation area.

two land surface horizons were recorded, with a 5cm layer of silvery grey ash separating these horizons in Test Pit 2. Soil samples were collected for chemical analysis from each test pit as a control for more detailed sampling over the platforms.

A twenty-five per cent quadrant of one of the *benna kulugto* (Feature 5; Figure 3) was excavated

via a chequerboard method, composed of an area of 5m² divided into twenty-five 1x1m squares each allocated a unique set of context and sample numbers. Importantly, this incorporated the interrupting gully. The entire platform measured 8.3m diameter and was constructed of arrangements of stones in a concentric circular order. Sources for these stones have yet to be identified, although it is clear that

there is no obvious local source, and a number of the stones appear to be water-worn and are perhaps from a riverine location. Each of the stones from within the area of excavation were planned and individually numbered so that they could be re-established after excavation. Upon removal of the stones soil layers were excavated in 5cm spits within alter-

nate squares, or to a distinguishable soil change, and 100% of the soil was sieved to apertures of 10mm, 4mm and 2mm respectively. Soil samples were collected from each square for chemical analysis, and at 20cm intervals along the line of the gully. Wet sieving of environmental samples was conducted on site using buckets, mesh and muslin.



Figure 3: Plan of *benna kulugto* platform Feature 5.

After removal of the sterile overlying soil horizon two soil layers were encountered; first Layer 1 (c. 6-10cm thickness) and underlying this Layer 2 (c. 6cm thickness), both consisting of fine mid-brown silt distinguished by the density of their artefact content. Layer 1 filled the voids between the stones that had been placed upon an old land surface – Layer 2 – overlying bedrock. With the exception of a single microlith in Layer 2, finds were mostly recovered from Layer 1 and were dominated by fauna generally in a fragmentary state with a combination of calcined and unburnt examples (see below). Seeds and charcoal were retrieved through bucket floatation, and are currently undergoing analysis. Chemical analyses of the soil samples indicate high phosphate signatures at the centre of the platform and along the gully, perhaps illustrative of deliberate organic deposition, possibly bodily substances (Paul Adderley, personal communication). Importantly, unlike the results from excavation of platform Feature 2 in 2009 (Clack and Brittain 2010), no sub-stone pits or post-holes were identified, although a small hollow (Feature 43) was filled with a thin (c. 1cm) band of fine silvery ash.

In order to maximise finds retrieval and potential for species distribution and radiocarbon dating 1m² test pits were excavated at the centre of platform Features 4, 6, 7, and 34, taking into account the consistency of depositional emphasis at the centre of the platforms across Dirikoro. For each of these platforms three stones marked the central position – a feature duly noted for most of the *benna kulugto*. Bone was recovered from each test pit with the exception of platform Feature 34 (see below), and a similar 2-layer profile was recorded for each case with an absence of sub-stone features.

Bone weighing 3.43kg has now been collected from Dirikoro in twenty-four separate contexts from *benna kulugto*. Preliminary analysis has noted the preponderance for a burnt and finely comminuted condition, with the colour varying from charred black to grey/white where the bone

has been wholly calcined. The degree of fragmentation may be the result of a deliberate rather than post-depositional process, and the identifiable bone is that of a small and slender breed of domestic cattle, probably *Bos indicus* (Anthony Legge, personal communication). However, deposition of articulated elements, notably a foot from platform Feature 7, is also represented.

Platform Feature 34 was the only *benna kulugto* investigated to display no signs of faunal deposition at its centre. This was surprising when taking into consideration the platform's exceptional size of 25m diameter (Figure 4). This feature lay sealed beneath a pathway utilised regularly by Mursi communities today, particularly for droving of livestock, and was identified only by extension of the investigation area. A large (*ragai*) tree had grown through the southern area of the platform, displacing a number of its stones and attesting to its relative antiquity. Cleaning within this area uncovered fragments of butchered bone from between the stones, along with a handle from a ceramic vessel impressed with roulette design and comparable in form, although less so in fabric, with ceramic pottery made and used in Mursiland today (J. Salazar Bonet, personal communication). A ceramic disc was also found within the soil profile corresponding with Layer 1 from the same area of the platform, and is probably a small circular flange labret or large ear spool (Figure 5). *Ragai* trees are important to Mursi for their shade and as meeting and ceremonial places, and the association of these artefacts to either the platform or the tree is uncertain, although further investigation should provide greater clarity.

A single radiocarbon date of the mid-18th century CE has been obtained for a sample of the calcined bone collected from platform Feature 3 in 2009. This provides a basic rangefinder, although it is clear that a broader programme of radiocarbon dating is necessary for corroboration and to recognise a sequence of *benna kulugto* construction across the region.



Figure 4: *Benna kulugto* platform Feature 34, looking west (photo: Alberto Arzoz).

Dirikoro Stone Cairns. Three stone features that may be contrasted with the *benna kulugto* are here referred to as cairns (Figure 6). These are also circular constructions of 2-2.5m diameter, but without the defined concentricity of form that is displayed by the *benna kulugto*. Instead these cairns are primarily defined by an outer ring of large irregular stones, probably of a local origin, with an interior filling of mixed small to medium sized stones forming a slight domed profile. The position of these cairns hugs the eastern landfall of the Ar-ichukgirong, with two cairns (Features 35 and 36) situated 10m apart and alongside a *benna kulugto* platform (Feature 40), and another cairn (Feature 42) alongside two *benna kulugto* platforms (Features 27 and 28).

Dirikoro Chipped Stone Sites (with Laura Basell). With the exception of chipped stones collected during clearance of the *benna kulugto* platforms, nine individual findspots of between 1 and

10 chipped stones were identified within 2km of Dirikoro. Few of these are assignable to a particular technological era, although the majority are flakes removed from prepared cores. There is a bias towards high quality microcrystalline silicates, including chalcedony, jasper, carnelian, unidentified crypto-crystalline silicates and possibly silicified mudstone but lava (probably basalt) and possibly tuff are also represented. Many of these materials have a striking colour, ranging from rich chocolate browns to vivid reds and mottled red, yellow and white; however, the dataset is too small to determine whether this represents an archaeological ‘signature’ and behavioural preference or an analytical and collecting bias.

Most of the chipped stone would fit into a broad Late Stone Age (LSA) assemblage, although a local comparative chronology is lacking at this early stage. Most of the lithics are small, with many being <6cm in maximum linear dimension and

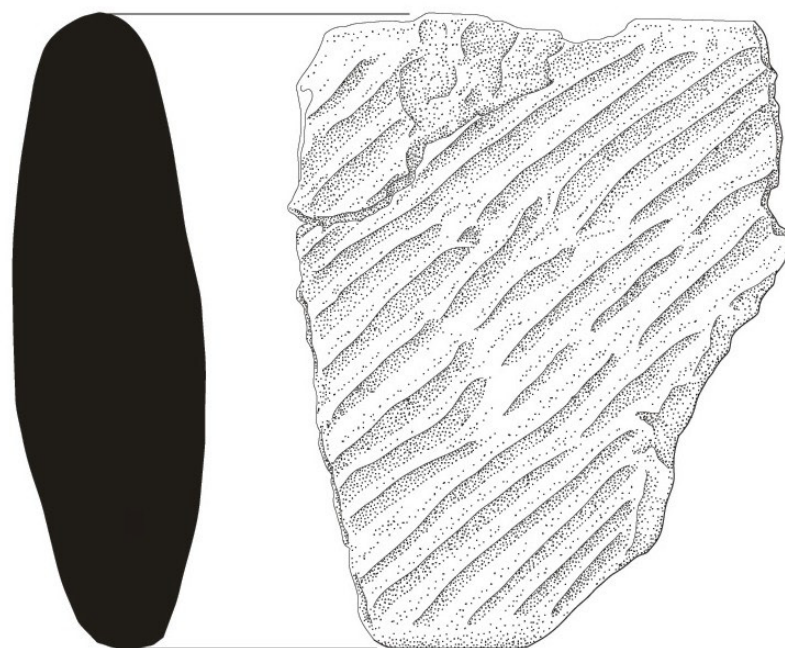
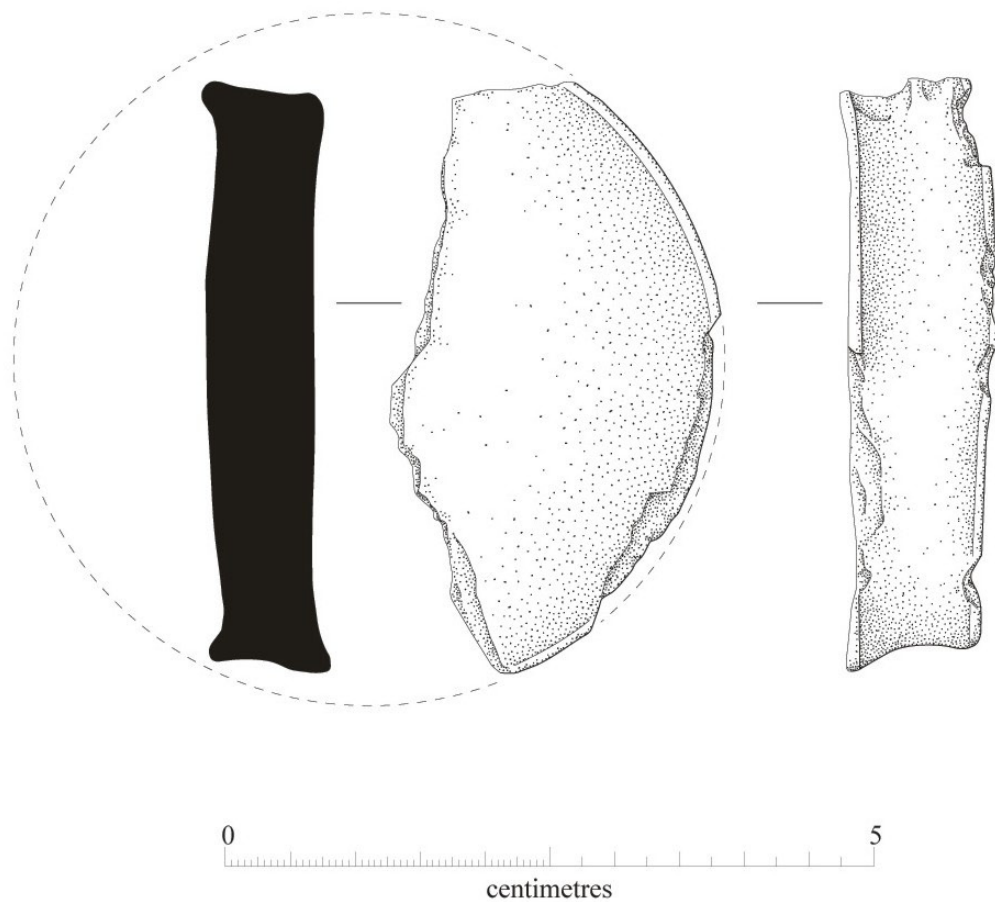


Figure 5: Ceramic finds from platform Feature 34. Top: flange labret or ear spool. Bottom: pot handle (illustrations: Vicki Herring).

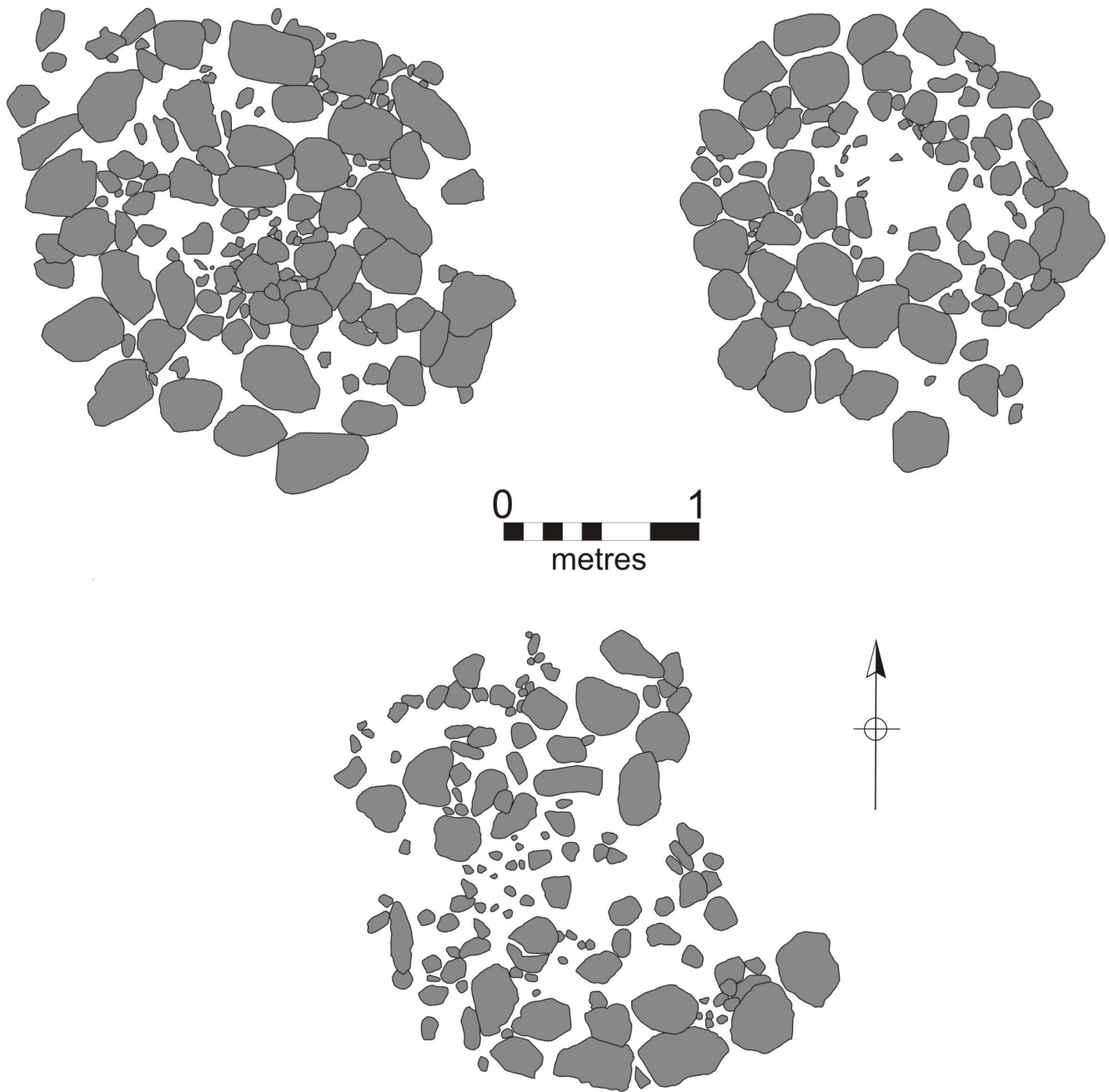


Figure 6: Plans of stone cairns. Clockwise from top left: Feature 35, 36, 42.

many cores and flakes being considerably smaller. The most parsimonious explanation for this, which is supported by the form, presence and location of cortex on many of the artefacts, is that the raw material sizes are small pebbles. Debitage (unretouched flakes and spalls) dominate the assemblage. Some items exhibit edge damage, but their condition is

mostly fresh or very slightly abraded without patination, which would support an argument for little post-knapping transport. A few have a high gloss, rather like desert varnish, which may indicate that they have lain on the ground surface for some time. Although the precise source of the raw materials for the lithics remains to be determined, silicates are

well known from the Kibish formation (see Brown and Fuller 2008; Shea 2008), and outcrops of this are found within 20km of the site. Considering the materials represented in the sample, it is likely that all can be found with a 30km radius of the find spots.

Dirikoro Waterfall Site 1. Lying approximately 1km east of the main cluster of *benna kulug-*

to along the course of the River Elma is a c.10m section of exposed strata capped by approximately 35cm of dark alluvial silty clay. A small channel cutting through this deposit into a waterfall catchment had exposed chipped stone artefacts markedly different to the surface assemblages (assigned to Feature no. 37). These represent MSA technology manufactured from limestone carbonatite and green lava, and are of a remarkably fresh condition

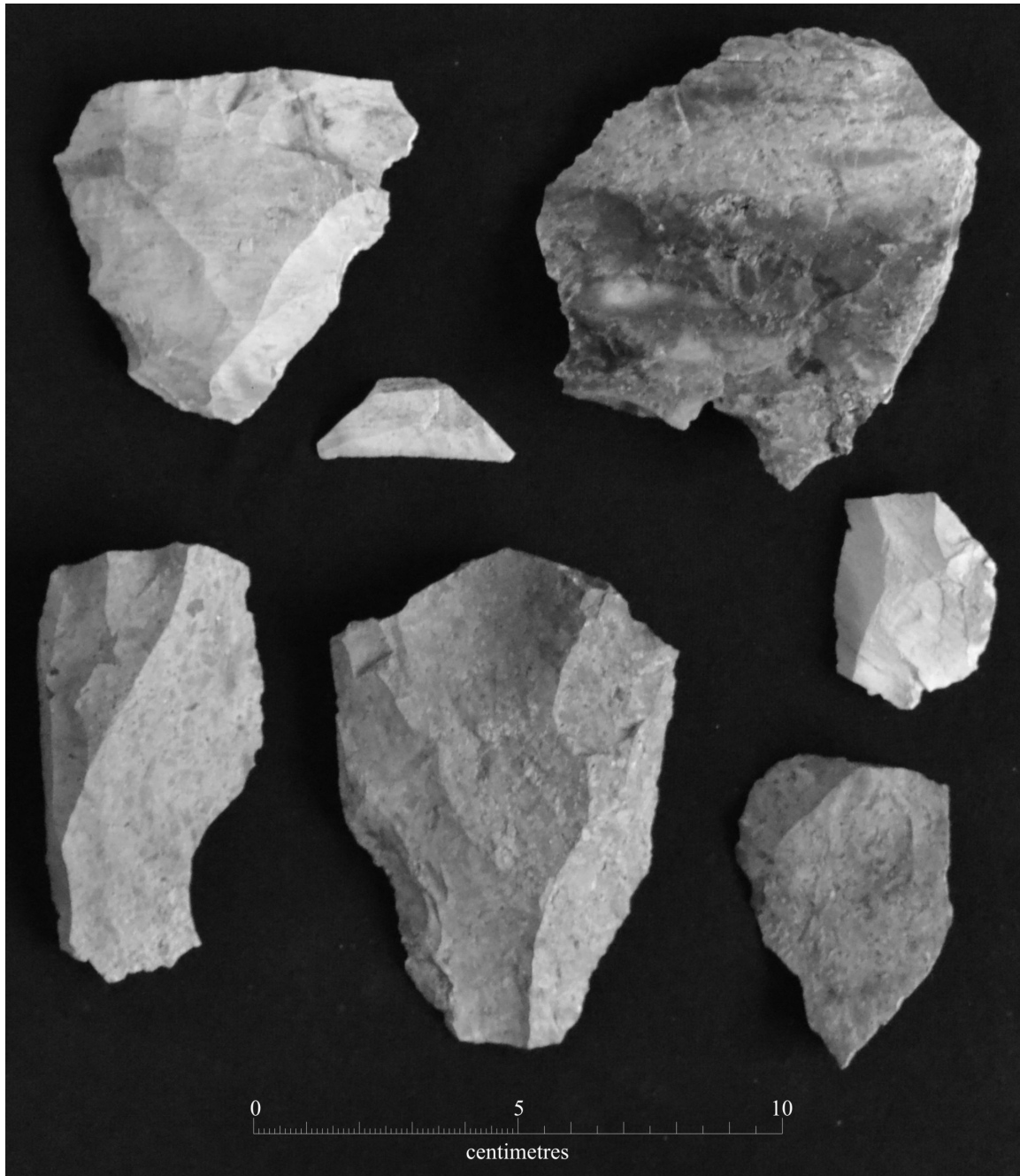


Figure 7: Selection of chipped stones from ‘Feature’ 37.

(Figure 7). Preliminary assessment of a sample of this assemblage has identified six unretouched flake fragments, five unretouched flakes, one retouched flake, two retouched pieces, three unretouched flake fragments and one core fragment. Several pieces come from a single knapping sequence on green lava, including a prepared core and Levallois flake which has been retouched. The site was identified late in the field season, thereby leaving only limited time for preliminary assessment. Two 1m² test pits confirmed the 35cm thickness of the alluvial silt and its broad association with the chipped stone. The exposed cone at the mouth of the waterfall from which the bulk of the assemblage was recovered is approximately 7.5m x 1.3m, although additional MSA chipped stones were identified 40m from this from within the sides of the channel.

Maiholi Stone Circles and Stelae. At a location known locally as Maiholi (5°37'15.10"N 36°01'34.96"E), approximately 17km south-southwest from Dirikoro, seasonal scrub clearance activity revealed at least three additional stone features. These are architecturally distinctive and comprise forms which have not been documented previously

in the wider region. The largest were two sub-circular arrangements of large stones enclosing an area of up to 25m in diameter. These features incorporated stones ranging in size with a maximum linear dimension of 1.1m. In close association to these larger circular arrangements was a smaller stone feature with a double ring of stones partially sunken into or subsumed by the ground surface. The outer ring was approximately 3m in diameter, and both rings were interrupted by a corresponding through-way, the inner of which was defined by two upright oblong stelae (Figure 8). No surface finds were identified within the general vicinity of the Maiholi structures, and their date is unknown.

Bebhezeri Rockshelter. On the northeast side of the Dara Range the landscape is considerably greener and lush by comparison to the aridity of the Dirikoro locale. Fed by the River Mago, this landscape was incorporated within the boundaries of Mursi territory during their most recent colonisation event, known as the 'Mago expansion' (Turton 1988). This occupation, through which the Mursi once again took over territory previously occupied by the Bodi, reconfigured their relations with the



Figure 8: Circular stone stelae structure at Maiholi (photo: Kate Fayers-Kerr).

sedentary highland Aari agriculturalists, mainly due to geographical proximity (Turton 1979, 1988). With a dynamic recent history this location has been preliminarily visited as a potential longer-term contact zone and an area deserving of future comprehensive survey.

During the short visit two sites of potential were identified. At the foot of a sharp volcanic peak, on Bebhezeri Mountain overlooking the Mursi settlement of Makki, a number of stone arrangements were identified in an area recently cleared of vegetation by burning. These formed an elongated enclosure approximately 40m by 30m with a circular inner compound or dwelling that together contrast markedly with architectural traditions practiced by Mursi and neighbouring communities today. Moreover, a large overhanging rock shelter a short climb up the peak (5°52'58.45"N 36°23'56.41"E) contained chipped stone debitage and pottery fragments (Figure 9). The latter has a burnished and slightly pitted exterior with incised decoration and nipped lugs below a carination, and a mixed quartz and coarse sandy grit temper. None of these traits are characteristic of pottery made by Mursi groups today or pottery imported into Mursiland from neighbouring regions (see Kaneko 2007). Thus whilst Aari and Mursi pottery forms are currently present in the settlement at Makki, they hold little parallel with the ceramic forms found at Bebhezeri.

Results of Oral Interviews

Various lines of ethno-historical research are proving central to understanding the excavation results at the Dirikoro site. These are presented here in brief.

Interviews with the Mursi. Extensive data from interviews conducted at Dirikoro, Ulumholi and Kenmeri were able to confirm that Mursi identity finds its origins in accounts of various large-scale migrations of pastoral peoples over the last two centuries, motivated mainly by environmental stresses and expressed in terms of the search for

a 'cool place' (Turton 1988). Traditions of origin tell how five named clans which are now seen as the historical core of the population, migrated in an anti-clockwise direction from a mythical homeland to the south or south-east, 'finding' and 'incorporating' other groups. The decisive event in creating a specifically Mursi identity was the arrival of these clans at the River Omo, coming from the west, and their occupation of the east bank in the south of their present territory around Kurum (D. Turton, personal communication). The Mursi expansion northwards precipitated conflicts with the Dime, Kwegu and especially the Bodi ethnic groups. According to the Mursi, the latter were violently 'driven off the land'.

We have also documented the shifting value and position within the intangible cultural heritage of the Mursi of what non-local visitors (i.e., archaeologists, heritage officers etc.) regard as archaeologically significant sites; the primary frame here is the means by which traditional knowledge may through dialogue co-habit with unfamiliar scientific discourse, and vice versa. This often takes the form of description of the changing concern with and meaningfulness of the *benna kulugto* that configures and reconfigures relationships between 'local' and 'other' identities. Some of these issues, discussed elsewhere (Brittain and Clack 2012), have been explored through a participative archaeological framework.

Other important results from interviews were detailed descriptions of the construction and use of stone monuments in communities today. It was noted that the Mursi build their own somewhat ephemeral circles of stone (*ngawou*) that are used in cattle healing ceremonies. As an example, the *biolama* is akin to an annual 'ritual of inoculation' during which cattle herds are droved to a single location from multiple parts of the landscape and are presented to a priest (*komoru*) who, from the centre of the stone circle, administers orally a mixture of clays, plants and water. One of these ceremonies which lasted two days, and which will be described in detail elsewhere, was observed at Ulumholi in

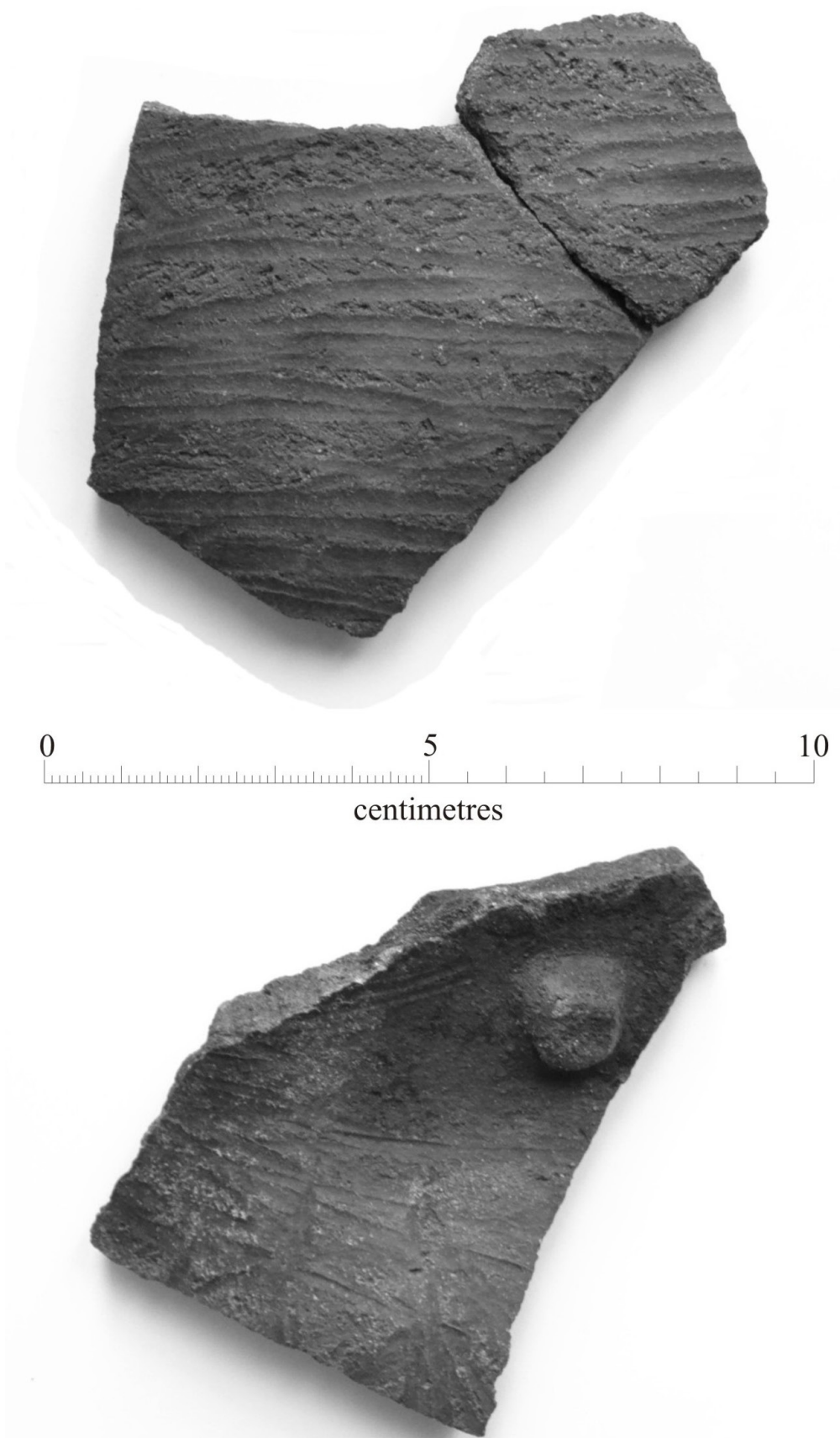


Figure 9: Selected pottery from the Maki rockshelter.

August 2010.

Interviews with the Bodi. Individual and group interviews were also conducted amongst members of two Bodi communities living in settlements on the outskirts of the town of Hana, north-west of Mursiland. It has come to light that stone platforms (*kôroch*) remain an important part of Bodi ceremonial sacrifice, and interviews during a visit to a *kôroch* site generated insights concerning the construction, function and symbolic resonances of this local tradition. *Kôroch* platforms are situated beneath sacred trees within Bodi settlement compounds, and are used during the sacrifice of cattle in the appeasement of malevolent or angry spirits. Each Bodi priest (*komorut*) is directly affiliated to an individual platform and conducts sacrifices upon the request of community members. Importantly, the life of the platform is contingent upon the life of the *komorut*. When not in use the platform is taboo and is only cleared of vegetation growth before a sacrifice is to take place. Presently, Bodi sacrifices are performed a few metres away from the platform, and involves the *komorut* dispatching the animal by a single blow to the back of its head with a stone. Intestinal fluids and blood may then be spread over some of the platform cobbles. The ritual is concluded with the decapitated head of the sacrificial animal being positioned alongside the heads of other previously sacrificed cattle within the branches of the sacred tree. Interestingly, the stones of the platform hold special significance for the Bodi. For a sacrifice to take place, and depending upon the desired outcome and associated spiritual phenomena, three stones of the appropriate colour, size and shape are sourced and brought to the *komorut*. These are then added to the existing platform with little apparent order, and as a consequence the Bodi platforms ‘grow’ over time (Lucie Buffavand, personal communication). A *kôroch* platform was visited and photographed in 2012.

Bodi oral history also inscribes a particular cultural memory of their group’s historical migrations from the adjacent grasslands currently occupied by the Mursi. Perhaps unsurprisingly this dif-

fers from the Mursi account and frames the historic territorial transfer within an occupant conception of poor quality of the grassland within the region. In this rendering the migratory colonisation by the Mursi of their current lands was permitted by the inhabiting Bodi who already possessed sufficient grazing to the north and were, in any case, contesting territory elsewhere.

Discussion

Taken together the archaeology and oral history offer glimpses of previously undocumented heritage. The results of the continued research in Mursiland, and in particular the Elma River Valley, have highlighted its considerable archaeological potential for pre- and proto-historic landscapes. It is anticipated that future work will expand our knowledge of past and present ritual and ceremonial activities, forms of subsistence and inhabitation, and responses to climate change.

The *benna kulugto* had previously been considered by the authors to be possible burial sites, sealed by the stone platforms. The local Mursi contended that they were floors to household dwellings. Both interpretations are proving to be increasingly implausible. Importantly, the considerable size of many of the platforms together with consistent repertoire of fragmented calcined fauna, lithics and also the phosphate signature, are all more likely to indicate a set of sacrificial practices and deposition that would combine necessary ritual procedure with a combination of public and private negotiation.

An interpretation of the *benna kulugto* as both meeting places and sacrificial stations seems to be a plausible explanation. This is further supported by the sacrificial practices enacted within Bodi communities today, and their use of stone platforms offers an intriguing glimpse into a local ceremonial practice. In line with the observations linked to the Bodi *kôroch*, the elaboration of the platforms over time and upon each ceremony with the addition of stones serving as an activation of the platforms’ generative potency is a practice easily envisaged

for the *benna kulugto*. Likewise the spreading of blood and stomach contents by the Bodi *komorut* over the platform stones is perhaps mirrored by the phosphate signatures of the *benna kulugto*. However, the architectural uniqueness of the *benna kulugto* remains, along with their geographic specificity and clustered distribution, and there is at least a 200-year separation between them and the Bodi *kôroch*. That noted, oral accounts of Bodi emigration from current Mursi territory approximately 200 years ago places additional importance on the Dirikoro landscape as a rare opportunity to examine a changing architectural and ceremonial practice in conjunction with diaspora.

Data provided by pollen cores and other environmental indicators from across the diverse landscapes of the Omo Valley in southwest Ethiopia and northeast Kenya also suggest that a climatic change to drier conditions occurs around this time (e.g., Butzer 1971; Gil-Romera et al. 2010; Gil-Romera et al. 2011; Lamb et al. 2007; Verschuren et al. 2000). The place of the *benna kulugto* as a measure of response to these factors of climate and forced migration is an interesting future avenue for investigation. Documentation of present-day sacrificial activities, which are so integral to local communities, also remains a research priority given the increasing globalising pressures and threat of displacement weighted upon these communities today.

Whilst the primary focus of the project has been the *benna kulugto* platforms, the potential of the other archaeology throughout the locale is also of considerable interest. The relationships, of the cairns to the platforms remain to be interrogated, and their potential as burial markers is certainly a possibility. Moreover, it is becoming apparent that there is a much greater diversity of megalithic architecture represented throughout Mursiland, and the temporal and practical connections between these is a clear line of investigation. Similarly, given the dynamic nature of inter-group contact documented for particular locations or regions in the last 30-40 years, there is a significant likelihood that the sites identified within the survey may also have been

enacted as zones of contact and might thus provide evidence for cultural blending and hybridised forms. Further comparative studies across regional archives will enable a more lucid understanding and observation of these processes.

Whilst it is too early at this stage to draw broad conclusions from the MSA assemblage, it does nevertheless provide an important northerly addition to a distribution that has been identified in greater detail to the south of the Mursi Formation. There are comparatively few well-preserved MSA sites across the Horn of Africa that have been recovered from stratified contexts with secure geochronological dates (Basell 2008; Brandt 1986), and the potential that this particular siting may hold is certainly clear.

Finally, data collected during the second and third seasons of the 'Mursiland Heritage Project' are further eroding the enduring images of Lower Omo Valley landscapes as 'pristine wildernesses'. The diversity in the archaeological data is gradually unravelling a picture of multiple and lengthy inhabitations with a richly diverse set of traditions.

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Bibliography

Brittain, M., and T.A.R. Clack

- 2012 Pristine wilderness, participatory archaeology, and the custodianship of heritage in Mursiland. In T. Sternburg and L. Mols, editors, *Changing Deserts: Integrating Environments and People*. Cambridge: White Horse Press, pp. 192-212.

Basell, L.S.

- 2008 Middle Stone Age site distributions in eastern Africa and their relationship to Quaternary environmental change, refugia and the evolution of *Homo sapiens*. *Quaternary Science Reviews* 27: 2484-2498.

Brandt, S.

- 1986 The Upper Pleistocene and early Holocene prehistory of the Horn of Africa. *The African Archaeological Review* 4: 41-82.

Brown, F.H., and C.R. Fuller

- 2008 Stratigraphy and tephra of the Kibish Formation, southwestern Ethiopia. *Journal of Human Evolution* 55(3): 266-403.

Butzer, K.W.

- 1971 *Recent History of an Ethiopian Delta: The Omo River and the Level of Lake Rudolf*. Chicago, IL: University of Chicago Department of Geography Research Paper No. 136.

Clack, T.A.R., and M.W. Brittain

- 2010 Excavations and surveys in Mursiland, S.W. Ethiopia, May-July 2009: A Preliminary Fieldwork Report. *Nyame Akuma* 73: 65-76.
- 2011a Place-making, participative archaeologies and Mursi megaliths: some implications for aspects of pre- and proto-history in the Horn of Africa. *Journal of Eastern African Studies* 5(1): 85-107.
- 2011b When climate changes: megaliths, migrations and medicines in Mursiland. *Current World Archaeology* 46: 32-9.

Gil-Romera, G., D. Turton and M. Sevilla-Callejo

- 2011 Landscape change in the Lower Omo Valley, southwestern Ethiopia: burning patterns and woody encroachment in the savanna. *Journal of Eastern African Studies* 5(1):108-28.

Gil-Romera, G., H. Lamb, D. Turton, M. Sevilla-Callejo and M. Umer

- 2010 Long-term resilience, bush encroachment patterns and local knowledge in a Northeast African savanna. *Global Environmental Change* 20(4): 612-26.

Kaneko, M.

- 2007 Variations in pottery making by Ari potters in south-western Ethiopia: analysis of the finger movement patterns used in forming pots. *Nilo-Ethiopian Studies* 11(1): 1-15.

Lamb, H., M. Leng, R. Telford, T. Ayenew and M. Umer

- 2007 Oxygen and carbon isotope composition of authigenic carbonate from an Ethiopian lake: a climate record of the last 2000 years. *The Holocene* 17: 517-26.

- Shea, J.
 2008 The Middle Stone Age archaeology of the Lower Omo Kibish Formation: excavations, lithic assemblages and inferred patterns of early Homo sapiens behaviour. *Journal of Human Evolution* 55(3): 448-85.
- Turton, D.
 1973 *The Social Organisation of the Mursi: A Pastoral Tribe of the Lower Omo Valley, South West Ethiopia*. Unpublished PhD Thesis, University of London.
 1979 A journey made them: territorial segmentation and ethnic identity among the Mursi. In L. Holy, editor, *Segmentary Lineage Systems Reconsidered*. Belfast: Queen's University Papers in Social Anthropology, Volume 4, Queen's University, Belfast, pp. 119-43.
- 1988 Looking for a cool place: the Mursi, 1890s-1980s. In D. Anderson and D. Johnson, editors, *The Ecology of Survival: Case Studies from Northeast African History*. London: Westview Press, pp. 261-82.
- Verschuren, D., K. Laird and B. Cumming
 2000 Rainfall and drought in equatorial east Africa during the past 1,100 years. *Nature* 403: 410-14.