

SHROPSHIRE HISTORY AND ARCHAEOLOGY

SHROPSHIRE HISTORY AND ARCHAEOLOGY

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CONTENTS

<i>The deanery of Oswestry during the 18th century</i> , by Roger L. Brown	1
<i>Shropshire manor court rolls in the early modern period: some problems considered</i> , by Sylvia Watts	13
<i>Shropshire levies in the army of Montgomery 1294/5: the payroll account of John de Sandale</i> , by Phillip Willson, John Davies and Peter Barton	29
<i>The amulets of Roman Wroxeter: evidence for everyday magic</i> , by Cameron Moffett	45
<i>Redhill (Uxacona), Telford, Shropshire: excavations in 1972–73 and 2011–13</i> , by Derek Hurst, Andrew Mann, C. Jane Evans, Laura Griffin, Elizabeth Pearson and Suzi Richer	59
<i>An early Bronze Age urned burial from Crowmeole, Shrewsbury, Shropshire</i> , by Richard A. Bradley, Jacqueline McKinley, C. Jane Evans, Patrick Quinn and Elizabeth Pearson	77
<i>A note on three newly identified Romano-British cosmetic grinders from Wroxeter</i> , by Cameron Moffett	95
Reports	
<i>Shropshire Archives Report for 2018</i> , by Mary McKenzie	97
<i>Archaeological Investigations in Shropshire 2016–2017</i> , by Giles Carey	99
Book Reviews	
Paul Belford, <i>Clash of Cultures? The Romano-British Period in the West Midlands</i> , edited by Roger White and Mike Hodder	125
Paul Stamper, <i>Gardens and Green Spaces in the West Midlands since 1700</i> , edited by Malcolm Dick and Elaine Mitchell	126
Penny Ward, <i>The Bridgnorth Infirmary</i> , by Gillian Waugh Pead	127
Martin Speight, <i>Oswestry through Time</i> , by David Trumper	128
Joe Raine, <i>The Industries of East Shropshire through Time</i> , by Neil Clarke	129
Gavin Watson, <i>50 Gems of Shropshire</i> , by John Shipley	130
Tim Dawes, <i>Blood, Faith and Iron: A Dynasty of Catholic Industrialists in Sixteenth and Seventeenth Century England</i> , by Paul Belford	131
<i>Place-names of Shropshire</i> , John Baker with Sarah Beach	132
Obituary	
John Powell	133



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AN EARLY BRONZE AGE URNED BURIAL FROM CROWMEOLE, SHREWSBURY, SHROPSHIRE

By RICHARD A. BRADLEY, JACQUELINE MCKINLEY, C. JANE EVANS,
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With contributions by Robert Hedge, Neil Wilkin, James Spry, Jesse Wheeler, Ann Woodward, and Kate Andrew

Illustrations by Laura Templeton

An early Bronze Age urned burial was revealed in July 2015 during archaeological investigations on land to the west of Crowmeole Lane, on the south-western side of Shrewsbury, Shropshire. A small oval pit contained an inverted urn which had survived undisturbed and fully intact up to the point of discovery. The classification of this urn is challenging: it may belong to the wider Collared Urn tradition based on form, but in strict typological terms can be considered a Food Vessel Urn/ Collared Urn hybrid. Enclosed within was a cremation deposit, probably once bagged, as well as a burnt and fractured worked stone knife. The vessel also exhibited an internal charred residue, thought to relate to earlier use. Scientific dating of the residue, along with the cremated bone, suggested that the burial took place around 2000BC. The cremation deposit included the remains of an individual adult, probably a female, and mainly comprised bone, rather than pyre material, indicative of carefully managed collection. As a result, the recorded weight of bone is amongst the highest for a single cremation burial from the British Isles for any period, and in the upper regions of the consistently high range of weights for Bronze Age deposits.

THE EXCAVATION

INTRODUCTION

by Richard A. Bradley

A strip, map, and record programme of archaeological investigation was undertaken by Worcestershire Archaeology¹ from late May until July 2015. This was undertaken prior to residential development on land to the west of Crowmeole Lane, located on the west side of Shrewsbury, Shropshire (NGR 346540 312030; Figure 1).

The overall results from the site investigations are briefly summarised below, but the article presented here concentrates on the most significant find on the site; an early Bronze Age inverted urn enclosing a cremation deposit, which had survived undisturbed and intact until the point of discovery. This is of high importance in

both a local and regional context, being one of the few cremation deposits from the midlands subject to detailed recording and having the enclosing vessel independently scientifically dated.

Archaeological background

The site is largely situated on a plateau in the vicinity of Crowmeole Farm at around 76m above Ordnance Datum (AOD), before dropping sharply down to 69m AOD to the south and south-east to a small nameless watercourse. The underlying solid geology consists of mixed mudstone, sandstone and conglomerate of the Salop Formation, overlain by glacial-fluvial sands and gravels and glacial till deposits (British Geological Survey).

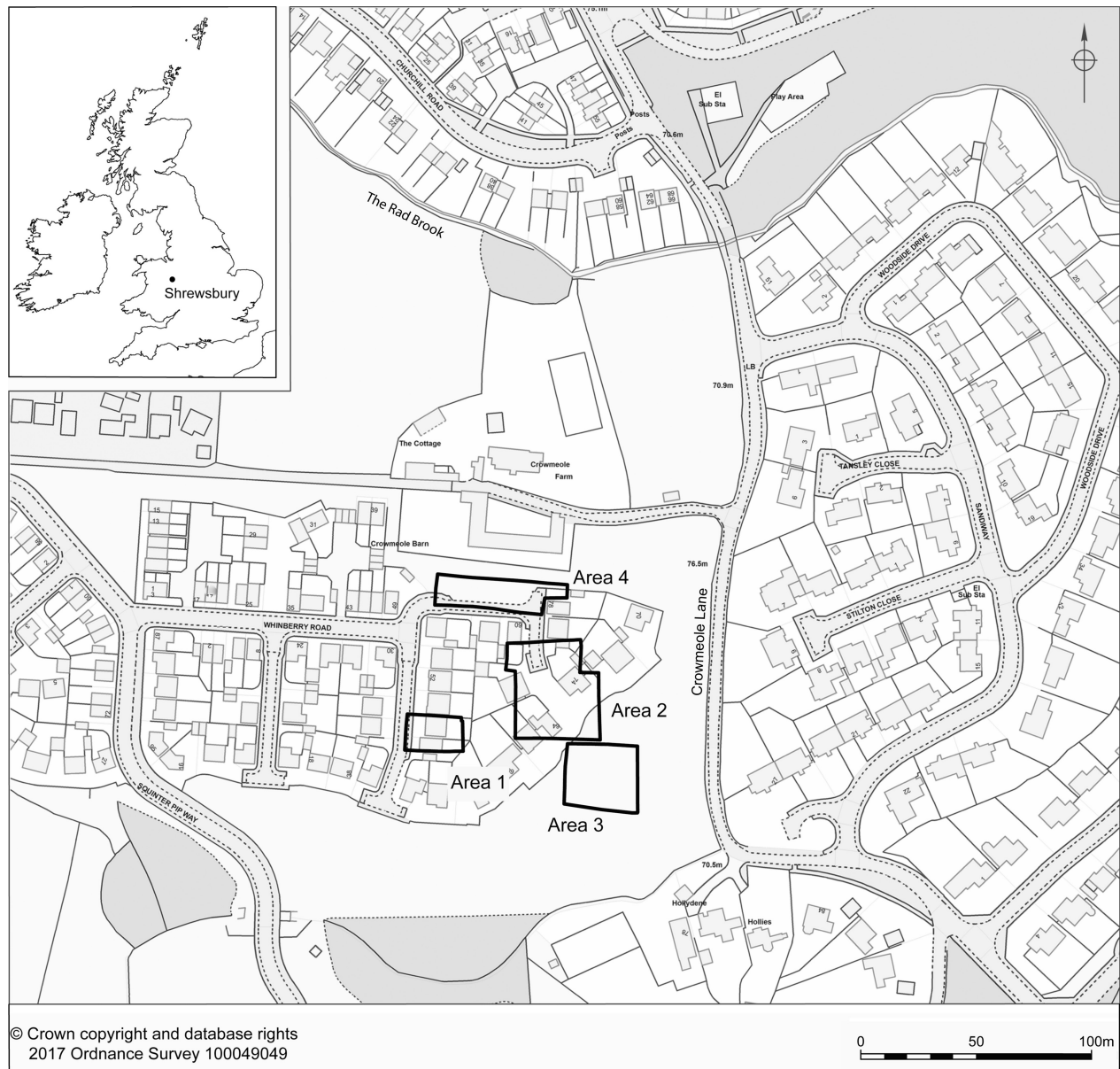


Figure 1. The Crowmeole area of Shrewsbury with the location of the excavated areas, shown in relation to the recent housing development that now covers the land to the west and south of the former Crowmeole Farm. Mytton Oak Road lies some 600m to the north of the excavation site, and Radbrook Road just clips the bottom right corner of the map.

The housing development covered a wide area, but archaeological mitigation was focussed on arable land immediately to the south of Crowmeole Farm. This area was known to contain undesignated cropmarks, thought to represent a series of rectilinear enclosures to the north of a possible trackway (HER 00007). These had been subject to a desk-based assessment, geophysical survey and evaluation trenching in 2013 (CgMs 2013; Richardson 2013; Rogers 2013). The latter stages of work confirmed the presence of archaeological remains that closely corresponded with the cropmarks, as well as indicating that there were additional features. These remained insecurely dated and of uncertain function, but were tightly clustered and did not appear to extend further west or north-

west into the wider development site. Archaeological work undertaken in adjacent fields, immediately to the south of the site, also comprised geophysical survey and evaluation trenching but did not identify significant anomalies or features, suggesting that there were no further associated elements alongside the cropmark complex (Urmston 2013; Weightman 2013).

In addition, there are very limited indications of archaeological remains in the wider surrounds, aside from post-medieval buildings and agricultural features such as Crowmeole Farm itself. Records exist for Roman features at some distance from the site, including a findspot of three coins alongside a possible route of a Roman road running from the north-west to the south-

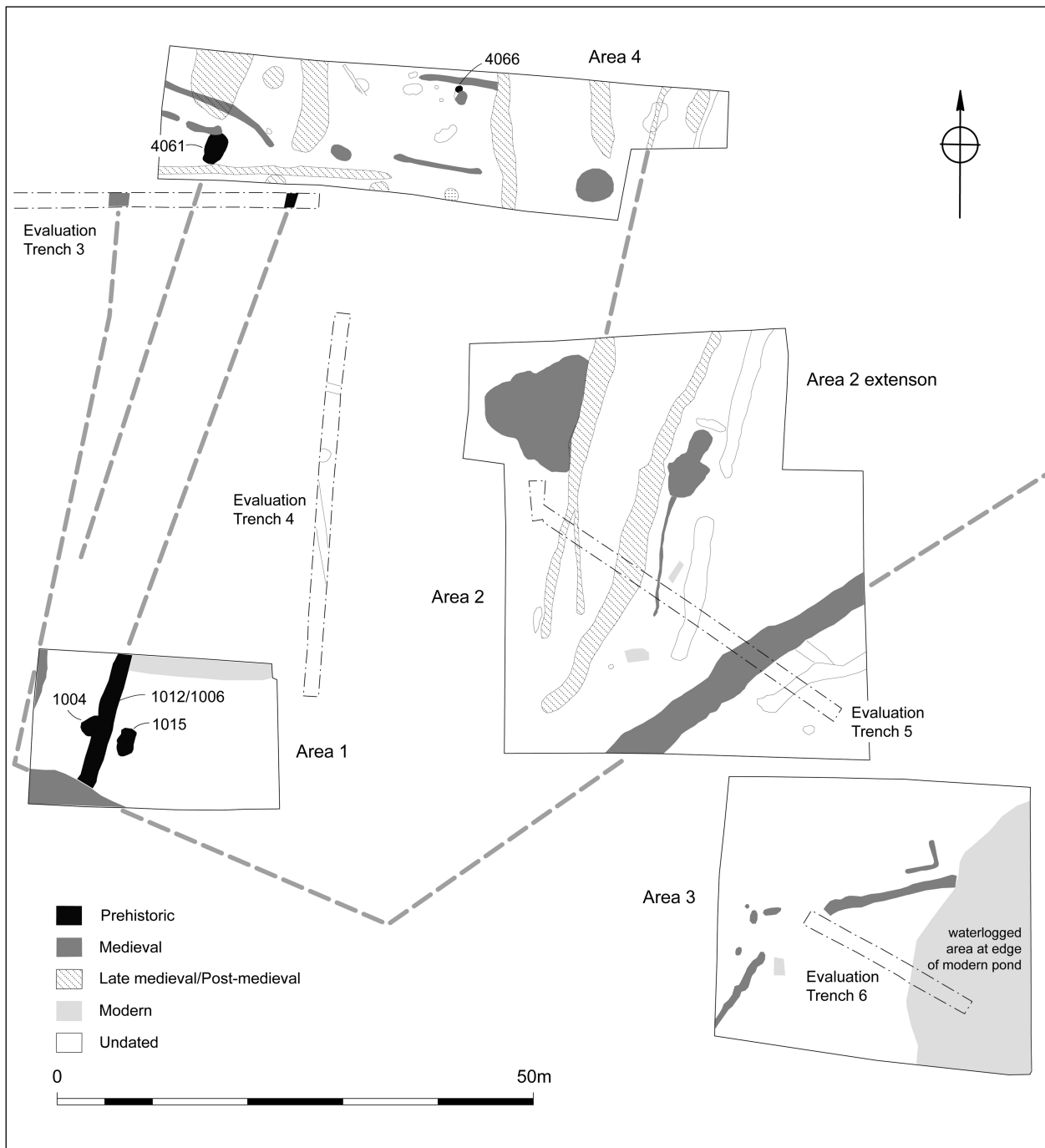


Figure 2. Areas of investigation, with prehistoric features numbered (dashed lines are projections based on geophysical survey - Rogers 2013, fig. 2).

east (HER 00069; HER 08160), but there is no known prehistoric, Saxon or medieval evidence.

Summary of the site investigations

Four separate areas were investigated. Archaeological features were exposed by machine-stripping and then subject to hand-excitation, employing standard sampling strategies (Figure 2). Area 1 (409m²) was centred on geophysical anomalies thought to represent a pit group partly bounded by a series of linear features. Area 2 (1183m²) was located to the east of Area 1 and

covered a group of linear features. Area 3 (980m²) was positioned to the south-east and expanded upon an evaluation trench from which smelting slag and fired clay had been retrieved.

Subsequently, as a result of the findings during the excavation, two additional areas were excavated. This involved the extension of Area 2 to the north and, to the north-west, the opening of Area 4 (745m²), focused on a cluster of geophysical anomalies adjacent to the northern boundary of the site.

Multiple phases of activity were revealed, much of which corresponded with the known cropmarks and the features identified during the geophysical survey and evaluation trenching. Features of medieval and later date included the remains of a small farmstead dating from the 11th or 12th century onwards. This comprised drainage, extraction of clay, ditches and furrows, crop processing and iron smelting, all within or around an enclosure that demarcated the higher ground. There was also a corn-drier associated with a timber built sunken-featured building. The drier contained a rich assemblage of burnt, well-preserved cultivated grains suggesting a reliance on oats as the principal cereal crop. This environmental evidence pointed towards a Welsh or western British Isles cultural influence (as could be expected given the location), characteristic of early medieval and medieval agricultural sites in the Marches area. It is possible that this farmstead represented the forerunner to Crowmeole Farm.

The medieval (and later) agricultural activity had partly truncated the remains of ditches and pits dated to the early Bronze Age, including an oval pit containing the inverted urn. These features extended from the edge of the plateau onto the higher ground, identified in both Area 1 and Area 4.

RESULTS

by Richard A. Bradley

The Bronze Age features

Ditches

In Area 1 was a V-shaped ditch on a north-northeast to south-southwest alignment (1006; 1012). This was 1.65m wide and 0.90m in depth and included some fragmentary Bronze Age pottery.

Although it was only visible for a length of 15m in this area, and was truncated to the south by a medieval enclosure ditch, the geophysical survey suggested that the ditch continued *c.*80m further north (Richardson 2013). During the evaluation trenching (Rogers 2013), the same feature was located at the eastern end of Trench 3 and ran parallel to a similar feature located 7m to the west, again visible on the geophysical survey. The terminus of the western ditch was identified in Area 4, where it was 1.90m wide and 0.49m in depth (4061). These ditches probably bounded a trackway.

Pits

The eastern trackway ditch was partially cut by a shallow sub-oval pit, 2.45m by 1.10m in size, which included a number of abraded sherds of decorated early

Bronze Age pottery (1004). Nearby, a further irregular sub-oval pit was 3.60m by 1.80m in size and contained a convex, D-shaped flint knife and a single fragment of Bronze Age pottery (1015). Both pits had mid brown clayey-sand fills, with frequent sub-round stones, and given the similarity in dating evidence, there is the potential for these to have been contemporary.

In Area 4, to the north-east of the ditches, was a small pit 0.58m by 0.44m in size, 0.26m in depth (4066). This contained the remains of a cremated individual within an inverted urn, discussed in detail below. It was observed during excavation that some of the cremated material had slumped down from within the urn into the base of the pit, which may suggest that there had originally been an organic cover or bag holding the remains in place. The urn was sealed by a dark greyish brown silty backfill that included a single complete cattle tooth (4068). There was no indication of *in situ* burning within the pit.

The oval pit containing the urn, and an adjacent pit of probable medieval date (4071), truncated an earlier pit that was only visible in section (4069). This did not contain any dating evidence or indication of purpose but, due to the association and the stratigraphic relationships, is also considered to be of prehistoric date (Figure 3).

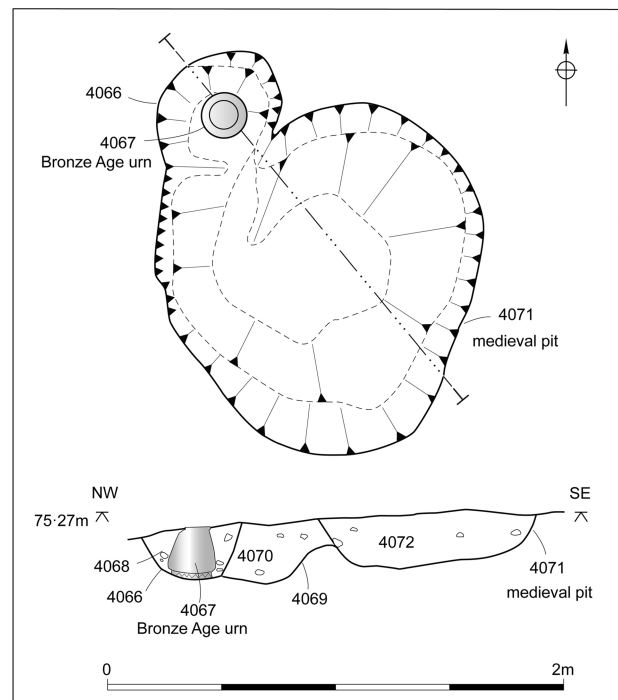


Figure 3. Pit 4066 containing inverted urn, with adjacent probable medieval pit 4071. Between them and cut by both is otherwise undated feature 4069.

SPECIALIST ANALYSIS AND DATING

THE PREHISTORIC ARTEFACTS

by C. Jane Evans

Methods

The artefact recovery policy conformed to standard Worcestershire Archaeology practice. The early Bronze Age urn, with contents intact, was block lifted as a whole and then excavated in controlled conditions at the Worcestershire Archaeology offices.

All hand-retrieved finds and artefacts from environmental samples were identified, quantified and dated. A *terminus post quem* date was produced for each stratified context. The date was used for determining the broad date of phases defined for the site. All information was recorded on a *Microsoft Access* database.

The pottery was examined under $\times 20$ magnification and recorded with reference to fabric types and forms described from other sites in Shropshire (Carver 1991).

Pottery and fired clay

by C. Jane Evans, with Neil Wilkin and Ann Woodward

The urn

The urn accounts for most of the early Bronze Age sherds recorded from the site — 161 sherds, 2,355.25g, of a total of 177 sherds, 2,370.25g. The majority of the urn survived complete, providing a full profile (Figure 4). This had a rim diameter of 215mm, a base diameter of 115mm, and was 220mm in height. However, part of the base was broken when the urn was discovered. A significant number of very small fragments were, therefore, recovered from the interior when the contents were excavated, resulting in a relatively low and unrepresentative overall average sherd weight.

The internal base of the urn contained a charred residue, from which a sample was submitted for radiocarbon dating. This securely dated the vessel to the early Bronze Age, returning a measurement of 2140–1920 cal BC (3655 \pm 37BP; SUERC-64464).

Fabric

The vessel has a slightly soft, coarse fabric with a loose matrix, giving a rather ‘blocky’ appearance. The main

inclusions visible macroscopically were angular, dark grey igneous rock <5mm. Other inclusions consisted of occasional crystalline rock fragments and soft inclusions, provisionally identified as grog. Given the importance of the find, and the need to characterise the inclusions more precisely, a sample was submitted for petrographic analysis (see Quinn below).

The urn is oxidised externally (Munsell 10YR5/4 yellowish brown), with an oxidised external margin (7.5YR 5/8 strong brown), black core/internal margins (7.5YR N2/0) and a partially oxidised/partially reduced internal surface (approximately 10YR 7/4 very pale brown).

Form and decoration

The classification of this urn is challenging. The absence of a collar and the size of the vessel, with a height taller than 200mm, place it in the Food Vessel Urn tradition (Cowie 1978, 20–4; Wilkin 2013, 21, fig. 1.7). The absence of lugs on the shoulder of the vessel is consistent with this identification. The form is similar to Wilkin’s northern counties of England type NC 1A (*ibid.*, table 4.6), where the height and rim diameter are roughly equal and the vessel has a single cavetto zone and a high shoulder. It is also slightly enclosed, more vase-like than bowl-shaped, another characteristic of Food Vessel Urns (Cowie 1978, 22–3).

However, other aspects of the form are more consistent with the wider Collared Urn tradition. While the rim is quite rounded with an internal bevel and a concave profile, the vessel lacks the typically more marked bevel of Food Vessel Urns (see Wilkin 2013, 95, fig. 3.11, R1); the placing of the decoration and motifs used has more in common with Collared Urns. It is suggested, therefore, that while it may belong to the wider Collared Urn tradition based on form, particularly the internal shoulder/neck angle, and decoration, in strict typological terms it should be classified as a Food Vessel Urn/Collared Urn hybrid.

The top of the rim has impressed finger-nail decoration, while both the external and internal surfaces are decorated with tooled, zig-zag chevrons. The shoulder is decorated externally with incised

Table 1: Quantification of the prehistoric finds assemblage

Period	Material	Object	Count	Weight (g)
early Bronze Age	ceramic	pot	177	2370.25
early Bronze Age	flint/quartz?	worked stone	4	4.20
prehistoric	sandstone	quern (saddle)	1	806.00
prehistoric	flint	knife	1	18.00
Totals			183	3198.45

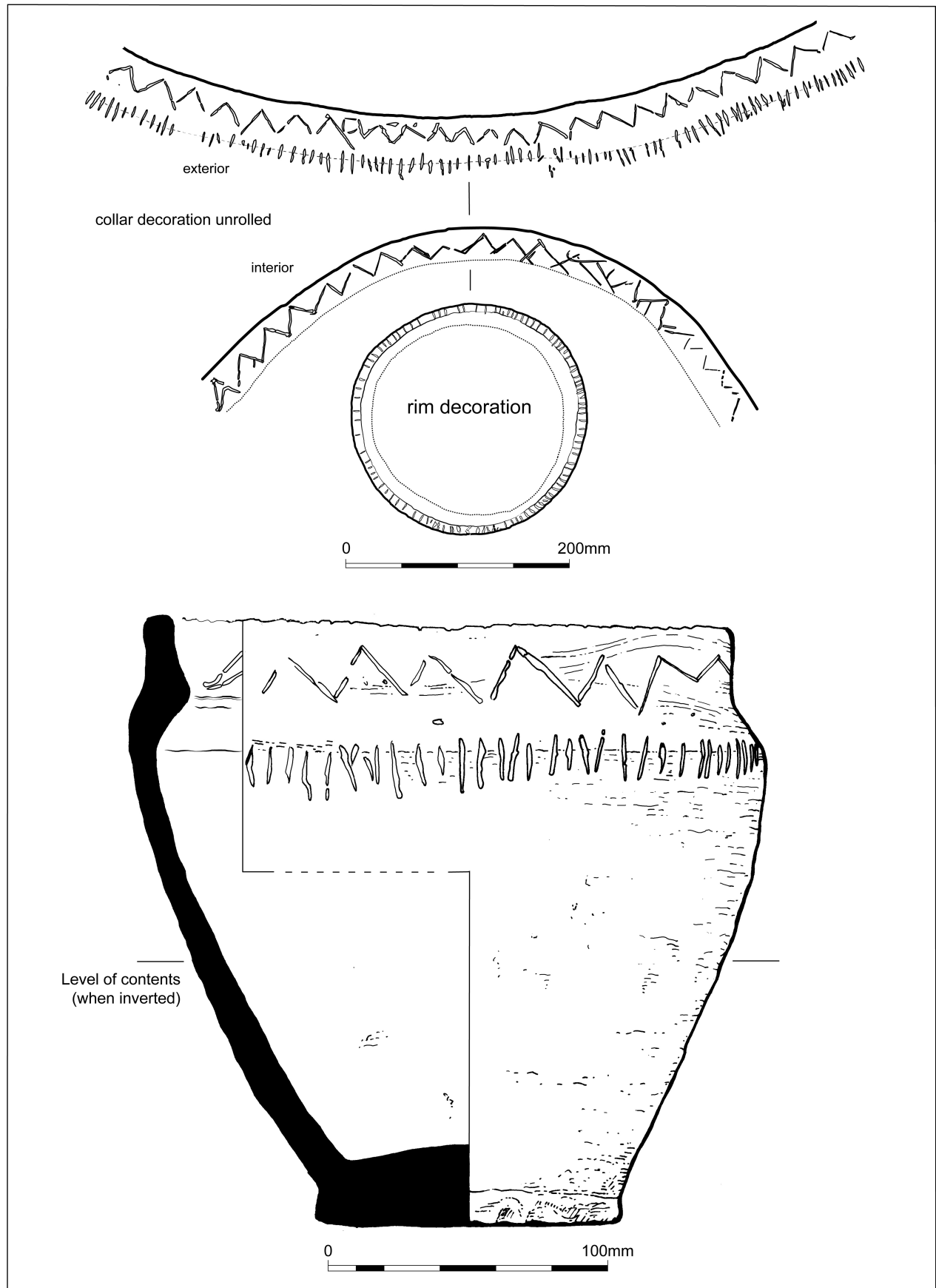


Figure 4. Early Bronze Age urn, with exterior and interior collar decoration and the impressed finger-nail rim decoration. Scales: urn 1:2, collar and rim decoration 1:5.

slashes, but there is no decoration lower on the vessel. It is possible that some of these markings represent ideograms, particularly a roughly square motif amongst the chevrons and horizontal lines on one of the shoulder slashes.

Comparisons

A similar form is illustrated from the early Bronze Age barrow cemetery at Trelystan, Powys (Britnell 1982, 167, fig. 19, P21). This Food Vessel Urn, found upright, was decorated with faint twisted cord impressions delineating a chevron pattern, in-filled with light rounded impressions. It was associated with a radiocarbon date of $1695 \pm 70\text{BC}$, $3645 \pm 70\text{BP}$ (*ibid.*, 167, 192) from a piece of charcoal from a stake. As with the vessel from Crowmeole, this vessel also had carbonised remains on the internal base and lower wall, suggesting a domestic function before use with the cremation

deposit. Another Food Vessel Urn found at Trelystan, though less similar in form and decoration, was inverted (*ibid.*, fig. 20, P22). The incised zig-zag decoration is paralleled on a Food Vessel from another site in Wales; Kerry, Montgomeryshire (Savory 1980, 205, 388).

More locally, an example of an inverted Food Vessel Urn, possibly a hybrid, was found during excavations at Sharpstones Hill, near Shrewsbury (Barker *et al.* 1991, 36–9, fig. 16b, pl. 5). This, however, was also dissimilar in both form and decoration. A vessel from Little Ryton, also near Shrewsbury, does have some similarities to the Crowmeole example, in the use of slashed vertical incised lines and the collared urn tradition (Chitty 1926, xxxiv, Urn no 1). The neck and rim on this vessel are both more characteristic of a Food Vessel Urn, however, as is the fact that it was deposited upright containing the cremated bone.



Figure 5. Early Bronze Age urn, as deposited, accompanied by the four pieces of burnt worked stone found with the cremation inside the vessel; three of these comprise the small knife illustrated in Figure 6.

Two further Food Vessel Urns, in a dolerite-tempered fabric and of broadly similar form, were excavated in the western quarry at Bromfield, south Shropshire. These had been placed upright, side by side (Stanford 1982, fig. 6, P52, P53). The simplicity and the placing of the decoration on these appear reminiscent of Crowmeole, though the motifs are very different.

Other Bronze Age pottery

Fragmentary sherds of possible early Bronze Age pottery were also recovered from the site. These included a very small, abraded sherd of sand and grog-tempered ware, associated with a flint knife, in pit 1015. Another pit produced twelve abraded sherds of sand-tempered ware, a couple of which had tooth-comb decoration, suggesting an early Bronze Age date (1004). Ditch 1006 produced another small flake of grog-tempered pottery with impressed tooth-comb decoration and two tiny fragments of sand and grog-tempered pottery.

Fired clay

Three small fragments of fired clay were retrieved from samples associated with the urn and cremation deposit (fill 4068). These may have been accidental inclusions in the fill, perhaps a by-product of the cremation process, and, if found elsewhere on the site, would not have been attributed any significance. Given their association however, they could be of more interest. The use of clay as grog temper in pottery of this period has been interpreted elsewhere as having significance, perhaps associated with vessels belonging to ancestors (Woodward 2008). There is no clear evidence that these small abraded fragments are from a vessel, but their presence is noteworthy.

Worked stone

by Robert Hedge and C. Jane Evans,
with Kate Andrew

A small assemblage of prehistoric stone artefacts was recovered, including a flint knife and a quern fragment. During the excavation of the inverted urn, four burnt fragments of worked stone were recovered from the cremation deposit within (4095) (shown with urn in Figure 5).

Worked stone in the urn

Extensive vitrification across all surfaces suggests exposure to very high temperatures. One small broken flake resembles flint, but may be quartz. The other three fragments comprise proximal, medial, and distal sections of a small knife (Figure 6). Although a small part of the medial section is missing, its original dimensions would have been circa 40mm in length, 20mm in

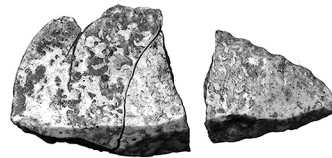


Figure 6. Burnt knife (reconstructed) from inside urn. Scale 1:1.

width and 5mm thick. Semi-invasive retouch is evident at the distal end of the left lateral margin.

The entire surface of each fragment of the knife is a glossy, sparkling white, interspersed (especially on the dorsal surface) with frond-like patches where the surface appears to have vitrified. Flint and quartz, being derived from silica, can both develop glossy finishes after extreme heat. Anderson-Whymark (2018, 91) notes an unusual example of flint developing a glossy vitrified surface after burning, and this is likely to account for the appearance of the small flake.

However, even vitrified flint seems to develop hackly fractures, pot-lid scarring, and surface cracking. The three knife fragments exhibit markedly different characteristics; rounded fractures and a ‘bubbled’ surface suggest that the knife was made from white quartz. Quartz — usually in the form of unworked pebbles or large blocks — is strongly associated with Neolithic and early Bronze Age funerary contexts in the north and west of Britain (e.g. Darvill 2002). Pettitt (2015, 237) argues for the particular significance of white quartz within cremation deposits as an agent for ‘transforming the body into a white substance ... associated with the longevity of stone’. Whilst the presence of quartz is therefore congruent, and burnt lithic artefacts were routinely incorporated into cremation deposits, the latter are more commonly made from flint. Quartz is difficult to work; implements made from it, though common in Scotland (e.g. Saville and Ballin 2000), are relatively scarce this far south, adding to the impression that this cremation deposit is somewhat unusual.



Figure 7. Flint knife from pit 1015. Scale 1:1.

Other worked stone

The flint knife (Figure 7) from pit 1015 was fashioned on a thick, convex D-shaped flake of mottled blue-grey flint, with dimensions of 62 × 27 × 12mm. The cutting edge along the left lateral margin shows extensive use-wear and multiple phases of direct unifacial retouch. A thick band of cortex remains along 60% of the right lateral margin, with the remainder exhibiting bifacial abrupt retouch, presumably to facilitate hafting or handling. Typologically, it most closely resembles knives and serrated blades of early Neolithic date, though given its association with features of early Bronze Age date, and the fact that it is in isolation, a later date is possible.

The broken fragment from a saddle quern was residual, recovered from a medieval sunken-featured building. The edge fragment, in Old Red Sandstone, was probably from a local source. It could be contemporary with the early Bronze Age pottery described above, though saddle querns continued in use at least into the middle Iron Age: at Croft Ambrey hillfort in Herefordshire, for example, they were the only quern type found (Stanford 1995, 116; Stanford 1974, 136).

PETROGRAPHIC ANALYSIS

by Patrick S. Quinn

Methods

Thin section petrographic analysis was undertaken on a fragment of the early Bronze Age Urn. The aim was to characterise the composition of the urn, reconstruct aspects of its raw materials and technology, as well as to relate it to contemporaneous pottery from the Shropshire area.

A small piece was removed from a sherd of the urn using a rotating diamond blade. This was then impregnated with epoxy resin and prepared as a standard petrographic thin section at the Institute of Archaeology, University College London (Quinn 2013, 22–3). It was studied at magnifications of 25–400× under the polarising light microscope and the fabric characterised in terms of its dominant inclusions as well as the nature of its clay matrix and voids. An interpretation was made of the raw materials from which the sherd was manufactured as well as the paste preparation and firing technology. The sherd was compared to other studies on prehistoric pottery from the Shrewsbury area and its provenance was investigated based on comparison with the surrounding geology.

Petrographic characterisation

The analysed sherd is composed of a coarse-grained fabric with sand and granule-sized sub-rounded inclusions of sandstone, a potentially metamorphosed medium grained igneous rock and an unidentifiable fine grained rock, plus sand and silt-sized quartz and opaques in a non-calcareous clay matrix with low porosity. The sandstone inclusions are fine to medium

grained and of sub-litharenite composition with the lithic clasts composed of polycrystalline quartz and an unidentifiable quartz-rich rock type. They are likely to have disaggregated and contributed some isolated quartz inclusions to the fabric. A second conspicuous rock inclusion type that occurs as sand-sized grains appears to have originally been igneous in origin and is composed of randomly oriented orthoclase feldspar laths and a lesser amount of small opaque minerals. In places it can have an almost decussate texture suggesting that it may have undergone some sort of metamorphism. It is difficult to determine the exact composition of this inclusion type, but a possible assignment might be phonolite, which is rich in alkali feldspars. This commonly contains nepheline, which is not present in the aforementioned inclusions here.

The other coarse inclusion type in the sample is very fine grained and appears to be either sedimentary or low grade metamorphic in origin. It is composed of fine quartz and abundant brown to opaque elongate grains of what may be biotite. The rock has an almost cherty appearance, but also resembles fine, muddy siltstone. It is iron-stained in places, which hints at faint bedding or perhaps foliation. In this respect it resembles slate. Iron rich spots up to 0.75 mm in size occur in some examples, but these are not porphyroblasts as in spotted slate. The micas do not show alignment as in slate. One example contains the remains of a larger, altered mineral feature which might even suggest that the original rock was a fine grained and porphyritic, perhaps of acidic origin. It is a confusing inclusion type. This, the sandstone and the possible phonolite inclusions may have been added as temper given that they are much larger than the fine inclusions in the sherd. If so, then the base clay was non-calcareous and contained abundant angular silt-sized quartz, rounded opaques, rare mica and feldspar.

The prepared thin section has a relatively low porosity composed of occasional meso-elongate voids and ring voids around inclusions. Firing was <850°C as indicated by the optical activity of the clay matrix. The outer half of the vessel wall was oxidised during firing, whereas the inside was reduced.

Raw materials and provenance

The site is located in a region of sedimentary bedrock of the Permian to Triassic period, including the Kinnerton Sandstone Formation and the Salop Formation. The latter contains red-brown sub-litharenite sandstone containing beds, which matches well the interpretation of the sandstone inclusions in the thin section. Igneous bedrock is not present in the area of the site, but occurs in the Shropshire Hills near Church Stretton, 20km to the south. This includes basalt, tuff and andesite of the Precambrian Uriconian Group, as well as unnamed intrusions of quartz-feldspar-porphyry and microgabbro. It is difficult to determine whether any of these might be a match for the altered igneous inclusions in the

urn. However, given the diverse range of compositions present from acidic to basic, fine to coarse, it is possible that broadly similar material may be present.

Igneous bedrock also outcrops further south in the Cleve Hills area in the form of Carboniferous dolerite/microgabbro. This latter intrusion was suspected to be the source of basic igneous inclusions recorded within prehistoric pottery from Caynham Camp, near Ludlow (Gelling and Peacock 1966), as well as middle Bronze Age urns from a cemetery at Bromfield (Stanford 1982), but the inclusions in the Crowmeole urn do not match the descriptions of the dolerite published by these authors.

Igneous rock was used as a source of temper by prehistoric potters in many parts of Britain, particularly in the north (e.g. Freestone and Middleton 1991; Freestone 1992; Wardle 1992; Quinn 2017; Cootes and Quinn 2018). It has a similar thermal expansion coefficient to fired ceramic when heated due to the presence of abundant feldspars (Rye 1976), making it an ideal filler for coarseware cooking vessels (Freestone 1992; Sheridan 1997). However, its presence within urns and Beakers seems to suggest that the use of this temper type may also have served non-utilitarian functions (Cootes and Quinn 2018). It could have been imbued with symbolic meaning that cannot be understood in terms of its physical or behavioural characteristics (Woodward 2008). Such an idea has been proposed for the production of Bronze Age pottery from Wales by Williams and Jenkins (1999) and the Peak District by Cootes and Quinn (2018), both of which are overwhelmingly tempered with basalt and dolerite.

A possible source of igneous temper is superficial glacial material in which rock was eroded from sources further north, such as the Lake District, north Wales and Scotland, and deposited as clasts (Ixer and Vince 2009). Till and glaciofluvial material covers much of the bedrock in the Shrewsbury area, including the land on which the site is situated. It is possible that this contains igneous clasts that could have been used as temper, though the composition of such material is not well documented on a local scale and cannot therefore be determined without field sampling and analysis.

Overall, based on the evidence in thin section, it is possible that the raw materials used for the manufacture of the Crowmeole urn could have been obtained locally and it may therefore have been made somewhere not far from the site of discovery.

ENVIRONMENTAL REMAINS

by Elizabeth Pearson

Methods

Samples were taken from deposits considered to be of high potential for the recovery of environmental remains. The samples were processed by flotation using a Siraf tank.

For assessment, the flots were collected on a 300mm sieve and the residue retained on a 1mm mesh. The residues were scanned by eye and the abundance of each category of environmental remains estimated. A magnet was also used to test for the presence of hammerstone. Flots were scanned using a low power MEIJI stereo light microscope and plant remains identified using modern reference collections maintained by Worcestershire Archaeology, and a seed identification manual (Cappers *et al.* (2012)). Nomenclature for the plant remains follows Stace (2010).

Initial assessment demonstrated the presence of charred cereal crop remains from the pit into which the early Bronze Age urn was placed: therefore, the flots and charred plant remains were fully sorted (fill 4068).

Charred plant remains

The backfill of the pit into which the urn was placed (fill 4068) contained charred wheat, including possible free-threshing wheat, and oat (*Avena* sp.) grain. The preservation of the wheat grains was poorer than the oat grains, being pitted and broken, whilst the oat grains were well preserved and largely intact. Onion couch tuber and stem (*Arrhenatherum elatius*) fragments were moderately well preserved. As oat was abundant in the medieval contexts on this site, and the early Bronze Age pit was adjacent to a feature thought to be medieval in date, it was considered that the oat grains may be intrusive. Due to this uncertainty, samples from the adjacent medieval pit fill (4072) and the fill of a nearby Bronze Age ditch terminus (4062) were processed and the flots scanned for comparison.

Fragments of indeterminate wheat (*Triticum* sp.) and a single grain of free-threshing wheat (*Triticum* sp. free-threshing) were identified from the medieval pit, along with a possible oat (*Avena* sp.) and rye (*Secale cereale*) grain. Only a single indeterminate cereal grain and cereal culm node (straw node) was identified from the early Bronze Age ditch terminus. On balance, as there was some similarity between the charred plant remains from the fill (4068) surrounding the urn and the medieval pit, it is considered that the oat grains are intrusive, resulting from contamination during excavation. Onion couch tuber and stem fragments, however, are characteristic of cremation deposits and have often been found in burial features of a similar Bronze Age date (e.g. Challinor 2017, 9). These, and the poorly preserved wheat grains, are thought to be contemporary with the cremation.

Only uncharred remains were found in Bronze Age pit 1015 (fill 1016); these are also thought to be intrusive as they are unlikely to have survived in the soils on site for long without charring or waterlogging.

Summary

Only low level remains of charred cereal crop were found within the fill around the early Bronze Age urn.

Charred plant remains have been found at sites where cremation urns of similar date and later have been located, for example at Bromfield (de Rouffignac 1995), near Ludlow, Shropshire, and at places further afield, such as Whitemoor Haye Quarry, Staffordshire (Pearson 2017), The Roaches, Staffordshire (Challinor 2017), Beeley, Derbyshire (Barnatt and Robinson 1998) and Barrow Hills, Radley, in Oxfordshire (Moffett 2007).

Of particular interest was the presence of onion couch tuber and stem fragments, characteristic of cremation pyre deposits, which were also found at the above sites around the midlands region. The low level of these charred remains may reflect the selective removal of the bone from the pyre (see McKinley below) as opposed to the inclusion of both bone and pyre material in the burial. It has been suggested that the presence of tubers probably relates to pyre construction and the burning of surrounding vegetation (see Challinor 2017, 9), or was perhaps incorporated with hay or grass used as bedding for a corpse prior to cremation, in which onion couch material may have been included (Moffett 2007).

Overall, however, the low level of environmental remains in the Bronze Age features is consistent with the nature of the archaeology encountered, reflecting that the excavated area does not appear to include settlement-related activity, or that it occupies land at the margins of settlement, where the presence of cereal crop waste was limited.

ANIMAL BONE

by James Spry and Richard A. Bradley

One cattle upper first or second molar from an adult animal was recovered from the backfill around the urn in pit 4066. This tooth does not appear to have been heat affected. No pathologies or modifications were recorded.

While the presence of a single cattle molar does not allow any conclusions regarding Bronze Age domestic and economic activity to be made, it may be significant in other ways. The inclusion within a single pit containing an inverted urn and cremation deposit could be viewed as possible evidence of selective or structured deposition. Grant (1991) offered the suggestion that cattle in Neolithic and Bronze Age Britain had a symbolic importance which was as great as, or even greater than, their economic importance and there has undoubtedly been wide recognition that cattle are most often given special treatment over other animals on earlier prehistoric sites (Serjeantson 2011, 78). It may be argued that a single tooth does not necessarily demonstrate a special inclusion but, given the lack of evidence for earlier activity on site that could allow for it being residual, it is a noteworthy find in this burial context.

THE CREMATED HUMAN BONE

by Jacqueline McKinley

Methods

by Jacqueline McKinley, Jesse Wheeler and Richard A. Bradley

Excavation of the urn contents

Following block-lifting of the urn on site, the urn was initially stabilised and wrapped using crêpe bandages. It remained inverted (as buried) thereby ensuring that the integrity of the contents was maintained throughout, then the burial remains were excavated in quadranted spits in controlled conditions from the exposed, inverted base down (which had been partially removed during machine opening of the site).

The material was removed in 10mm spits accessed through the upturned base of the urn, measured from the centre of the internal base level. As the bone was removed, the inverted layers accurate to the corresponding placement and orientation within the urn were placed onto a quadranted board (quadrant A, B, C, D), along with any finds or debris found within. From the sixth spit (50-60mm) and below it was necessary to pass the material through a 2mm sieve, with the finer residue being combined into a single bag per spit. The larger diagnostic pieces of bone remained separate and divided by quadrants.

Eleven spits were excavated in total, accurate to 10mm where possible, although as the urn was sat at angle this may have produced a bias towards the two quadrants that were tilted lower. After 110mm the deposit was solid and immovable and a blocked final 'spit' was removed in quadrants from the area around the rim and collar of the urn; this varied between 15mm and >30mm in thickness, reflecting the bias. Thereafter, the material was dry sieved to 1mm fraction. The sub-divisions were maintained throughout analysis to allow details of the burial formation process to be studied. Observational notes were made throughout the excavation of the contents, and an extensive photographic record was produced.

Preservation and recording

1,792.2 grammes of bone were recovered, all in good visual condition, with trabecular bone (generally the first to suffer in a burial environment adverse to bone survival; see McKinley 1997a, 245; Nielsen-Marsh *et al.* 2000), as well as the more robust compact bone, well represented. Given the well-protected burial environment, the intact vessel having excluded any soil or other extraneous materials, it is highly unlikely any bone will have been lost due to taphonomic factors, and the bone is probably close to being in the same condition it was in at time of deposition.

The early Bronze Age date for the cremation deposits, as suggested by the urn, was confirmed by radiocarbon

analysis of a sample of cremated bone which returned a measurement of 2030–1880 cal BC (3594±30BP; SUERC-65619).

Recording and analysis of the cremated bone followed standard procedures (McKinley 1994a, 5–21; 2004a; 2013a). Age and sex was ascertained following standard methodologies (Buikstra and Ubelaker 1994; Gejvall 1981; Scheuer and Black 2000; Wahl 1982).

Results and analysis

The individual

The cremated remains represent those of an adult, probably female, who was 30 to 40 years of age at time of death. Although some skeletal elements (skull and much of the upper limb) indicate a relatively gracile individual, the size of the hand and some of the foot bones, together with the moderately marked muscle attachments in the lower limb bones, suggest larger, more robust — possibly more strenuously used — extremities.

A few minor pathological lesions were observed, predominantly in the neck area of the spine where slight pitting in the articular facets of two cervical vertebrae and marginal osteophytes (new bone) are indicative of a degenerative joint disease, probably the early stages of osteoarthritis. Similar lesions were observed in one (of three) costo-vertebral rib facets and one (unilaterally) medial clavicle. The type of slight marginal osteophytes recorded on the body surface margins of one (of three) cervical vertebrae are generally viewed as age-related wear-and-tear (Rogers and Waldron 1995, 27). Enthesophytes, new bone growths which develop at tendon insertions most frequently as a consequence of repeat trauma from muscle exertion (Rogers and Waldron 1995, 23–5), were recorded in the dorsal (along the *linea aspera*) femoral shafts, one fibula shaft and one patella (slight). In the lower limb these lesions are commonly seen as indicative of repetitive strenuous walking, especially over rough ground, and lifting. Those in the fibula are likely to relate to a specific traumatic event, or events, damaging the interosseous ligament.

Non-metric traits — generally asymptomatic variations in skeletal morphology which may indicate population diversity or homogeneity — were recorded in the patella (vastus notch) and left mandibular condyle. The former can be relatively common in some populations; for example, 33.3% of the early Bronze Age individuals from Amesbury Down, Wiltshire had this trait (McKinley forthcoming). The left mandibular condyle had a more unusual variation in the form of a deep central groove in the anterior aspect creating the appearance of double facet.

Mortuary rite

The bone is almost exclusively white in colour, indicating full oxidation of the organic components

(Holden *et al.* 1995a and b). Minor divergences (slightly grey or blue colouration) indicative of incomplete oxidation were observed in nine bone fragments — mandible, 1st cervical vertebra, finger phalanx, and the inner core of upper and lower limb bones. A variety of intrinsic and extrinsic factors may have an impact on the efficiency of oxidation (McKinley 1994a, 76–8; 2004b, 293–5; 2008) and variable levels are commonly observed amongst Bronze Age cremated remains (e.g. Bell 1988; Boyle and Harman 1999; McKinley 1997a; 2004c; forthcoming). At Crowmeole, however, the variations are so minor as to indicate a well-executed cremation with ample fuel, suitable weather conditions and no impediments to the supply of heat and oxygen to the corpse.

The recorded weight of bone is amongst the highest for a single cremation burial from the British Isles for any temporal period, and in the upper regions of the consistently high range of weights for Bronze Age deposits recovered from the central graves within barrows (902–2,747g, average 1,525.7g; McKinley 1997b). Identifiable skeletal elements from all four areas of the skeleton (skull, axial skeleton, upper and lower limb) are present, with the commonly observed under-representation of axial elements (7% identifiable bone by weight). These elements are the most fragile and liable to crumble and be rendered to dust-fraction size during cremation and recovery (both from the pyre site for burial and during archaeological excavation/processing). Although representing above the average weight of bone from an adult cremation (McKinley 1993), with a relatively high proportion identified to skeletal element (53% compared with the more general 30–40%), there is a noticeable paucity of some areas of the skeleton, particularly the cranial vault and lower areas of the spine. Much of the latter are likely to be amongst the 47% by weight of bone not identified to skeletal element and the estimated 180g of bone present in the 1mm fraction residues. These are not included in the total weight presented due to the presence of non-osseous material rendering an accurate weight reading impossible. Skull elements, however, tend to survive well and be readily identifiable even as small fragments and the relative paucity of vault fragments suggests that some were deliberately or accidentally overlooked during collection from the pyre site for burial.

It has previously been discussed how the frequency of occurrence of the small bones of the hands and feet may indicate how the bone was recovered from the pyre site for burial (McKinley 2004b, 300–1). Generally in the region of five to twenty such small elements have been recovered from, for example, middle Bronze Age burials (pers. obs.). At Crowmeole, all or parts of 110 such elements were identified, representing over half the total. Their frequent inclusion here suggests that rather than hand collection of individual bone fragments, the material in the upper levels of the burnt-

out pyre (including most of the bone) was raked-off and subsequently winnowed (by wind or water) thereby enhancing the ease of recovery of these small bones. Alternatively, the remains may have been left at the pyre site for several days allowing natural winnowing by the wind to remove the fine fuel ash, leaving the cremated bone more exposed and easily accessible.

Numerous factors may affect the size of cremated bone fragments, most of which are exclusive of any deliberate human action other than that of cremation itself (McKinley 1994b). The largest bone fragment recorded from Crowmeole is 79mm and the majority of the bone (*c.*54% by weight) was recovered from the 10mm sieve fraction. A substantial proportion (18%) fell in the 2mm sieve fraction, however, and, were the estimated <1mm fraction to be included it would represent 9% by weight. Both these small fraction residues are unusually high. In part this may be due to the lack of disturbance and absence of soil/intrusive extraneous material within the burial environment enabling the true quantity of bone within the 2mm fraction to be given: often this weight cannot be stated with confidence since the large quantity of small stones in the unsorted residues obscures the weight of the bone itself. However, the large 'dust' (<2mm) fraction, clearly evident in excavation, far exceeded that previously observed in similar circumstances. This fraction was not produced by break-down of the bone post-deposition (no disturbance or soil within the vessel) but represents material originally deposited in the grave. Its common presence suggests one of two (or possibly both) factors. The bone may have been collected and placed in the organic container sometime before burial and in the intervening period the bag was moved/handled sufficiently for some physical-breakdown of the trabecular bone to occur (which would concur with the apparent paucity of vertebral bodies; see above). Alternatively, if after cremation the remains were left to lay for a few days to allow the fuel ash to naturally disperse (see above), this small fraction could be recovered by 'sweeping' the pyre site (which would also collect the type of small fraction pyre debris observed in the burial remains). Irrespective, there is no indication of deliberate fragmentation of the bone prior to burial in this case.

In addition to the worked stone tool, pyre goods in the form of a few very small fragments of cremated animal bone (1–2g) were recovered during osteological analysis: the species is unidentifiable, but within the small mammal size range. The inclusion of animal remains on the pyre was a relatively common part of the rite in the Bronze Age (average *c.*16% of burials), with sheep/goat/pig being the most commonly recognised species (McKinley 1997b).

Blue/green 'spot' staining was also observed on several fragments of humerus and radius shaft, a fragment of mandibular ramus and a fragment of femur

shaft. Such staining is suggestive of the presence of some form of copper-alloy object(s) overlying these parts of the body during cremation. This form of staining has been observed on cremated remains from both the Bronze Age and other periods, often where no remains of copper-alloy pyre goods were found (pers. obs.). Generally, the recovery of the human remains for burial is far less extensive than in this case from Crowmeole and it is probable that the remains of pyre goods were also overlooked (accidentally or deliberately) in this secondary part of the mortuary rite. If the temperature attained in the appropriate part of the pyre was sufficient (*c.*700–1000°C) the copper-alloy would have reached a liquid state, and all that may survive of it would be small re-formed globules which would be difficult to recover for burial.

Particulars of the burial formation process were deduced from the detailed excavation and osteological data. The bone was not evenly distributed within the 120–140mm depth of the burial. Just over half of the bone (by weight) lay in the lower 70–80mm, though the highest proportions from discrete areas were recovered from 50–70mm and 80–100mm within the depth of burial remains and in the lowest (closest to the rim) 20–30mm, with 20% laying in the latter. Nor was there an even distribution between the quadrants, the highest overall proportion laying in quadrants D and C (27% and 26% by weight respectively), with what appears to be a gradual shift in density from quadrants A/B in the upper half to C/D in the lower. This suggests the bone might have been held within an organic container – a skin or, more likely textile bag – prior to insertion within the vessel. Detailed excavation and analysis of the burial formation process from other early Bronze Age sites is providing a growing body of evidence for such a practice, both within inverted and upright urned burials as well as unurned burial deposits (e.g. McKinley forthcoming; 2015a and b).

There might also have been an organic cover over the mouth of the vessel allowing the weight of bone to 'bag-down' below the level of the rim centrally (also observed in excavation). The weight of the vessel appears to have pressed it down over time into the underlying natural on the side attributed to quadrants A and B, tilting the vessel slightly and potentially contributing to the skewed distribution of its contents.

Most of the bone appeared to be laid more-or-less horizontally within the vessel and there was no marked settling of smaller fragments towards the base, other than the noticeable presence of a large 'dust' fraction below the upper-most 40mm depth of bone (see above). Skeletal elements from all areas were distributed throughout the fill with direct joins between several fragments from the upper and lower levels (30–70mm apart). This suggests there was no ordered distribution of skeletal elements within the original container – corroborating the proposed mode of recovery of material

from the pyre site outlined above – within which the remains had settled prior to burial.

RADIOCARBON DATING by Elizabeth Pearson

No sources of contamination or non-contemporaneous carbon were evident either during the fieldwork or the subsequent analysis. As noted above, an internal charred residue from the urn and a sample of cremated bone were submitted for radiocarbon dating. These

were chosen with the intention of avoiding any possible dating error from the introduction of older material and to independently date both the use of the urn and the cremation deposit within.

The samples were submitted to Scottish Universities Environmental Research Centre (SUERC) for Accelerator Mass Spectrometry (AMS) radiocarbon dating, the results of which are summarised in the table below. All calibrated date ranges cited in the text are those for 95.4% confidence and calibrated dates are identifiable by the prefix ‘cal’ (OxCal v4.2.4).

Table 2. Radiocarbon dating results by context

Laboratory code	Context	Material	$\delta^{13}\text{C}$ (‰)	Conventional age	OxCal calibrated age (95.4% probability)
SUERC 64464 (GU39352)	4097	carbonised residue inside urn	-26.9 ‰	3655±37 BP	2140-1920 cal BC
SUERC 65619 (GU39882)	4096	cremated bone	-25.4 ‰	3594±30 BP	2030-1880 cal BC

DISCUSSION AND CONCLUSIONS

by Richard A. Bradley

The prehistoric activity on the site was limited in scale, but included important and regionally significant archaeological remains, specifically the early Bronze Age urned burial.

Burial

The oval pit containing the cremation deposit and urn is unusual in its isolation: such features are regularly found under/within barrows, as satellite burials in association with a barrow or cairn, or as part of nearby enclosed/unenclosed ‘flat’ cemeteries. This is well-attested locally, at sites such as Sharpstones Hill and Bromfield (e.g. Barker *et al.* 1991; Hughes *et al.* 1995; Hughes and Woodward 1995; Stanford 1982), and throughout the surrounding region (e.g. Britnell 1982; Hunt *et al.* 1986; Mann *et al.* 2017, 17–23; Ray 2015, 88–99). Indeed, large concentrations of barrows and ring-ditches are known in the tributary valleys and the upper Severn in Shropshire (Buteux and Hughes 1995, 161–2; Garwood 2007, 148–152). It remains likely, therefore, that this example is a single outlier and that further cremation burials related to barrows or other features of similar date are beyond the areas of excavation, perhaps on slightly higher ground to the north.

The diversity of early Bronze Age funerary practice has long been recognised nationally and in the midlands area, however, with considerable local and regional variations (Parker Pearson 1999, 86–90; Garwood 2011, 71–2).

Whilst rare, single ‘flat’ graves with no obviously associated features or barrow mounds have been identified in the wider region, though these are often located in the uplands of Wales and the Peak District in prominent natural positions (e.g. in Powys, Briggs *et al.* 1990; in Derbyshire, Barnatt and Robinson 1998; and in Staffordshire, Barnatt 2017). More locally, a single, isolated, urned cremation burial was identified during a watching brief at Wroxeter, east of Shrewsbury: the observed area was very small in this instance so the excavator considered it probable that it was part of a larger cemetery (Hannaford 2011). At Crowmeole, there was no evidence for other pits containing cremation burials, or features such as a ring ditch, enclosure, posts, stones, or other markers demarcating a ceremonial site. The survival of the pit containing the urn, as well as other Bronze Age features nearby, suggests that this is unlikely to be an issue of truncation, although if there had been a low cairn of soil or stone built off the former ground surface then this may not have survived agricultural erosion.

The burial itself comprised the cremated remains of an adult individual, probably a female who died at around 30 to 40 years old. There were a number of indications of a strenuous lifestyle for this otherwise gracile person. The deposit mainly comprised bone, rather than pyre material, suggestive of carefully managed collection (perhaps even ‘winnowing’) before burial and hinting at the process of the funerary

ritual. The large amount of bone present, much higher than that found in any Bronze Age cremations elsewhere in Shropshire and amongst the highest for a single cremation burial in Britain, also suggests that considerable effort had gone into gathering up this material. The successive steps involved in this collection and burial may have been particularly distinct and loaded with meaning, perhaps part of socially cohesive traditions or regional ideas. Of particular interest with regard to the deposition process was the inclusion within the cremation deposit of a heavily burnt and fractured worked stone knife, probably having been included on the funeral pyre and representing a status object deliberately removed from use. It is possible that copper alloy objects and some small mammal bones were also included in the cremation rite, but only selectively collected. Knives alongside or within cremation deposits (although of varying type) have been associated with the early Bronze Age Food Vessel Urn/Collared Urn tradition (Bradley 1999, 224).

The inclusion of small finds (as well as the potential presence of copper alloy objects) means that the burial is regionally rare. It has been frequently observed that burial assemblages of early Bronze Age date in the midlands seldom contain artefacts, more often including no grave goods at all (Garwood 2011, 72): there is nothing comparable to the fine stone, bone, bead and metalwork inclusions regularly seen in other regions (e.g. Barnatt and Robinson 1998; Richardson and Vyner 2011). In Shropshire in particular, beyond a limited number of fragments of pottery, very few additional artefacts were recovered in association with the numerous burials in the Sharpstones Hill cremation cemetery (Barker *et al.* 1991), 3km to the south-east, or from the cremation cemeteries at Bromfield, 32km to the south (Stanford 1982; Hughes *et al.* 1995).

The environmental evidence also suggested some selective deposition within the backfill around the urn through the presence of a single unburnt cattle tooth. As a non-meat bearing element, it is possible that this represents a 'token' representation of a significant part of, or a particular moment, in the life of the deceased, or perhaps demonstrates status through disposable wealth. It may also reflect a continuity of traditions from Neolithic practices consistent with the early Bronze Age dating for the burial: as noted above, animal remains, especially cattle, form a significant part of mortuary assemblages in Neolithic Britain and this continues into the early Bronze Age (Serjeantson 2011).

In addition, the early Bronze Age Food Vessel Urn/Collared Urn hybrid is itself an unusual and important find, adding significant new information to the small corpus of finds of this type in the region. The burial has further significance in a regional context, being one of the few cremation deposits that is well-recorded and has had the enclosing vessel independently dated. As noted above, the vessel was dated as 2140–1920 cal BC

(3655±37BP; SUERC-64464) and the bone 2030–1880 cal BC (3594±30BP; SUERC-65619). As of 2011, only eleven early Bronze Age cremation burials had been scientifically dated in the west midlands, one of which was associated with a collared urn (Garwood 2011, 72). The west midlands regional research frameworks highlight the need for scientific dating of artefacts associated with funerary remains (Garwood 2007, 148; Garwood 2011, 80) and, likewise, the research agenda for the Bronze Age in Britain notes the importance of radiocarbon dating of burnt residues and cremated human remains (Woodward 2008). The dating of the *in situ* urn from Crowmeole, therefore, makes an important contribution to this area of study.

Landscape

Places of burial in the early Bronze Age are generally devoid of contemporary settlement, but the very existence of burials demonstrate some level of occupation in the wider landscape, perhaps with temporary or seasonal access to funerary sites (see Garwood 2007, 152–4). Arguments have also been put forward for a considerable degree of residential mobility with little distinction between ritual and secular activity in the same location that may leave little trace of obvious settlement (e.g. Brück 1999). Reflecting the general pattern in Shropshire, the midlands, and indeed Britain overall, where early Bronze Age settlement sites are particularly rare (Halstead 2007, 169; Garwood 2011, 73), the site did not contain any clearly defined occupation. There were, however, a limited number of other early Bronze Age features, found slightly to the west and south-west of the urn burial.

These comprised a large V-shaped ditch and two wide but shallow pit features, all of which contained fragmentary early Bronze Age pottery, as well as a flint knife. Comparison with the geophysical evidence shows that the ditch was potentially a stretch of a parallel, bounded route. The morphology is more indicative of a track used to link locations, as opposed to part of a field system or a settlement enclosure associated with agricultural land. If the urned burial is considered to be an outlier, rather than an isolated feature, then it is possible that this routeway was a component of a wider funerary landscape, perhaps linking a settlement with a ceremonial site to the north, of which the site could be on the periphery.

The shallow pits may be related to more transient use. Like the ditch, the dating of the pottery fragments from the pits is comparable with the urn, although as one of the pits cut the ditch they cannot all have been contemporary as a group. There were no indicators for the use of the features, or an obvious domestic origin, but the ceramic and flint inclusions at least indicate that there was an early Bronze Age community producing this material. The recovery of a prehistoric saddle quern is also of note, despite being residual in a medieval

sunken-featured building. It may be that isolated objects representing domestic activities, such as quern stones, reflect periodic settlement activity at funerary or ceremonial sites at specific times of the year (Brück 1999, 68).

Overall, despite the limited evidence for wider land use, the nature of the finds, and the careful collection of the cremated bone and the deposition of the urned burial in this location, point towards the landscape being one of considerable significance to the community at this time.

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The full archive report contains more comprehensive technical information, specialist tables, the report on the medieval archaeology and detailed illustration, and is available through the Archaeological Data Service online grey literature report library. The project archive will be deposited with the Shropshire Museum Service (accession number E.01032).

NOTES

1. Worcestershire Archaeology is part of Worcestershire Archive and Archaeology Service.

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