Mosley Height Cairn, Causewayside Farm, Cliviger: excavations in 2010 and a re-evaluation of the collections in Towneley Hall Museum

RICK PETERSON, with contributions by ROSS KELLY and SAM WALSH

Abstract
Excavations on the former site of the Mosley Height cairn have allowed the reinterpretation of the published excavation report and a more detailed and integrated study of the material culture from the site. Radiocarbon dating indicates that cremation burial took place between the early 18th and late 16th centuries cal BC. Artefacts from the site include Mesolithic, Late Neolithic and Early Bronze Age lithics and parts of three collared urns. Cremated human bone from the site survives from three separate deposits and represents a minimum of three individuals. Activity on the site is likely to have begun in the Late Neolithic, with the main cairn and burial phase belonging to the Early Bronze Age. Comparison with other Early Bronze Age funerary monuments in the region demonstrates that the monument was deliberately sited on the west facing edge of the Burnley moors in an area of previous occupation.

1. Background to the Project

Mosley Height platform cairn (NGR SD 8798 3005: Lancs. HER ref. PRN250-MLA250) is an Early Bronze Age monument first excavated in 1950. [1] New fieldwork was planned at the site at the request of the current landowner, Mr Ken Tyson, to attempt to discover what remained of the monument and to better understand its landscape setting. Excavation took place over two four-week field seasons in August and September of 2009 and 2010. The 2009 season concentrated on the wider landscape setting with the 2010 season focussed on the remains of the cairn itself.

Mosley Height cairn is located on Causewayside Farm, Cliviger, near Burnley (see figure 1). This forms part of the South Pennines and Yorkshire Dales Joint Character Area [2] and is close to the headwaters of the River Calder. Two other prehistoric sites are listed on the HER within one kilometre of the cairn: both are standing stones which are not now extant (NGR SD 879 301 and SD 880 305: Lancs. HER refs. PRN1916-MLA1916 and PRN1920-MLA1920). Within the wider landscape there are many traces of prehistoric activity. Other Early Bronze Age burial sites are recorded from the surrounding moors, such as Cant Clough, Worsthorne [3] and Hameldon Hill [4]. There are also stray finds of Neolithic and Bronze Age artefacts from the immediately surrounding landscape, including some substantial artefact scatters from Worsthorne Moor.[5]

During the late 1940s and 1950s open-cast coal mining took place in the area. These sites since been restored to farmland but earlier archaeological traces will have obviously been completely removed in these areas. The extent of the open-cast mining is shown on figure 1, based on contemporary aerial photography and information from Mr Tyson. The ring cairn was excavated in advance of the open cast mining [6] and had been assumed to have been completely destroyed following excavation.[7] The main research aim of the fieldwork was to test this assumption against Mr Tyson's recollection that the site had been just outside the opencast pit area.

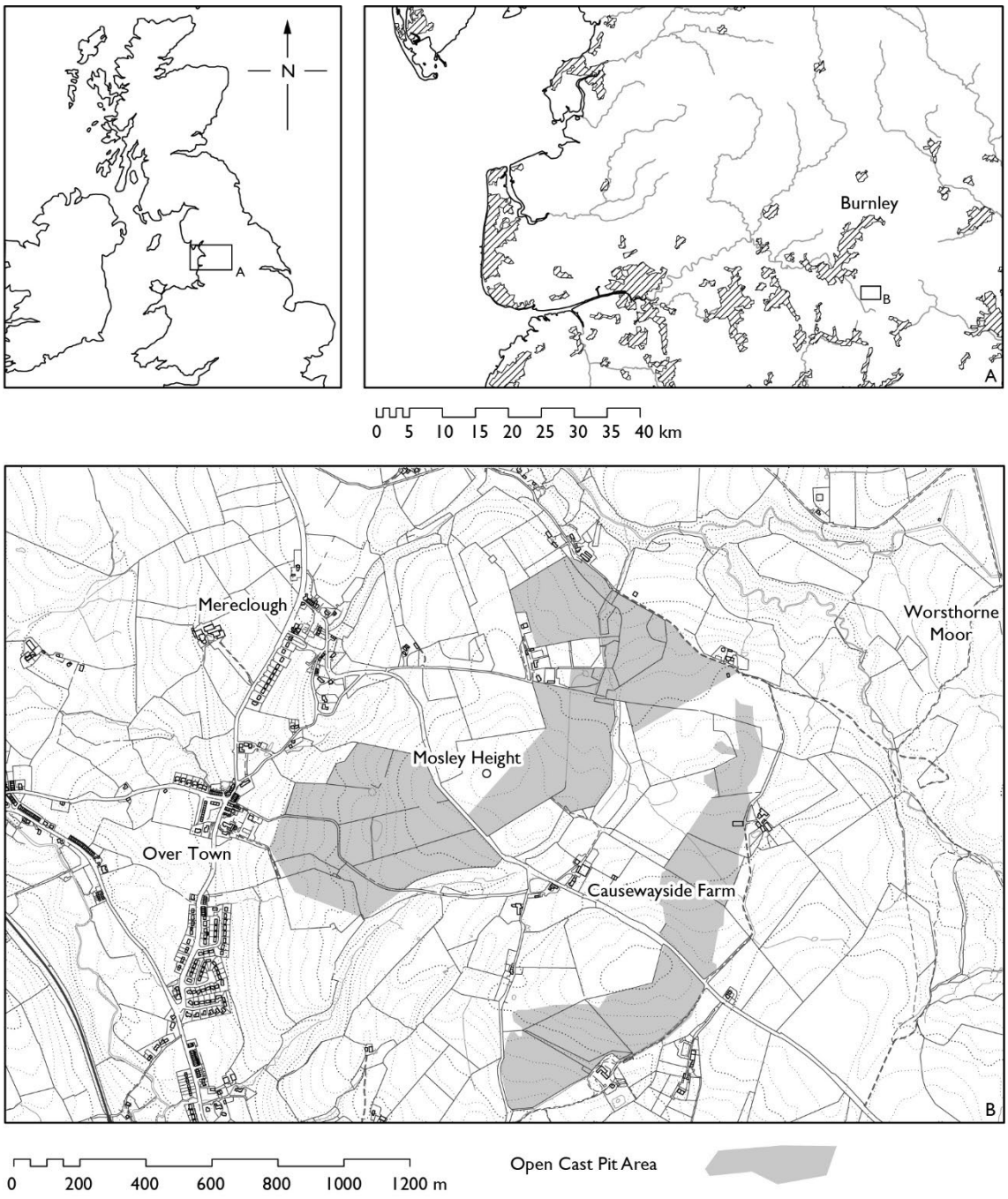

Figure 1. Location of the Mosley Height cairn and the extent of the 20th century open cast mining in the area.

2. Excavations in 1950

Mosley Height platform cairn was excavated by Walter Bennett and members of the Burnley Historical Society in 1950[8]. Excavations were carried out on a modified version of the quadrant system. Judging from site photographs in the Towneley Hall Museum (figure 2), two trenches each of 10 feet wide were dug from kerb to kerb, one running north-south and the other east-west. These trenches crossed in the centre of the cairn to create an open area excavation. There also seem to have been more informal excavations around the remainder of the kerb stones to delineate the edges of the circle. Bennett's work (see figures 8 and 9) discovered a circular kerb of 18 boulder stones,

around 12.6 m in diameter, which enclosed a rough stone platform. Three small pits were discovered on the northern arc of the outer circle with a fourth just inside the kerb. At the centre of the cairn was a circle of 8 or 9 stones around 1 m in diameter. This surrounded a cist which contained cremated bone within a primary series Collared Urn (burial A). Immediately to the west of this cist was a second lidless cist containing another Collared Urn burial (burial B). Both these urns were inverted and recovered largely intact. To the north of the central burial was a cist containing a badly damaged inverted urn burial (burial C) and to the south of this a final lidded cist contained a cremation burial without any urn (burial D). Additionally, in this area Bennett reported a spread of charcoal around 1.8 x 0.9 m in extent. Artefacts from the site were reported 'in groups near the cists' – more detailed locations were recorded at the time[9] and the archive plan with this information is in Towneley Hall Museum. These included thumbnail scrapers, flint knives, three barbed and tanged arrowheads, two shale objects and two carved sandstone discs. There were also two broken oblique arrowheads which may point to a Late Neolithic presence in the area.

Figure 2. Bennett's excavations on the Mosley Height platform cairn during 1950, looking north along one of the two 10 ft wide trenches across the site with the southern kerb-stones in the foreground. © Towneley Hall Museum.

The site was re-assessed by Barrowclough [10] and a new programme of radiocarbon dating carried out on charcoal and human remains. Samples of cremated human bone and associated oak charcoal were dated from burials A, C and D. These dates have been recalibrated for presentation in this paper using the OxCal calibration software (version 4.4) and the most recent version of the calibration curve (IntCal 20) and are quoted here (see table 1) as full ranges at 94.5% probability rounded to the nearest 5 years.[11]

Table 1: Radiocarbon results

Lab Code	Material	Burial	Result	Calibrated Range BC (2Σ)	
SUERC-4427	oak charcoal	A	3525 +/- 40 BP	2010	1700
SUERC-4431	cremated human bone	A	3490+/- 40 BP	1930	1690
SUERC-4437	oak charcoal	C	3540+/- 35 BP	2010	1750
SUERC-4426	cremated human bone	C	3420+/- 40 BP	1880	1615
SUERC-4434	oak charcoal	D	3540+/- 35 BP	2010	1750
SUERC-4432	cremated human bone	D	3410 +/- 40 BP	1880	1560

It is likely that oak charcoal sampled in all cases is residual in these contexts and therefore these dates should be regarded as maximum ages. Modelling the dates on human bone on the assumption that the burials belong to a single phase suggests that all the burial activity belongs in the later part of the Early Bronze Age, between the early 18th and late 16th centuries cal BC (see figure 3).

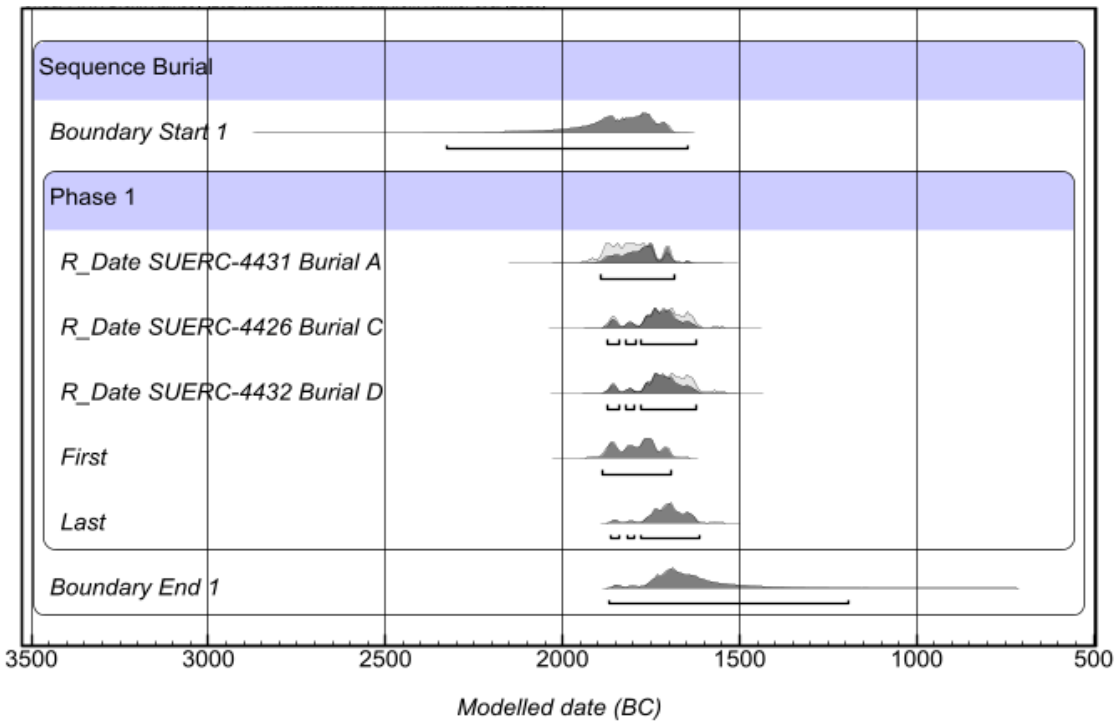

Figure 3. Modelled radiocarbon results on cremated human bone. The model was created in OxCal version 4.4 on the assumption that all the dated burials belonged to a single phase of activity.

3. Excavations in 2010

3.1 Introduction

Following a season of test-pitting and geophysical survey in the wider landscape the approximate former position of the cairn was identified and a 20 by 30 m area was machine stripped in 2010 (see figures 4 and 5). Once cleaned this area showed that the former open-cast mining extended as far as approximately 430042 north but that the

former site of the ring cairn was around 13 m north of this line, centred on OS national grid co-ordinates 387982/430055. Detailed excavation of a 10 by 20 m area centred on this point was undertaken to recover as much information as possible about the surviving archaeology.

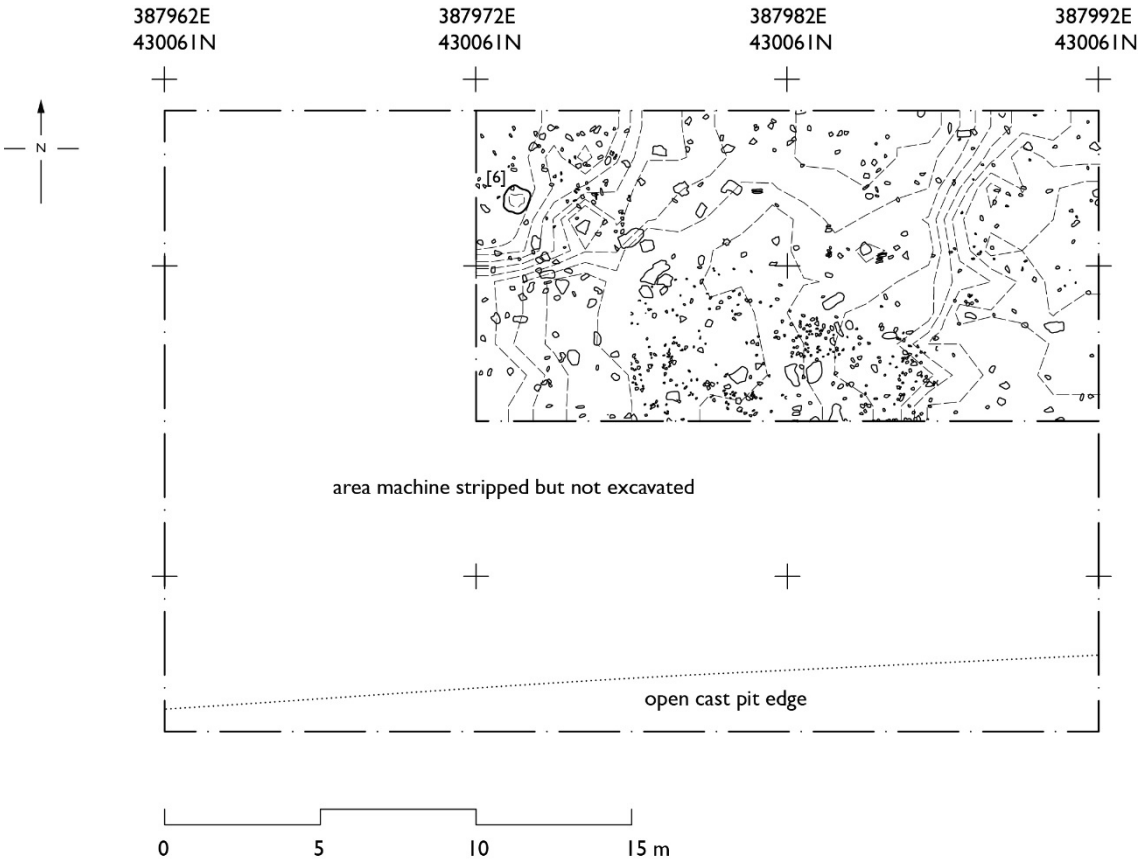

Figure 4. Extent of machine-stripped area and detailed excavation in 2010.

Figure 5. View from the south-west showing the initial cleaning of the excavated area with the pale fill of the former open-cast pit visible in the foreground.

Following initial cleaning of the area two observations were made. One was that, despite the cairn lying outside the actual area of open-cast mining, considerable damage had been done to the surviving structures. Most of this was associated with the processes of restoration following the end of mining. There was one substantial land drain which had been cut through the area of the cairn and considerable disturbance to all of the surviving stones of the cairn. The second observation was that, despite this disturbance, prehistoric material culture survived in reasonable quantities in all layers from the topsoil downwards. Grid co-ordinates for all prehistoric material culture were recorded in three dimensions.

3.2 Contexts revealed by excavation

Following the removal of the topsoil the first context which was encountered in the area of detailed excavation was an extremely heterogenous loose stony silt which ranged in colour from yellowish red (Munsell value 5YR 4/6) to dark reddish brown (5YR 3/2). This layer, context (002), covered the whole excavated area to a depth of approximately 0.15 m. Finds from context (002) included prehistoric worked flint and chert but also post-medieval and modern ceramics and fragments of field drainage tiles. Context (002) was interpreted as redeposited material introduced onto the site as part of the process of restoring the land following the end of open-cast mining.

Beneath context (002) was a very dark brown (7.5YR 2/1) loamy sand with a high humic content. This layer, context (003), covered the whole area of the detailed excavation, surviving in variable depths from 0.10 to 0.05 m. Finds from context (003) included prehistoric worked flint and chert but once again included some post-medieval and modern ceramics. The larger stones visible on figures 4 and 8, some of which are likely to be disturbed elements of the former cairn, were all found within contexts (002) and (003). Context (003) is likely to be the remains of the pre-existing turf-line and topsoil which was buried by the redeposited material in context (002). Test pits dug in 2009 showed that this relationship extended over the whole of this pasture, as far north as 387921, 430076. The destructive nature of the restoration process can be seen in the section through these deposits which was recorded along the 430050 north line (figure 6).

Figure 6. View from the north showing the relationship between contexts (002) and (003) and the extent of the disruption caused by the post-mining land restoration.

Beneath context (003) was a strong brown (7.5YR 5/6) extremely stony sandy clay. This layer, context (004), appeared to form the upper layer of the natural subsoil and was therefore not excavated. One surviving negative feature was detected cutting the surface of context (004). At 387973, 430056 there was a circular patch of very dark grey (7.5YR 1/1) loose sandy loam. This layer, context (005) formed the fill of a shallow circular pit 0.9 m in diameter and around 0.15 m deep (figure 7). This pit, cut context [006], did not contain any finds. It was interpreted as the truncated remains of a stone-hole for one of the kerb stones of the cairn.

Figure 7. View from the west of probable stone-hole context [006] with fill context (005) in section during excavation

The position of this feature and its interpretation as one of the stoneholes of the former ringcairn allows a tentative reconstruction of the position of the features recorded by Bennett on the archive plan stored in Towneley Hall Museum. Taking the scale and recorded north on Bennett's plan together with the surviving features and contour data at the end of the 2010 excavation it is suggested that figure 8 represents the most accurate correlation of the material from both archives.

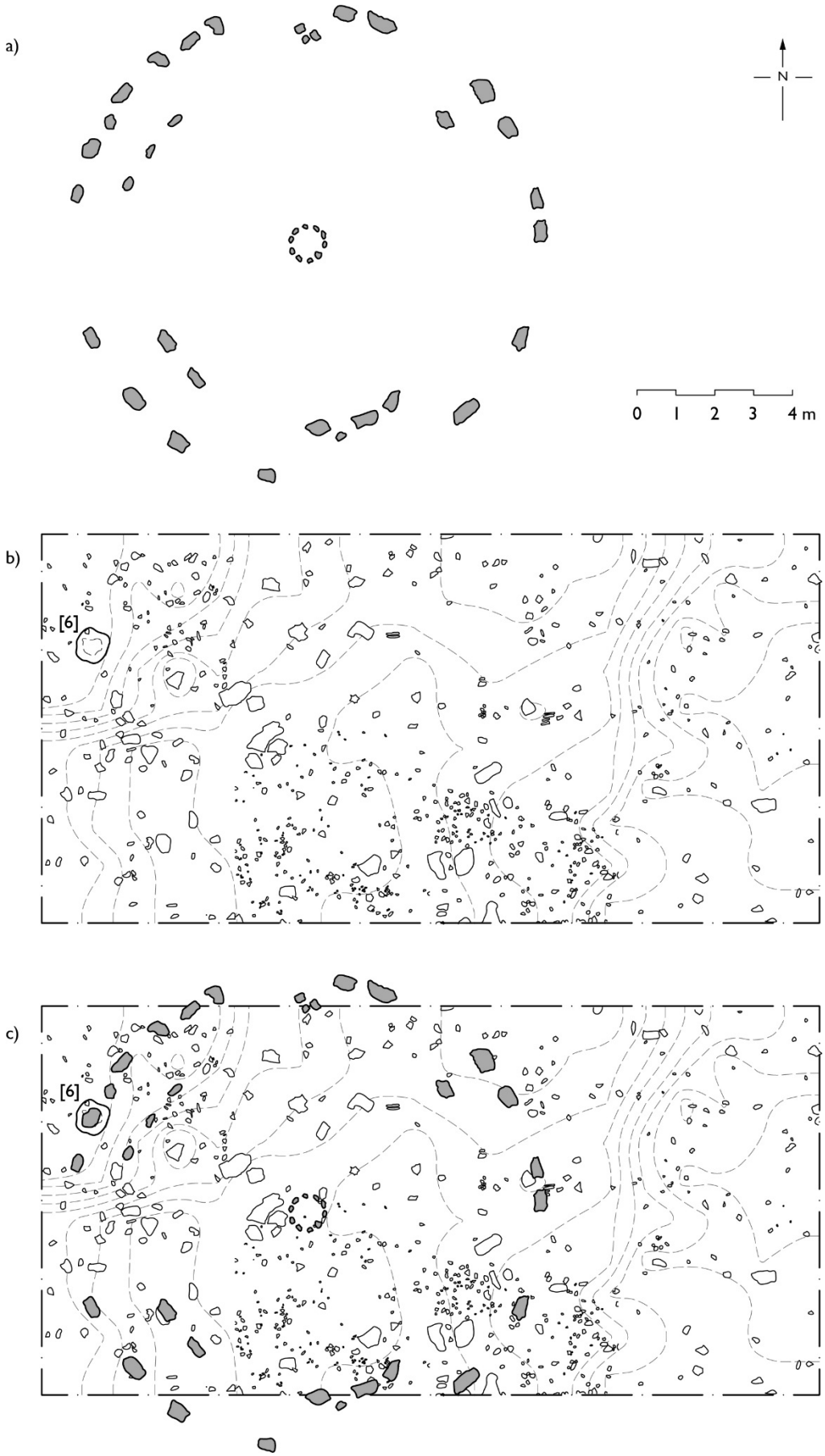

Figure 8. a) archaeological features recorded by Bennett; b) features recorded at the end of the 2010 excavations; c) suggested correlation between the two plans

3.3 Distributions of prehistoric material culture

Recording of the position of all prehistoric finds in three dimensions allowed the disturbed material culture from contexts (001), (002) and (003) to be compared to the reconstructed positions of the finds and features from the 1951 excavations (see figure 9)

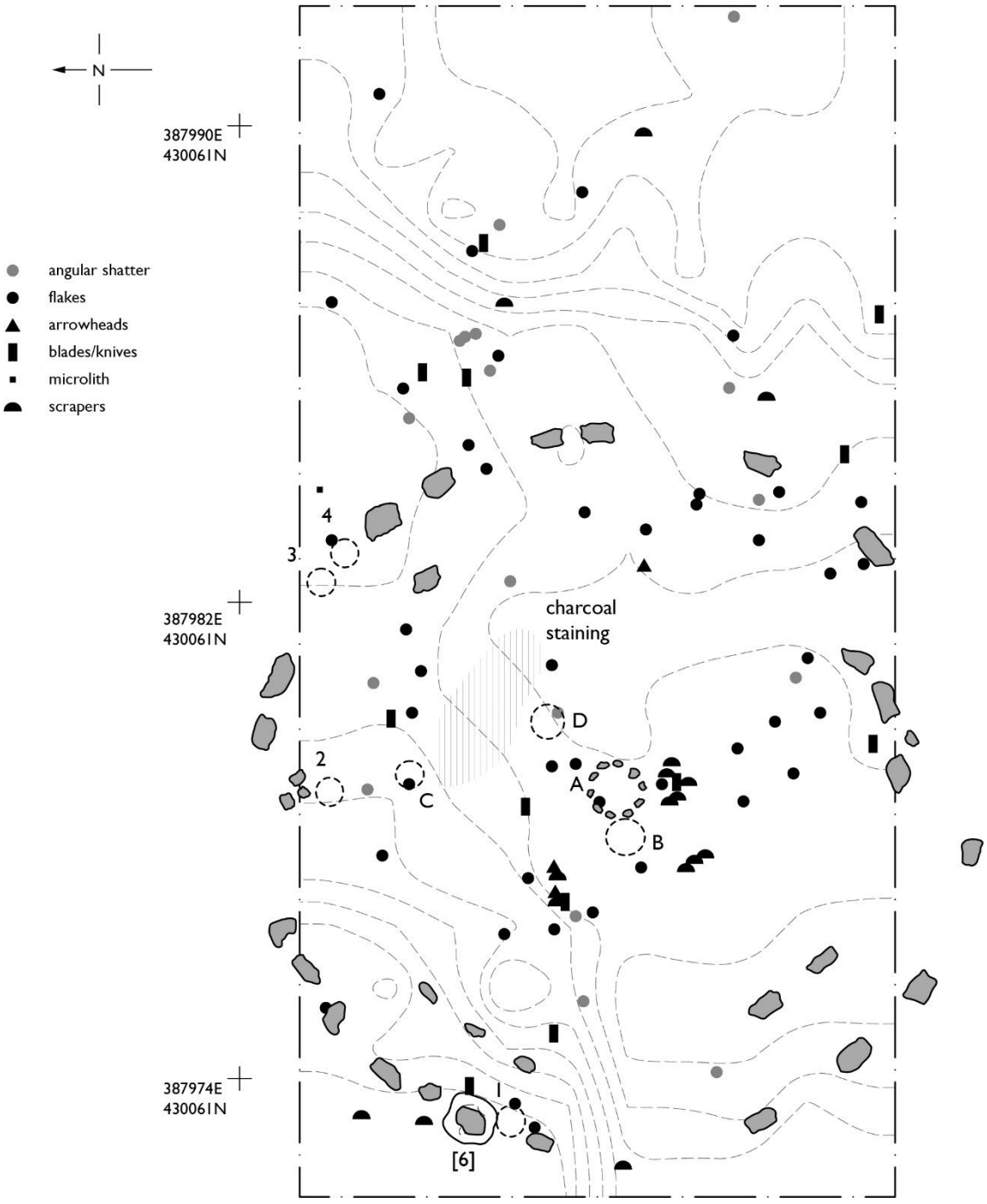

Figure 9: location of worked stone finds divided by broad classification from 1950 and 2010 excavation seasons. Kerb stones recorded by Bennett are shown in grey tone with the pits and cists he discovered indicated by dashed outlines. Modern surface contours at 0.1 m intervals. The single cut feature excavated in 2010, context [6], is shown in black outline.

Archive material and finds from the 1950 excavation season preserved in Towneley Hall museum include worked stone and pottery finds, cremated human remains, monochrome print photographs of both the excavation and some of the finds and annotated drafts of some of the figures for the final report.[12] There are also five worked stone finds which were accessed into the collections in 1985 but which were originally collected by H. Page from the site in 1951. Prehistoric material culture from the 2010 excavations was entirely comprised of worked stone. In the following sections material from both seasons of excavation have been reported in as integrated manner as possible.

4 Worked Stone

Ross Kelly and Rick Peterson

4.1 Introduction

Worked stone finds from the 2009 and 2010 excavations have been integrated with archive and finds held in Towneley Hall Museum.[13] There were 77 worked stone finds from the 2010 excavations, four from test pits in 2009 and a further 28 pieces survive from the Bennett excavations. 2009 and 2010 materials were analysed and catalogued by Kelly as part of an undergraduate dissertation project on the site. The re-analysis and cataloguing of the Bennett material and the overall editing of this report was completed by Peterson.

Sixty four percent of the material in the assemblage was classified as debitage. However, it is noticeable that the material recovered in 1950 was much more heavily biased towards tools and retouched pieces. Four of the 28 surviving pieces collected by Bennett are ground stone objects and two others are unworked fragments of canal coal. Except for two irregular chunks and a single blade fragment all the rest of the lithics in the Bennett collection are formal tools. The difference between the two assemblages is undoubtedly due to the different working conditions during the excavations. Except for Bennett himself, the 1950 team were relatively inexperienced and were working in extremely difficult salvage conditions. The 2010 excavations were carried out over the area excavated in 1950 and the records for both excavations can be largely reconciled (see section 3.3 above). Therefore the 1950 and 2010 material can be regarded as a coherent assemblage which represents the full range of lithic material surviving from the site. Several pieces in the Bennett collection have small areas obscured by adhesive. This is a result of them having previously been mounted directly to sheets of card.[14]

Figure 9 (above section 3.3) shows that the deposition of worked stone was largely confined to the area of the ring cairn. For ease of reference within this report, finds from the 2010 season will be referred to by their four-figure site small finds number and finds from the Bennett excavations by the last three digits of their museum accession record number.

4.2 Blades (figure 10)

There are a distinct group of objects from the site which seem to represent blade manufacture. There are six small flint blades or blade fragments without any surviving evidence of retouch: find numbers 1010, 1016, 1033, 1045 and 1058 from the 2010 excavations and accession number 18.4 from the 1950 season. All show parallel flake scars on the ventral surface, a clear indication of having been made as part of the controlled production of blades. There are also three larger blades with some evidence for the modifications of the edges with abrupt retouch. Two of these pieces, 1050 and 1060, are on flint, while the third, 104, is chert. In each case, relatively large blades

have been slightly modified along the edges. One of the blades, 1050, also has evidence for reworking of the distal end of the blade to create a notch.

4.3 Microliths (figure 10)
There is a single microlith from the assemblage, small find number 1067, from the 2010 excavations. This piece is likely to be a geometric scalene triangle falling within Jacobi's general class of broad-blade microliths.[15] Some of the smaller broken blades noted above, particularly 1010 and 1033, may have been intended for microlith manufacture but there is no conclusive evidence for this.

4.4 Knives (figure 10)
There are five pieces from the site which are invasively retouched knives, all of which seem to have been produced on the relatively small blades characteristic of Late Neolithic and Early Bronze Age examples.[16] One of these fragments, 1022, is chert and the remainder, 088, 102, 106 and 1025, were all made on flint.

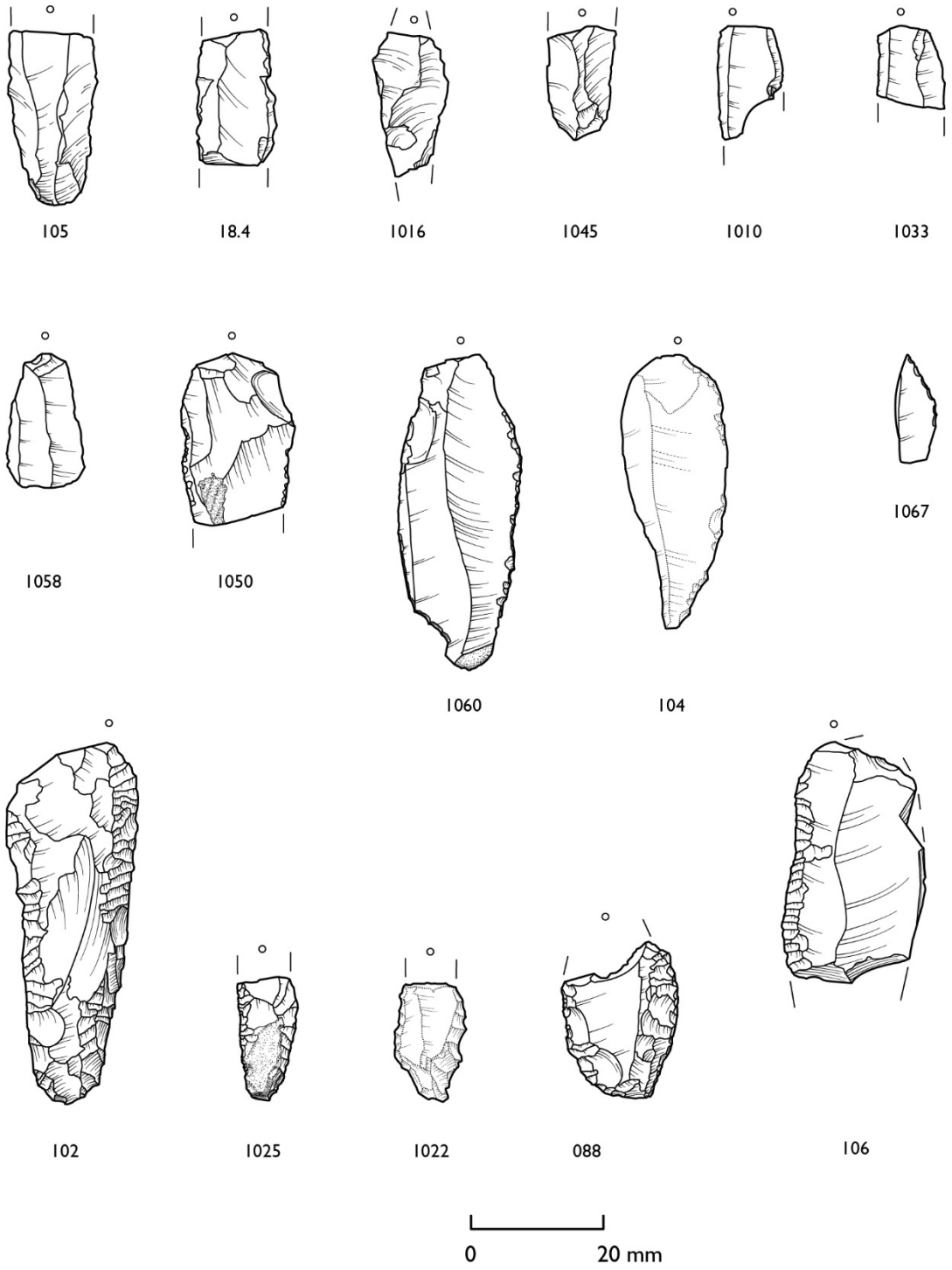

Figure 10. Blades and blade fragments (105, 18.4, 1016, 1045, 1010, 1033, 1058, 1050, 1060 and 104), invasively retouched knives (102, 1025, 1022, 088 and 106) and the single microlith (1067) from the 1950 and 2010 excavations.

4.5 Scrapers (figure 11)

The full assemblage includes 14 scrapers, 39% of the formal tools and retouched pieces from the site are scrapers. These can be further sub-divided into thumbnail scrapers, end scrapers and side scrapers.

4.5.1 Thumbnail Scrapers

These have been defined, following Riley, as 'scraper edges on a flake with dimensions of less than 30mm x 30mm'[17] and are likely to be either Late Neolithic or Early Bronze Age in date.[18] There are nine thumbnail scrapers in total in the assemblage, seven from the 1950 excavation and two from the more recent work. All nine are made on grey flint. Finds or accession numbers for these pieces are: 1019; 1066; 067; 077; 078; 079; 082; 18.1 and 18.5. Exact find location information is known for three of these pieces with three further locations recorded from 1950 for thumbnail scrapers as a class but no specific indication as to which piece came from which findspot (figure 9).

4.5.2 End Scrapers

There are four scrapers in the assemblage which have been made on larger flakes. Find number 1061 appears to have been manufactured on the broken bulbar end of a large flake or blade. A very small amount of secondary working around the bulb has provided a scraping edge. A similar example was reported from a lithic scatter at Stronstrey Bank, Anglezarke Uplands Survey site 67.[19] A more intensively worked scraper of similar dimensions on an irregular and thick flake survives in the Bennett archive (accession number 080). The other scraper in this class from the 1950 excavations, accession number 083, was made on the end of a small flake. Find number 1020 is the only example of a tool made on chert in the assemblage. A thick broken chert flake has been modified with semi-abrupt retouch along one edge to create a scraper.

4.5.3 Side Scrapers

There are two side-scrapers in the assemblage, one from the 1950 excavations and one which was discovered in 2010. Find number 1044 was manufactured on a blade at least 39 mm long, which has some slight damage to the bulbar end. It is trapezoidal in shape with fine scalar retouch on the lower half of the tool. The other side scraper, accession number 103, is made on a much thicker chunk of greyish-brown flint with surviving cortex along almost the whole of the non-functional edge. The scraper edge itself is comprised of fine scalar retouch, which is continuous over the distal and proximal ends of the flake and along the whole of one side.

4.6 Combination Tools (figure 11)

Small find number 1018 was made on a large flake of grey-white flint. It has discrete areas of semi-abrupt retouch on the ventral surface. It is likely that the intention was to create a combination tool with a notch on the lower edge and a scraping edge around the bulb of percussion. There was also a fine, bi-facially worked, piercer from the 1950 excavations, accession number 084. This piece may also have been a combination tool as there is a possible scraper edge on the lower portion of the tool.

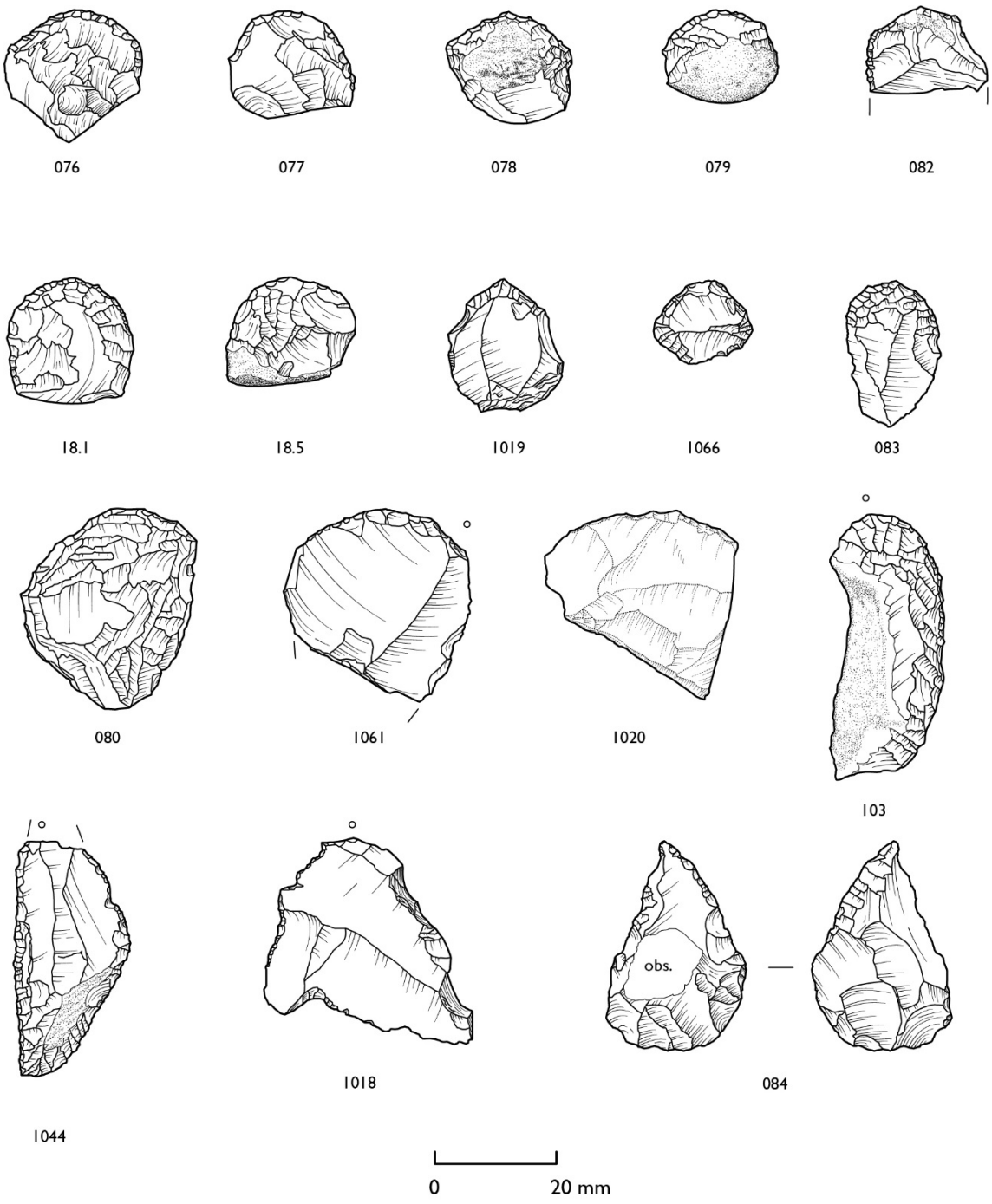

Figure 11. Scrapers, combination tools and piercers from the 1950 and 2010 excavations: 076, 077, 078, 079, 082, 18.1, 18.5, 1019 and 1066 have been classified as thumbnail scrapers; 083, 080, 1061 and 1020 as end scrapers and 1044 and 103 as side scrapers. Find number 1018 appears to be a combined notch/scraper and 084 is a bifacially worked piercer which may have had a scraping edge opposite the point.

4.7 Arrowheads (figure 12)

There are three arrowheads from the site. Two of these, 085 and 087, come from the Bennett excavations and one, 1070, from the 2010 season. All three were discovered within the central area of the ring cairn. The two arrowheads from the 1950 excavation are Late Neolithic oblique examples with the other being an Early Bronze Age barbed and tanged form. The largest of oblique arrowheads, 085, has fine pressure-flaked invasive retouch along the whole of one edge. It has also been carefully shaped with a

combination of invasive and semi-abrupt retouch to create the hollow base for the arrowhead and a small but well-formed barb. This arrowhead has been made on a thin blade, no more than 4.1 mm thick, with blade scars still surviving on the dorsal surface. There is some damage to the upper edge of this object, although the tip appears to be intact. Part of the ventral surface is obscured by adhesive.

By contrast the other oblique arrowhead, 087, was made on a flake around 5.7 mm thick. The hollow base and barb have been created through the relatively abrupt reworking of a snapped break in the original flake. The edges of the arrowhead have been shaped by semi-abrupt retouch from one side of the flake only. The tip of this arrowhead is also missing, in what appears to be an impact fracture.

The barbed and tanged arrowhead, 1070, is a complete example of Green's Sutton type B class,[20] with fine pressure-flaked working over both surfaces.

There is also a single thin flint flake from the assemblage, finds number 1026, which has ripple flaking on the ventral surface. This invasive pressure flaking shows that this flake was removed at the late stages of completing a fine, pressure flaked artefact.

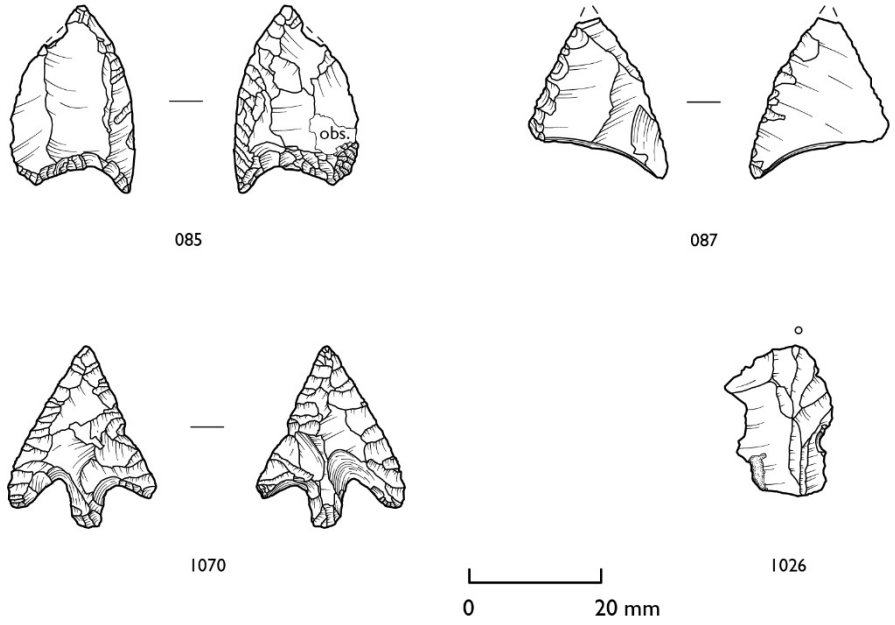

Figure 12. Oblique arrowheads, 085 and 087, from the 1950 excavations and the single barbed and tanged arrowhead, 1070, from 2010. Flake 1026 is a fine removal which shows evidence of fine pressure flaking on the ventral surface.

4.8 Debitage

Of the 99 lithic finds collected during the 2010 and 1951 seasons, 63 were classified as debitage. Nineteen of these were angular shatter, with the remaining 44 being flakes.

4.8.1 Flake debitage

The 44 flakes from the site can be divided into two groups by size. The majority of flakes are relatively thin, 61% are less than 3 mm in thickness, and the predominant shape is only slightly elongated, with 70% of the flakes having a ratio of width to length between 1:1 and 1:2. The overall dimensions of the flakes were calculated as volumes in

mm^3 and figure 13 shows the resulting division into two groups. Seventy two percent of the flake debitage falls into the smaller group, with overall volumes below 600 mm^3. This, and the small size of the blades described above, implies that the majority of lithic production at the site is using small cores and may represent the later stages of artefact manufacture. In this context it is interesting that the assemblage does not include any cores.

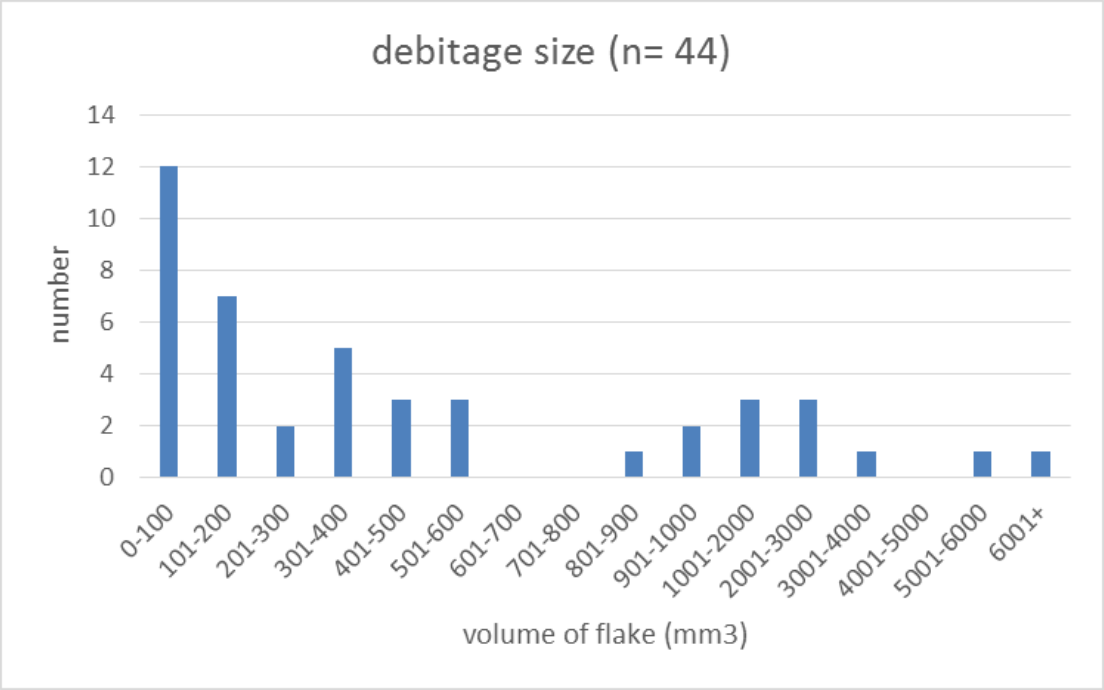

Figure 13: Sizes of flake debitage from the site, grouped by 100 mm^3 intervals, showing the clear distinction between the large numbers of small flakes and a relatively few larger ones.

4.8.2 Angular shatter

A similar pattern can be seen in the 19 pieces of angular shatter. Most are very small, 63% have a mass of less than 2 g, probably another indication that the available raw material pieces were also small. There is also a much higher incidence of chert amongst the angular shatter. In the assemblage as a whole only 17% of the pieces are chert. However, within the angular shatter debitage this figure rises to 47%. Chert was clearly being worked in a distinctively different way which was much less likely to produce flake debitage. This is despite the fact that recognisable tools, such as 1020 and 1022 (figures 10 and 11), were being produced in chert.

4.8.3 Burnt Debitage

There are eleven burnt flint pieces amongst the debitage from the 2010 excavations, all but two of these are the remains of regular flakes rather than angular shatter. Apart from two outliers, these pieces cluster around two locations: 387979/430053 and 387983/430052. The first of these is close to the position of the central cremations recorded by Bennett. It is likely that these burnt pieces originate in the cremation pyre and were introduced as part of the burial rite. Three pieces from the first cluster, 1000, 1001 and 1015, while they do not refit, come from flakes or blades of very similar form and it is possible that they are broken parts of a single large flake or blade.

4.9 Cortical surface
Cortex is present on some of the identified tools and retouched pieces described above: 1025; 1040; 1060; 078; 082; 103; 18.3; and 18.5. This is probably another good indication that most raw material sources were small. Despite this, only nine percent of flakes and 37 percent of angular shatter have cortex present. This may show that lithic working on site was largely confined to the later stages of tool manufacture.

4.10 Conclusions
The lithic analysis highlighted that 25% of the collection had pronounced bulbs of percussion, a diagnostic feature of a percussion or hard hammer blow, characteristic of Late Neolithic and Early Bronze Age knapping.[21] Furthermore, this scarcity of flint combined with the clearly skilled removal of flakes may indicate why there were no flint cores associated with this site. It is assumed that the flint workers were curating and rejuvenating the cores.

The fact that the assemblage included a single barbed and tanged arrowhead, several thumbnail scrapers and a fragment of a plano-convex knife would suggest that the bulk of the lithic assemblage is Early Bronze Age. It is therefore contemporary with the radiocarbon dated funerary activity and presumably with the date of construction of the ring cairn. However, the lithic assemblage also provides evidence of some activity on the site prior to this period. The two oblique arrowheads are broadly Late Neolithic in date. Butler notes their prevalence in burial contexts in Yorkshire and also the fact that they appear to be broadly contemporary with Grooved Ware pottery styles.[22] This would suggest that the main period of use of these artefacts would be around the 24th century BC, at least six centuries earlier than the radiocarbon-dated burial activity (see section 2 above) and, presumably, the construction of the ring cairn.

5 Prehistoric Pottery

5.1 Introduction
All of the ceramics from the Mosley Heights ring cairn were recovered during Bennett's excavations in 1950. His team discovered three collared urns within stone cists at the centre of the platform cairn. Detailed information survives in the site archive about the location of these three urns (see figure 9). All the vessels were restudied in the museum as part of the current project. Fabrics were examined using a handheld x20 lens and described following the methods outlined by Orton and colleagues [23] and the Prehistoric Ceramics Research Group.[24] In addition, vessel C was loaned by the museum to allow digital light microscopy to take place at the University of Central Lancashire.

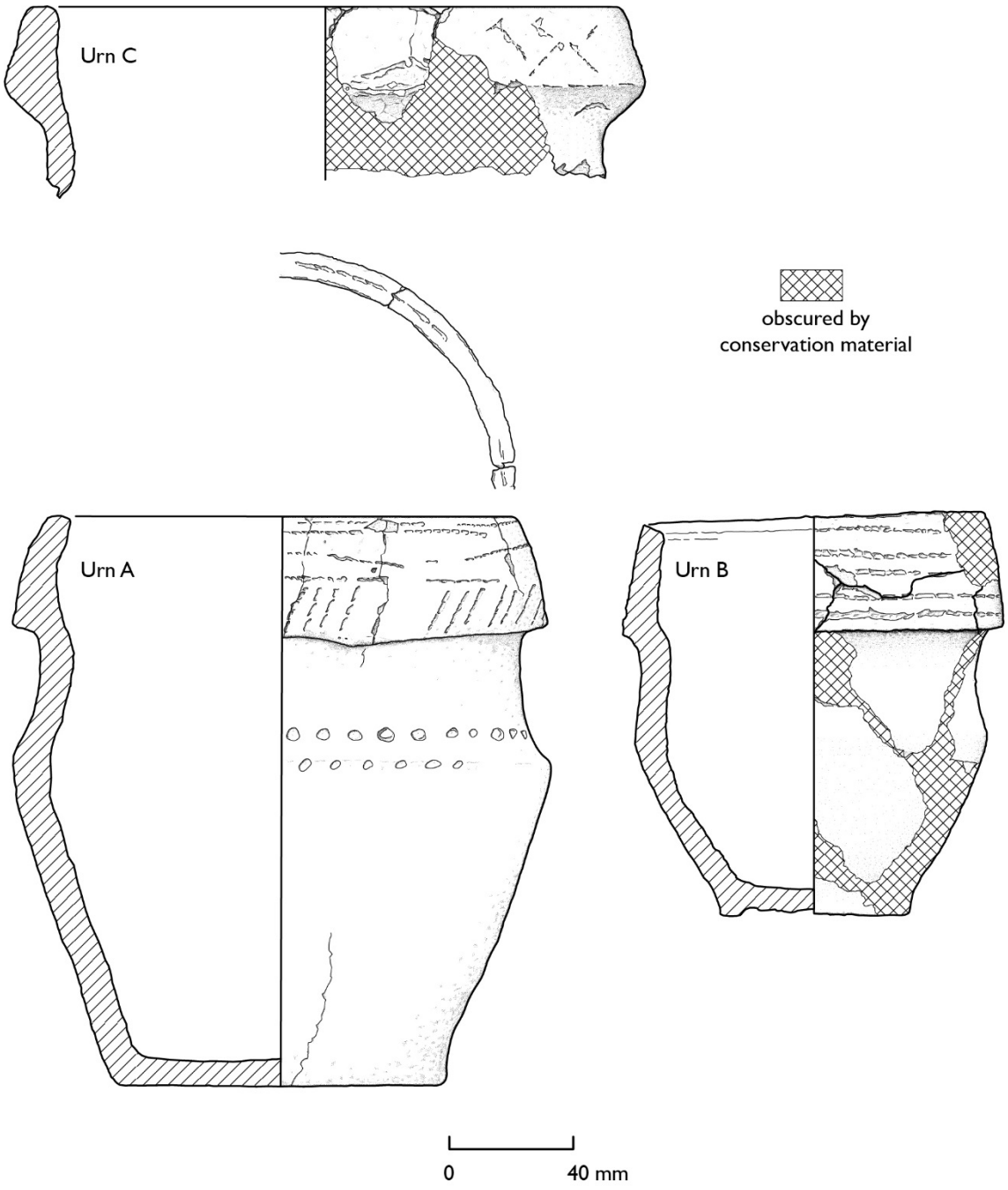

Figure 14. Collared urn vessels A, B and C from the 1950 excavations at Mosley Heights

5.2 Vessel A (figure 14: accession number 1950.1.26)
This urn was discovered inverted within the central cist (see figure 9) and contained the cremated remains of an adult (possibly female) and at least one infant along with some charcoal.

The vessel was discovered intact and therefore some details of the internal colour and fracture could not be recorded. The vessel is a small collared urn of Longworth's primary series [25] (catalogue number 811). The rim diameter is 150 mm and the vessel is 184 mm tall. The exterior surface of the vessel ranges in colour from light reddish brown to pinkish white (5YR 6/4 to 7.5YR 8/2). The interior is a more uniform grey (7.5YR 6/1). The collar of the vessel is slightly in-turned and the thickness ranges from 15.8 mm at the thickest part of the collar to around 9.6 mm at the neck (see figure 14).

The exterior of the collar is decorated with fine lines of twisted cord decoration. There are two closely spaced horizontal lines on the upper part of the collar. Beneath these are diagonal impressions around 30 mm long which may form weakly defined chevrons and beneath this element there is another horizontal line. This line separates the chevrons from a band of closely spaced diagonal lines which cover the lower third of the collar. The upper surface of the rim has a single ring of similarly fine twisted cord impressions running around the centre. The only decoration on the main body of the vessel are two horizontal lines of evenly spaced impressions which run around the base of the neck and the junction of the neck and body. These are straight sided with slightly raised centres to their bases and it is likely they were made with a hollow tool such as a snapped midshaft section of bone or a thick reed.

5.3 Vessel B (Figure 14: Accession number 1950.1.27)
This vessel was discovered largely intact and inverted in a lidless cist immediately to the west of the cist containing vessel A (see figure 9). The twelve large sherds which make up this vessel were consolidated with what appears to be a PVA medium and reconstructed for display with extensive infilling of painted plaster of Paris at some point after accession. This has meant that some details of fabric and colour are partially obscured. The vessel is a very small collared urn of Longworth's secondary series, south-western style [26] (catalogue number 812). As reconstructed, it is 110 mm in diameter at the rim and 130 mm high. The surviving external surface of the vessel ranges in colour from light grey over most of the surface to pinkish grey near the base (5YR 7/1 to 5YR 6/2). The interior is a more uniform grey (5YR 6/1). The thickness of the sherds ranges from approximately 13 mm at the thickest part of the collar to around 7.5 mm at the neck. The decoration on this vessel is confined to five horizontal lines of twisted cord impressions on the collar. The cord impressions are both thicker and more abraded than those on the other two vessels from the site.

5.4 Vessel C (Figure 14: Accession number 1950.1.28)
This vessel was discovered inverted and associated with some cremated bone within a cist around 4 metres to the north of the centre of the cairn (see figures 9 and 15). The individual within Urn C was a young adult, who was possibly female. This pit is likely to have been within the open area at the centre of the cairn but close to the inner edge of the platform. The vessel had been badly damaged before excavation and all the surviving sherds are from the rim and collar. The ten surviving sherds were reconstructed and consolidated using what appears to be a PVA based medium along with some plaster of Paris at some time after 1950. This means that some details of the colour, facture and inclusions have been partially obscured. The vessel is a small collared urn of Longworth's primary series[27] (catalogue number 813). The reconstructed rim diameter is 190 mm. The available internal and external surfaces of the vessel ranged from light reddish brown to pinkish grey (5YR 6/3 to 5YR 6/2). The collar of the vessel is relatively short and the thickness of the surviving sherds ranges from 17 mm at the thickest part of the collar to around 9 mm at the neck (see figure 14). There are traces of decoration on the external surface of the collar. These appear to be widely spaced diagonal lines of twisted cord impressions perpendicular to one another and forming either a very open lattice or widely spaced chevrons. There was also a horizontal line of these twisted cord impressions present at the base of the collar on some of the sherds.

Figure 15. Vessel C within the remains of its cist during excavation in 1950 © Towneley Hall Museum

5.5 Ceramic technology

The fabric of all three vessels is very similar and several different inclusions can be consistently identified across the assemblage. There are plentiful extremely small, well sorted micaeous flakes, which are almost certainly a component of the clay matrix rather than a deliberate addition. This is also likely to be true of the plentiful small angular quartz or quartzite grains in the matrix. There are a few, relatively large, poorly sorted and angular pieces of what may be either grog or some type of metasediment; the presence of the conservation material makes more precise identification difficult. It seems likely that the same clay and clay processing techniques were used for all three vessels but there is one significant variation in the case of vessel C. This urn has a further inclusion in the fabric of plentiful large (up to 3 mm in length) angular fragments of calcined bone. Despite the presence of the conservation material the structure of the bone fragments is clearly visible in the digital light microscopy images (see figure 16).

Figure 16. Digital light microscopy of part of vessel C, showing the structure of the calcined bone inclusions.

6 Cremated Human Remains

Sam Walsh

6.1 Introduction

Cremated human remains from the site were re-examined in the Townley Hall Museum by the author as part of her PhD thesis study of Early Bronze Age burial in the north of England.[28] Three separate deposits survive: one discovered within Urn A; one discovered within Urn C; and one within the area marked as deposit D on figure 9 above. There was also a small quantity of cremated human remains in the collection without any associated find location information.

6.2 Urn A burial

Overall, this deposit comprises of one adult, one infant and possibly another older child. The adult cranial sutures are visible but fused. The frontal suture is not visible on the inner table, there is also possible partial fusion of the occipital/lambdoid. Therefore, this may be a young-middle aged adult. Most of the adult remains are relatively gracile and therefore the adult may be female.

The deposit had a total mass of 523g. It comprised eight fragments of teeth, four of which are probably molars and one of which appears to be juvenile. There was one fragment of long bone with a thin cortex (which is probably juvenile), one juvenile metacarpal, one infant vertebra, two infant phalanges, and one proximal end of a phalanx in which the proximal end had only just become fused. Part of the upper limb included two pieces of distal humerus. There were also cervical and thoracic vertebra, a small fragment of mandible, one left mandibular condyle, the spheno-occipital junction,

one piece of right orbit, and fragments of frontal, squamous, temporal and possible occipital. There was also a fragment of talus and two scaphoid bones (left and right) of different sizes. There was also one juvenile right petrous portion and a left temporal of the same size with the mastoid process. There was one adult petrous portion (also probably left) and a fragment of adult parietal with partial fusion. The remainder of the deposit consisted of one right patella, two fragments of tibia, several ulna and radius fragments, a portion of sacrum, two lumbar vertebrae with some marginal osteophytes, two distal ends of femora (left and right), one medial cuneiform, one hallux and three other metacarpal/tarsal fragments.

6.3 Urn C burial
The deposit comprises the remains of a single adult individual. The cranial sutures show partial fusion and therefore it is likely that the adult was relatively young at death. In general, the surviving bone fragments are relatively gracile and therefore the individual may have been female.

Some of the material from the Urn C burial is contained within an unprocessed mass of soil (c. 600g). There are probably only small undiagnostic fragments within this mass. The remainder of the material has a total mass of 64g.

6.4 Deposit D burial
This small deposit, 21 g in total mass, contained four cranial fragments and several unidentifiable midshaft fragments. It was not possible to identify age or sex of the remains.

7 Interpretation and Conclusions

7.1 Chronology
As discussed in section 2 above, the primary dating evidence for human activity at the site comes from the radiocarbon dates on cremated human bone, which suggest that burial activity at the site took place in a relatively short period sometime between the early 18th and late 16th centuries cal BC. The evidence from both Bennett's excavations and the current work indicates that the platform cairn and associated kerb stones were a single-phase monument, which is therefore also probably dates to this period. This suggestion is supported by the style of the urns associated with the burials, all of which are likely to date to this broad period.[29]

The fact that all these burial deposits also contained charcoal with radiocarbon dates which were consistently around 200 years older than the dated burials does suggest that there was some activity at the site before the construction of the platform cairn. This suggestion is also supported by the lithic assemblage, which includes knives and scrapers which could be either Late Neolithic or Early Bronze Age but, more pertinently, two diagnostically Late Neolithic oblique arrowheads [30] (see section 4.7 above). Unsurprisingly, in view of the salvage nature of the original excavations and the highly damaged state of the surviving archaeology, the nature of this earlier activity is not clear.

7.2 Late Neolithic activity in the region
Other possible Late Neolithic activity is recorded in the area around Mosley Height. The multiple lithic scatters recorded on Worsthorne Moor (see figure 17) include diagnostically Late Neolithic pieces, such as a plano-convex knife, within what are clearly multi-period assemblages.[31] Beaker pottery, and Beaker associated material,

which could also be broadly contemporary with the oblique arrowheads from Mosley Height, is known form the surrounding area. Part of a possible beaker was discovered in the 19th century on Exwistle Moor. Leach reports the early 20th century discovery of a flint dagger (Lancashire HER: PRN714 - MLA714) from Hazel Edge, Worsthorne.[32] Barrowclough reports four more from the area of the Burnley Moors, including one from Cant Clough associated with jet beads and a jet ring.[33] In none of these reports is there any suggestion of any structural or monumental evidence in association with the findspots.

There are also nearby sites in West Yorkshire which may belong to this period. Richardson and Vyner list possible stone circles from the county, including one at Walshaw Dean, Wadsworth.[34] In addition, there are two recorded cup-marked boulders listed on the West Yorkshire Historic Environment Register at Black Scout and Ridge Rough.

7.3 Early Bronze Age activity in the region

A survey by Barrowclough [35] identified 16 Early Bronze Age funerary monuments from Worsthorne and Extwistle Moors in the area to the north of Mosley Height. The majority of these are also reported in earlier surveys by Leach [36] and Edwards and are recorded on the Lancashire County Council Historic Environment Register (see figure 17). These monuments include round cairns, for example at Cliviger Law House, where two cairns were associated with an inhumation in a cist, an urned cremation, and a perforated stone axe. There are at least 13 Early Bronze Age sites recorded as round barrows, including a group of five barrows at Everage Clough,[37] and collared urn and food vessel associated sites excavated in the 19th century at Briercliffe.

Close parallels to the form of the Mosley Height monument are found in a group of Pennine 'ringworks' identified by Barnes and discussed by Barrowclough.[38] This group of 17 monuments, which includes Mosley Height, covers both East Lancashire and West Yorkshire. Nearby examples include the ring cairn with a stone circle element at Slipper Hill. At Blackheath, Todmorden, antiquarian excavations of a very similar ring cairn to the one at Mosley Height discovered a central pit within which was a collared urn containing a bronze dagger, awl, accessory cup, bone pin and faience, jet, and amber beads. The ring cairn itself appears to have been a cremation cemetery containing 12 additional collared urns.[39] Two other West Yorkshire sites also provide possible parallels for Mosley Height. A group of four food vessels and an accessory cup were recovered from the summit of Pule Hill, Marsden,[40] and recent excavations at Stanbury uncovered a group of three collared urns and an accessory vessel associated with a bone pin, bone belt hook, two bronze earring fragments and a perforated stone axe.[41] In both these cases no evidence for a monument survived.

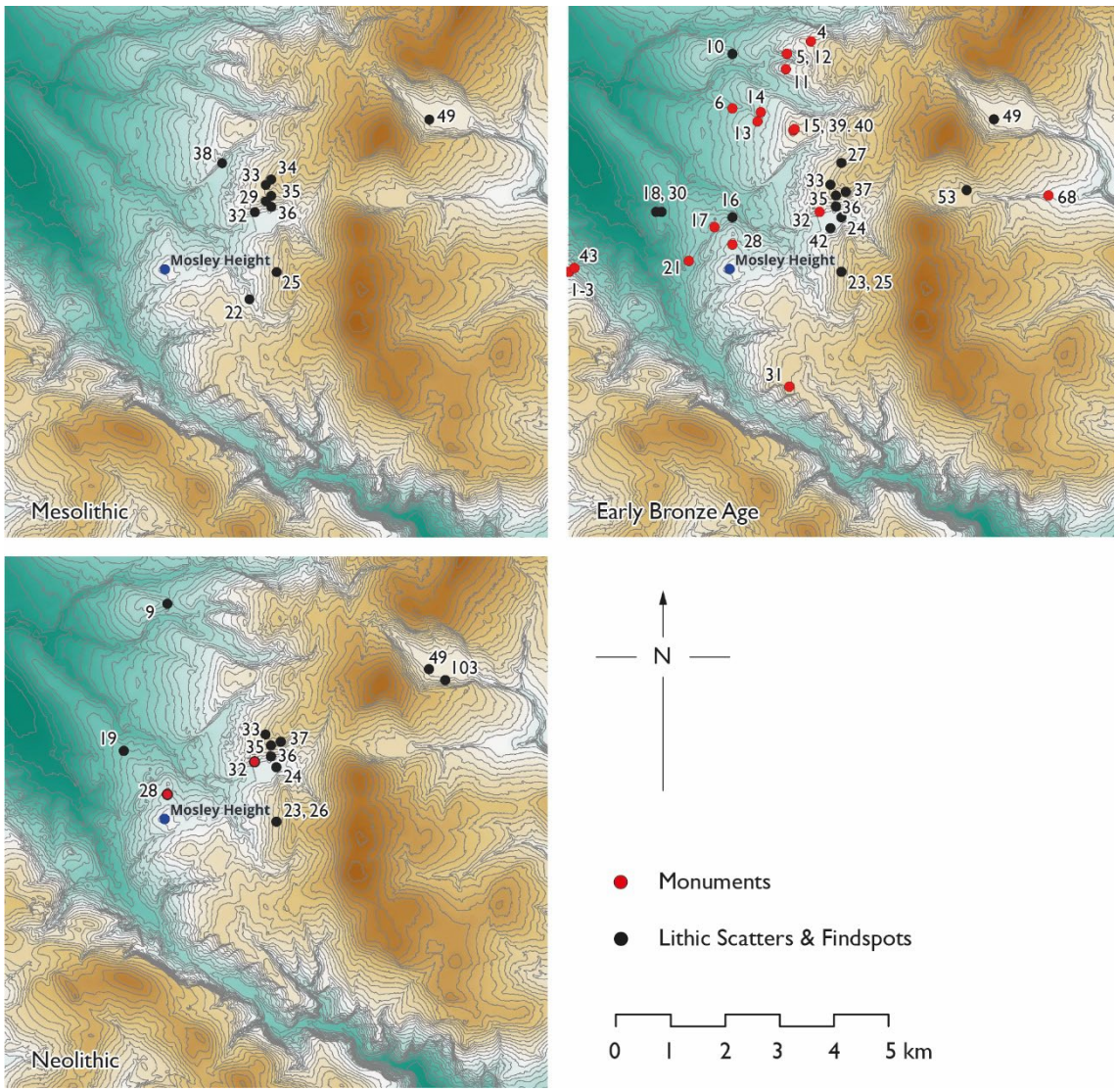

Figure 17. Overview of the Mesolithic, Neolithic and Early Bronze Age archaeology in the area around Mosley Height ring cairn. ***1-3*** *and* ***43*** *Everage Clough;* ***4*** *and****12*** *Pike Low;* ***5*** *Beadle Hill;* ***6*** *Twist Hill;* ***9-11*** *and* ***20*** *Briercliffe;* ***13****,* ***15*** *and* ***16*** *Worsthorne with Hurstwood;* ***14*** *Slipper Hill;* ***17*** *Round Hill;* ***18*** *and* ***30*** *Cliviger Laithe;* ***19*** *Red Lees;* ***21*** *Cliviger Law House;* ***22*** *Shedden Clough Hushings;* ***23*** *Boulsworth Moor;* ***24-26*** *and* ***33-37*** *Worsthorne Moor;* ***27*** *Hameldon;* ***28*** *West of Near Pasture;* ***29*** *North of Cant Clough;* ***31*** *Cartridge Pasture;* ***32*** *and* ***42*** *Cant Clough;* ***38*** *Westhorpe Moor;* ***39*** *and* ***40*** *Wasnop Edge;* ***49*** *Cudders Slack B;* ***53*** *Gorple;* ***68*** *Lower Gorple Reservoir;* ***103*** *Widdop Reservoir. Based on data from Lancashire Historic Environment Register, West Yorkshire Historic Environment Register and mapping data © Crown Copyright/database right 2023. An Ordnance Survey/Edina supplied service.*

7.4 Monuments, landscape and memory on the Pennine moors

The small amount of Mesolithic stone tools from the site can be seen as typical of the wider presence of similar material within the surrounding upland areas (see figure 17). This does not necessarily imply any direct continuity between this limited activity and the use of the site in the Early Bronze Age. The distribution of lithic scatters and individual findspots shown above includes both wider multi-period scatters and individual finds from beneath later period monuments. In both cases Mesolithic material seems to be restricted to the fringes of the higher moorland with little surviving evidence of activity either in the river valleys or the summits. Therefore, the Mesolithic

material is probably best regarded as chance survival representing a wider background of activity.

The same may be true of the Late Neolithic arrowheads from the monument. However, in view of the radiocarbon dates (see table 1) on charcoal with calibrated ranges extending into the 20th century BC, it is more plausible to suggest that there was continuity between the Late Neolithic activity represented by the arrowheads, the presence of the charcoal, and the creation of the ring cairn later in the Early Bronze Age. It is even possible that there was an earlier, Late Neolithic or Chalcolithic, phase to the monument itself, although the state of the excavated remains makes this impossible to prove. Late Neolithic activity at Mosley Height would fit into a wider pattern of evidence shown in figure 17. Lithic scatters which include diagnostically Late Neolithic types and individual findspots are found in similar moor edge locations to the Mesolithic evidence but with some findspots at lower elevations. The two monuments which may be of this date, a standing stone at Red Lees and a barrow at Cant Clough, also fit this broader distribution pattern.

The Early Bronze Age ring cairn can be seen to be a classic example of Barnes' Pennine ringworks (see section 7.3 above). Other examples of this broad class of monument in the vicinity of Mosley Height are the ring cairns at Worsthorne and Slipper Hill, both of which are on the western facing slopes of the moors at around 260 m OD. Mosley Height itself is in a similar location, albeit slightly higher at around 290 m OD. Other Early Bronze Age funerary monuments in the area (see figure 17) have a similar distribution and range of elevations and are generally sited to be on visible skylines when viewed from below. Barrowclough also suggests that the barrows he surveyed were deliberately sited close to springs and headwaters on the western fringes of the moors.[42] Lithic scatters and individual findspots with Early Bronze Age dates also generally fit this pattern, although in this case occupation appears to have been taking place higher on the moors than the areas chosen for monument construction.

Mosley Height was therefore probably constructed on a site chosen for its meaningful landscape properties. However, the monument was also probably sited to commemorate and monumentalise an area of earlier, Late Neolithic, activity. The archaeological traces of the ways group memory is created and maintained have been discussed as examples of embodied memory[43]. Places, such as the location of the Mosley Height ring cairn, are remembered and imbued with meaning through a set of processes which involve:

1. Sociality: more than one person must be involved.
2. Indexing transformations must take place, to artefacts, places or bodies.
3. Performance: the embodied action at the heart of the process.
4. Approbation: the feedback received from objects and 'knowledgeable actors'.
5. Calendrical repetition.
6. The spatial repetition that serves to index the group memory to the site.[44]

Despite some uncertainties about the precise sequence, some or all of these processes can be seen in the archaeological evidence from Mosley Height. The production and deposition of stone tools involved elements of transformation, performance and feedback from objects and people. The spatial repetition of these activities at a highly visible site on the edge of the high moorland would have acted to tie these memories to that specific site. The cremation burials and their associated rituals would include sociality, ritual performance and the transformation of bodies and objects. This would have further reinforced the importance of this location with the major performance of

the construction of the monument creating a substantial transformation of the place. The importance of earlier rituals and performances is also referenced in the incorporation of calcined bone into collared urn C. This bone must derive from the material traces of either cooking and feasting activity or other earlier cremations which involved the people who used Mosley Height.

These processes of physical commemoration would be the reason for the elaboration and monumentalisation of this particular location, one of many which would fulfil the wider criteria of elevation, aspect and closeness to water. Mosley Height, and by extension the other Pennine ringworks, can be seen as one manifestation of the wider Early Bronze Age practice whereby landscape occupation and funerary ritual combine to create a tangible and lasting commemorative monument.

Acknowledgements
Thanks to Peter Isles and Ken Davies at Lancashire County Council Archaeology Section for alerting me to the site and providing HER data; thanks to Susan Bourne and Mike Townend at Towneley Hall Museum for access to the Bennett archive and finds. Particular thanks to the landowner Mr Ken Tyson for permission to carry out the fieldwork, for guiding me around the archaeology and providing vital information about the landscape history of the farm. Excavations were supervised by myself, Clare Bedford, Julia Roberts, and Sam Walsh. Thanks are also due to the excavation team of volunteers and archaeology students from the University of Central Lancashire for their hard work and enthusiasm in often challenging conditions: Amy Barlow, Cheryl Bark, Mike Birtles, Chris Bruckshaw, Martina Burns, Ryan Crosbie, Magdalena Ebil, Maggie Everington, Fleur Ewing, Kirsty Gardner, Danielle Haworth, Ross Kelly, Danielle Lord, Tom Taylor, Emma Thompson, Lucy Traynor, Tuesday Welsh, James West, and Mike Woods.

---

[1] W. Bennett 'Report on Excavations near Burnley.' *Transactions of the Lancashire and Cheshire Antiquarian Society* 62 (1951), 202-208: D. Barrowclough, *Prehistoric Lancashire.* (Stroud: History Press, 2008), 121-4.

[2] Countryside Commission *The North West.* Countryside Character; the character of England's natural and manmade landscape, vol 2, (Cheltenham: Countryside Commission, 1998).

[3] B.J.N. Edwards 'Burnley Area Prehistoric Sites.' *Lancashire Archaeological Bulletin* 7/4 (1981), 53-54.

[4] Edwards, 53.

[5] G.B. Leach. 'Flint implements from the Worsthorne Moors, Lancashire.' *Transactions of the Historical Society of Lancashire and Cheshire* 103 (1951), 1-22.

[6] Bennett, 202.

[7] Peter Isles, *pers. comm.* 2008

[8] Bennett, 202-3.

[9] Bennett, 206.

[10] Barrowclough *Prehistoric Lancashire,* 121-4.

[11] C. Bronk Ramsey, 'Bayesian analysis of radiocarbon dates', *Radiocarbon*, 51/1 (2009), 337–360.

[12] Bennett

[13] Bennett

[14] Mike Townend, *pers. comm.* 2014

[15] R. M. Jacobi, 'Northern England in the eighth millennium b.c.: an essay,' in *The Early Postglacial Settlement of Northern Europe*, edited by P. Mellars (London: Duckworth, 1978), 295-332.

[16] C. Butler, *Prehistoric Flintwork*, (Stroud: History Press, 2005), 170.

[17] H. Riley,1991. 'The scraper assemblages and petit tranchet derivative arrowheads', in *The Stonehenge Environs Project*, edited by J. Richards. (London: English Heritage, 1990), 212-232.

[18] Butler, 168

[19] C. Howard-Davies, H. Bain, H. Bamford, B. Barnes, R. Leach and J. Quartermaine, 1996. 'Survey and Excavation, Angelzarke Uplands', *Proceedings of the Prehistoric Society* 62 (1996), 133-166, fig. 2.5.

[20] H.S. Green, 'Flint Arrowheads: Typology and Interpretation', *Lithics* 5 (1984), 19-39, 29
[21] M. Edmonds, C. Evans and D. Gibson, 'Assembly and Collection – Lithic Complexes in the Cambridgeshire Fenlands', *Proceedings of the Prehistoric Society* 65 (1999), 47-82, 67.
[22] Butler, 158-60.,
[23] C. Orton, P. Tyers and A. Vince, *Pottery in Archaeology. Cambridge Manuals in Archaeology*, (Cambridge: Cambridge University Press, 1993), appendix 1.
[24] Prehistoric Ceramics Research Group *The Study of Prehistoric Pottery: general policies and guidelines for analysis and publication. Occasional Papers Nos 1 and 2* (3rd revised edition, 2010). Available at – https://www.prehistoricpottery.org/_files/ugd/b40101_48969801f0fd4147b24b935728c32ff7.pdf (accessed 13/03/2023)
[25] I.A. Longworth, *Collared Urns of the Bronze Age in Britain and Ireland*, (Cambridge: Cambridge University Press, 1984), 218.
[26] Longworth, 218.
[27] Longworth, 218.
[28] S. Walsh, *Identity as Process: an archaeological and osteological study of Early Bronze Age burials in Northern England,* (University of Central Lancashire: Unpublished PhD thesis, 2013).
[29] C. Burgess, 'Urns of No Small Variety: Collared Urns Reviewed', *Proceedings of the Prehistoric Society* 52 (1986), 339-351, 342.
[30] Butler, 160-2
[31] Leach, 3-6: Lancashire Historic Environment Record PRN23426 - MLA23301 Worsthorne Moor
[32] Leach, 3-6.
[33] Barrowclough, Prehistoric Lancashire, 131.
[34] J. Richardson and B. Vyner, 'An exotic Early Bronze Age funerary assemblage from Stanbury, West Yorkshire,' *Proceedings of the Prehistoric Society* 77 (2011), 49-63.
[35] D. Barrowclough, 'Dancing in Time: Activating the Prehistoric Landscape of Lancashire,' *Archaeological Review from Cambridge* 20/1 (2005), 39-54, 46-47.
[36] Leach, 3-20: Edwards, 51-54.
[37] F. Willett and T. Seddon, 'Excavations in Everage Clough, Burnley, 1951', *Transactions of the Lancashire and Cheshire Antiquarian Society* 63 (1953), 194-200.
[38] Barrowclough, *Prehistoric Lancashire,* 119.
[39] Richardson and Vyner, 54: Longworth, 280-1.
[40] T. Manby, 'Bronze Age pottery from Pule Hill, Marsden, W.R. Yorkshire and footed vessels of the Early Bronze Age from England,' *Yorkshire Archaeological Journal* 42 (1969), 273-94, 273-275.
[41] Richardson and Vyner
[42] Barrowclough, *Dancing in Time*, 49.
[43] R. Peterson, 'Social memory and ritual performance,' *Journal of Social Archaeology* 13/2 (2013), 266-283.
[44] Peterson, 280.