

# EXCAVATIONS AT A BRONZE AGE BARROW ON CARSINGTON PASTURE BY TIME TEAM 2002

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## SUMMARY

Excavations were undertaken as part of the Channel 4 Time Team television series at a mound at Carsington Pasture, Derbyshire. The mound had been trenched in an unauthorised excavation, for which there were no surviving records, in the 1980s, but was thought to be a 'lost' Bronze Age round barrow.

The area of the illicit trench was re-excavated and extended to provide a complete section through the mound. The section indicated that the barrow was an earthen bowl barrow that had been constructed over a primary phase turf ring. Human bones were present in the backfill of the previous excavation suggesting that a probable primary inhumation had been disturbed at the time. A secondary undisturbed Bronze Age cremation burial, dated by radio carbon to c. 1,700–1,500 BC and containing the remains of an adult male, was found below an inverted Biconical Urn near the crest of the mound in the south-west quadrant. Broken bone tweezers were found in the redeposited pyre debris around the urn.

The barrow subsequently became incorporated in a field system, which can be traced across Carsington Pasture and which is thought to be of Post-Roman date. The mound had later become subsumed within the upcast of adjacent post-medieval lead workings.

## INTRODUCTION

The site is situated in the parish of Carsington, Derbyshire at SK 244543, at an elevation of 319m OD (Fig. 1). It lies in open unimproved pasture at the south end of the Derbyshire Peaks on the crest of a steep south-facing slope overlooking the Scow Brook, at c. 220m OD. The geology, which has been described in detail (Chamberlain 1999), is Bee Low Limestone of the Carboniferous series and forms the south edge of the Limestone Plateau of Derbyshire. The limestone is heavily mineralised, principally with lead and zinc ores, which has resulted in a large number of mine shafts on Carsington Pasture.

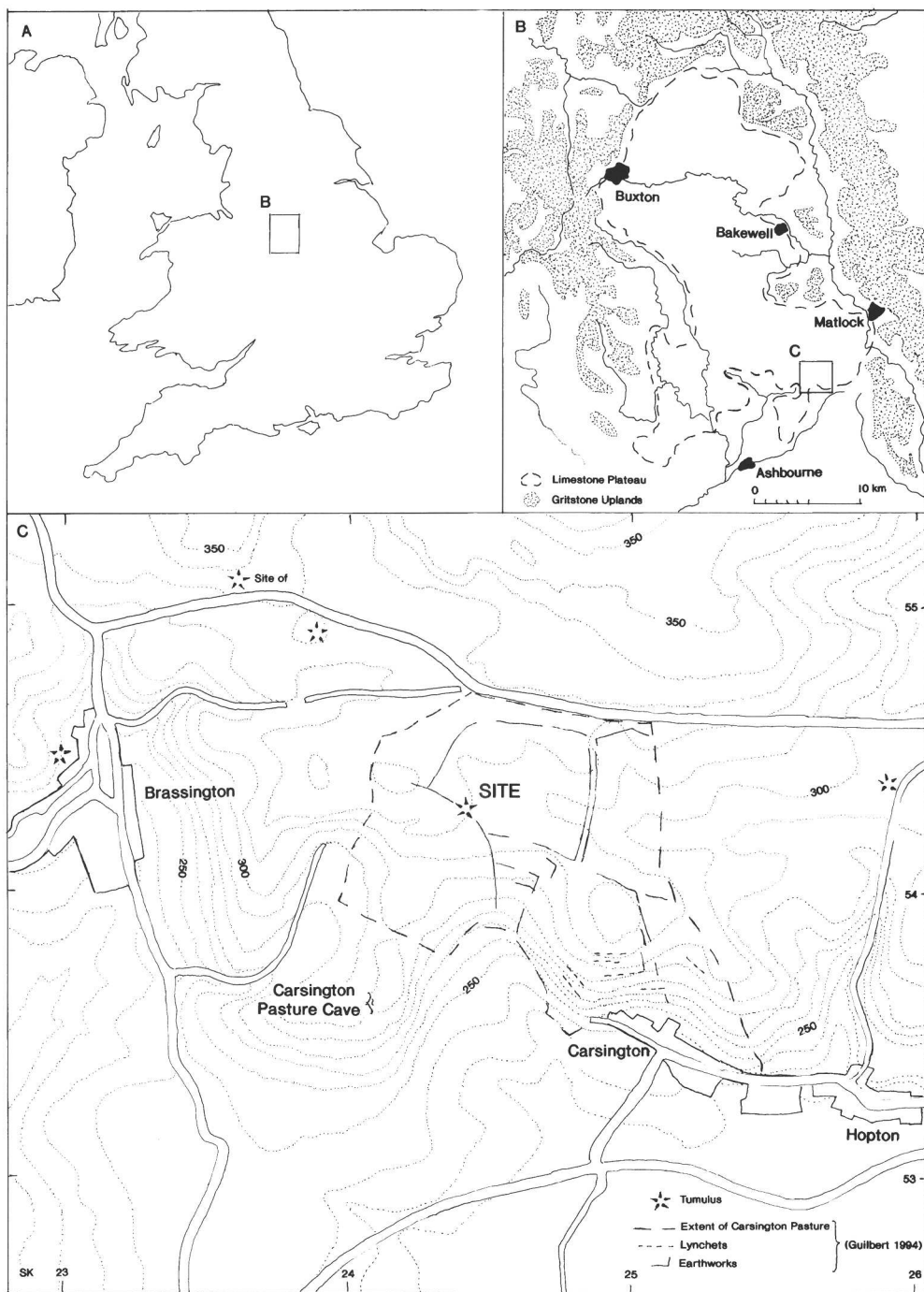


Fig. 1: Carsington Pasture Barrow: site location.

The mound is listed (Derbyshire Sites and Monuments Record [SMR] No. 3204; Barnatt 1996b, Barrow 51) as a large barrow, 14–20m in diameter and 0.5–1m high, next to a linear bank, which forms part of a systematic field system across Carsington Pasture (Guilbert 1994) and a line of former lead mines. It appears to have gone unnoticed within the waste heaps of mining by antiquarian excavators and was not scheduled as an ancient monument by English Heritage. It could not be located by the Peak District Barrow Survey in 1988–9 and was catalogued as ‘destroyed or lost’ by Barnatt (1996b, 215). The only evidence of previous investigation into the top of the mound was a linear trench, dug without authorisation or record by a local metal detectorist in c.1983. Little is known of the finds from this work, although there are references to an unknown bronze object (Barnatt 1996b, 215). The site was visited by Wildgoose (unpublished document SMR) and Guilbert (1994), who confirmed dimensions of the mound and the location and extent of the illicit excavation.

The unmistakable outline of the unauthorised trench was still visible in 2002. It measured approximately 7m E-W, 1.5m wide and ran up the east side of the mound to the summit where it had been extended to the south, to form an ‘L’ shaped scar. It was apparent on the surface as a slight depression from which large angular limestone blocks protruded. Towards the summit the pasture was sparse and the trench had been colonised by thistles and nettles.

The Time Team project was undertaken from 5th to 8th of June 2002 to confirm the interpretation of the mound as a barrow. This was achieved using a topographic survey to record the surface contour of the mound and its surrounding features. A geophysical survey was commissioned to locate any perimeter ditches around the mound and secondary burials or stone structures within it. The unauthorised trench of 1983 was re-excavated to record the construction of the mound and to recover any artefacts or datable material from the backfill that would help to confirm the interpretation of the monument as a barrow.

## GEOPHYSICAL SURVEY

The detailed results of the geophysical survey work undertaken at Carsington Pasture (GSB Propection 2002) are retained in archive. The results relating to the Bronze Age barrow are summarised here.

An area was surveyed using both gradiometry and resistance. A rectangular grid, 40m × 30m, was placed across the barrow mound, with an additional block, 40m × 40m, superimposed across the south-east corner of the rectangle. These interlocking grids totalled 2,600 sq. m. Land to the north and east was largely inaccessible due to the former lead workings.

The results of the gradiometry survey revealed a number of anomalies with clear or potential archaeological interest. A band of magnetic disturbance and several anomalies were oriented NW-SE, parallel to the linear boundary ditch, and were thought to reflect recent agricultural land use.

The resistance survey detected a circular mass of high resistance readings across the well-drained soils of the mound with low resistance readings over the area of the robber trench. There was nothing to indicate a surrounding ditch. Beyond the mound several

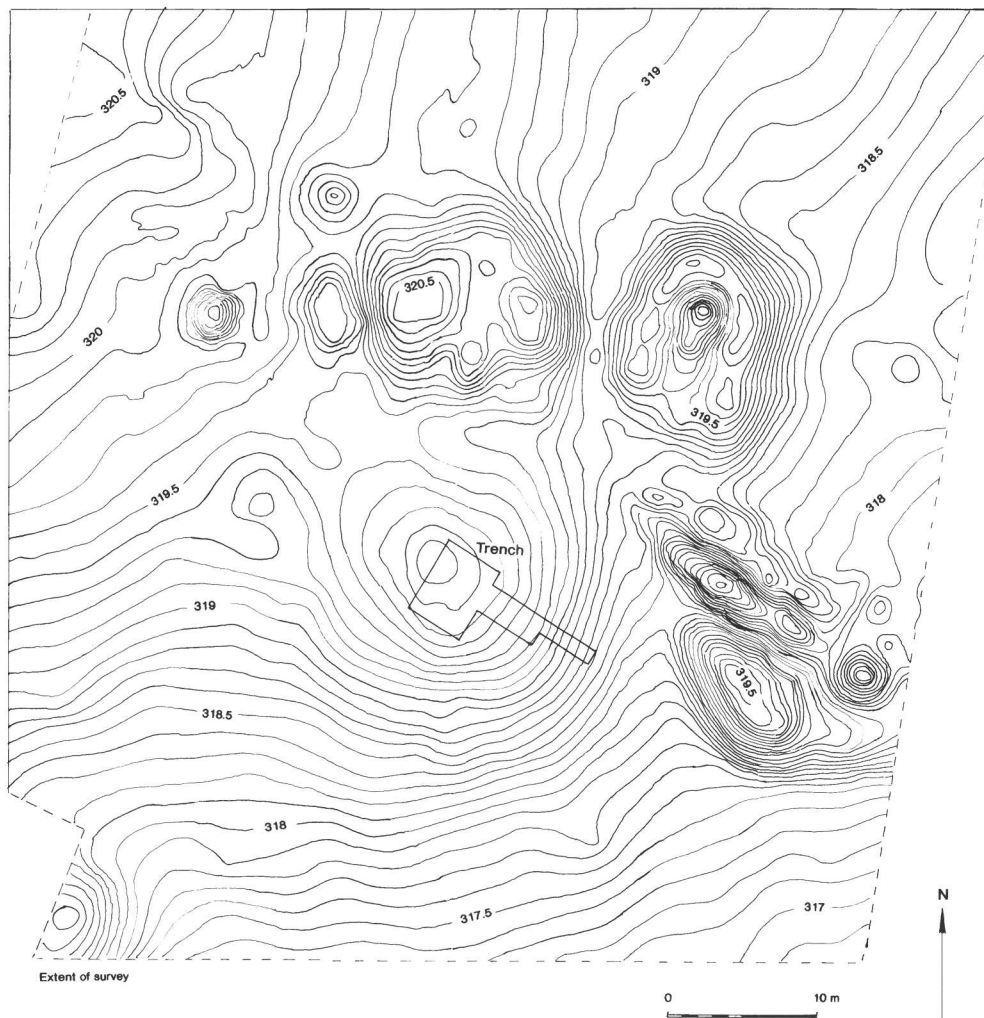


Fig. 2: Carsington Pasture Barrow: topographic survey and trench location.

low resistance linear anomalies oriented NW-SE coincided with those detected by gradiometry which were related to agriculture.

### THE RE-EXCAVATION OF THE 1983 TRENCH

The topographic survey (Fig. 2) confirmed that the monument was a well-preserved mound, with a rounded profile that stands  $\approx 0.70\text{m}$  above the pasture. Data was also collected to calculate the approximate contour of the underlying Limestone bedrock. This showed that the mound was constructed on the lip of the slope at a point that overlooked land both to the east and to the south.

The Time Team excavation extended marginally beyond the visible extent of the backfilled 1983 trench (Fig. 3) to define the precise limits of the clandestine excavation.



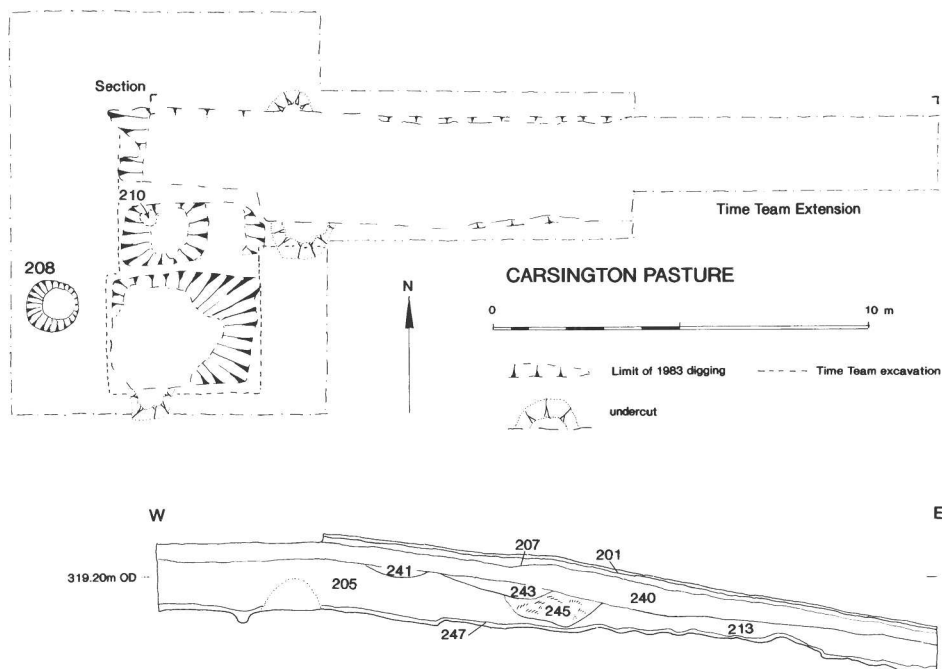


Fig. 3: Carsington Pasture Barrow: excavation trench plan and section.

The edge of the former trench was difficult to define near the surface, however lower down the backfilled material was noticeably less compact and was mixed with pockets of re-deposited darker topsoil.

Most of the original trench sections were relatively vertical, which suggested that the excavators may have possessed a limited knowledge of archaeological technique, however the north end of the trench appeared to have been dug as an undisciplined 'test pit' joined to the main trench. The extension to the south was dug as two similar 'test pits', 2m by 1.5m and 1.6m by 0.70m respectively, between which spines of undug barrow mound remained. It is possible that each 'pit' represented the 'output' of an individual digger. The digging had continued down through the barrow mound to the natural limestone pavement. A series of niches, which undercut the trench section and pursued the limestone platform, had been excavated at the base of the southern-most 'test pit' and in the main trench. Some of these burrows may have been undertaken in pursuit of primary or secondary inhumations. Bones from a juvenile (210) (Fig. 3) were found clustered together in the back fill at the west end of the central 'test pit'. Small fragments of human bone were also found in a crack of the limestone pavement adjacent to a large niche in the main trench. These bone fragments may represent the only surviving *in situ* material from the original excavation that went unrecognised at the time. Two flint flakes and small isolated fragments of unidentifiable bone were found in the backfill.

The east end of the 1980s excavation was subsequently extended 4.20m to the east and 1 m wide to provide a continuous section through the mound.

### **The structure of the barrow mound**

The excavation revealed that the mound (Fig. 3) had been constructed on the Limestone bedrock, which sloped gently away to the east from 318.75m OD, providing a 'false crested' location. A thin layer of dark brown well-compacted clay (247) up to 0.07m thick, undulated across the Limestone platform and is likely to represent the prehistoric old ground surface. Nothing was found in the extension at the east end of the trench to indicate the presence or extent of any pre-barrow activity on the site. It was similarly not possible to ascertain whether the soil profile was complete or had been truncated to supply turf for use in the construction of the primary turf ring.

The barrow comprised a low mound up to 1.20m thick near the centre that was revetted by a turf kerb bank (245). Individual turves were discernible as alternating lenses of dark brown silty clay and yellow clay. It was difficult to calculate the precise radius of the kerb from the small arc available, however it probably measured approximately 5.5m from the centre of the mound. Although the section suggests that the turf kerb, which was approximately 1m wide and 0.5m high, may have been inserted into the mound it seems more likely that it defined the interior of the monument with its primary inhumation and was buried with the construction of the barrow. There was no apparent structure to the mound, which comprised compact, homogeneous orange brown silty clay (205) that was probably scraped up from the surrounding land surface. Similar material (213) formed the outer part of the mound beyond the turf ring. There was nothing in the excavation, the geophysical survey or the contour survey to indicate an enclosing ditch.

Two shallow intrusive features (241 and 243) of unknown extent were identified in the section. These two features, which were filled with dark brown humic loam were sealed by the heavily rooted subsoil (240), which reached 0.40 m thick in places.

### **The cremation burial**

An undisturbed secondary Bronze Age cremation burial, contained in an inverted Biconical Urn, was located in the south-west quadrant of the barrow (Fig. 3) immediately below the summit and approximately 0.70m west of the 1983 excavation. The burial pit (208) measured approximately 0.70m in diameter and 0.50m deep and was poorly defined on the surface, where the cremation was back filled with re-deposited mound material. However lower down the edges were clearly visible, where the backfill comprised charcoal-rich debris derived from the cremation pyre. This material also filled the void of the collapsed urn, interleaving with sherds of pottery and sealing the cremated bone.

The urn, which survived to a height of approximately 0.20m, lay towards the north-east edge of the cremation grave, which had supported and preserved the profile of the shoulder and rim on that side, including a lug and traces of the decoration. Elsewhere the vessel was heavily cracked, the fabric badly decayed and the form distorted by soil pressure from the south-west. Large pieces of the lower part of the pot, including fragments of the base itself, lay face down directly over the cremated bone, which suggests that the urn had collapsed inwards soon after the burial rite was completed. The belly of the urn frequently survived as sherds of pottery on edge which had slid vertically down inside the urn.

The neck of the urn was filled to the shoulder with clean redeposited orange brown silt from the mound. This deposit, which was approximately 0.06m thick, was reasonably compact and provided a slightly raised level surface on which the cremated bone had been laid. The cremation burial was apparent as a clearly defined conical mound, approximately 0.06m thick, and was composed of large, heavily calcined bone fragments with very little residual pyre debris. The summit of the cremation burial showed signs of having been only slightly displaced by the initial collapse of the urn. The cremated bone had 'squeezed up' between the sherds and overlay them. The symmetry and undisturbed nature of the cremated bone mound indicates that the burial had not been displaced by the inversion of the urn. It suggests that the cremated bone, possibly held in an organic container, was placed on a low earth mound and covered by the urn, which formed a symbolic cist.

## FINDS

**The human bone** by Jacqueline I. McKinley

### *Introduction*

Cremated bone from ten and unburnt bone from two Bronze Age contexts was received for analysis. The cremated bone all derived from grave 208 and included the remains of a burial with a vessel inverted over it and redeposited pyre debris from the grave fill. The few fragments of unburnt bone were recovered from the 20th century 'robber' trench.

### *Methods*

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5–21; 2000a). Age of both cremated and unburnt bone was assessed from the stage of skeletal and tooth development (Beek 1983; McMinn and Hutchings 1985), and the general degree of age-related changes to the bone (Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (Gejvall 1969; Buikstra and Ubelaker 1994).

### *Results*

#### *Condition and disturbance*

The bone all appears in good condition and trabecular bone is well represented amongst the cremated remains. The unburnt bone was clearly disturbed and redeposited during earlier investigations into the barrow (see above). The vessel containing the remains of the burial had suffered a series of collapses; body sherds were interleaved with small deposits of pyre debris which had fallen into the vessel from the grave fill.

#### *Demographic and pathological data*

The cremated bone represents the remains of an adult male over 50 years old. The unburnt bone from 210 represents the remains of an infant aged 3–4 years, possibly male.

Numerous pathological lesions were observed in the cremated bone. There was *ante mortem* loss of the mandibular and maxillary first incisors, all other remaining sockets (seven mandibular and nine maxillary) except one being very shallow. Lesions indicative

of dental abscesses/infection was seen in the maxillary right I1 and P2 sockets and in the left P2 and M2 sockets. Carious lesions are the most common cause of dental abscess by exposing the pulp cavity to infection. Ten tooth roots were present (tooth crowns shatter in the heat of cremation and fragments are not often recovered), none showed signs of carious infection (which is not necessarily evidence of absence). The shallow tooth sockets suggest there may have been excessive tooth wear and some of the remaining roots have a slightly polished appearance to the occlusal surface indicative they were heavily worn. The combined evidence suggests that excessive tooth wear was largely responsible for the shallowness of the tooth roots, exposing both the pulp cavities of the teeth and the supportive structure to infection. Such dental infection is both painful and unpleasant in terms of the smell, taste and general debilitation it causes and is potentially lethal if the infection spreads elsewhere in the body (Mays 1998, 148–9).

The presence of a 5mm diameter cyst on the margins of a thoracic/lumbar vertebra body, together with fine-grained surface pitting and new bone indicates some form of infection. In the absence of supportive evidence a specific diagnosis as to the type of infection is difficult.

Where osteophytes (new bone on joint surface margins) occur alone they are largely seen as age-related lesions and probably results in a feeling of 'stiffness' in the joints (Rogers and Waldron 1995, 20–26); slight-moderate lesions were seen at 13 sites including C1–C2, one shoulder joint, in eight finger phalanges and one knee. Lesions indicative of osteoarthritis (*ibid.*, 32–46) were observed in one cervical joint. Degenerative disc disease, reflective of degeneration in the intervertebral disc, was seen in three cervical, two thoracic and the first sacral vertebral bodies. Exostoses are bony growths which may develop at tendon and ligament insertions on the bone. It is not always possible to be conclusive with respect to the aetiology of particular lesions which may include age-related wear-and-tear, traumatic stress, or specific disorders (Rogers *et al.* 1987). Lesions were observed in the ulna and fibula shaft, left patella and five finger phalanges. The overall impression is of a relatively elderly individual who led a physically active life, possibly engaged in work which repeatedly strained the fingers, and whose dental hygiene was not of the highest order.

### *Pyre technology and ritual*

The bone was predominantly white in colour, indicative of a high level of oxidation (Holden *et al.* 1995a and b). A few fragments of long bone shaft and skull vault were slightly blue in the centre, and a few hand and foot bones slightly grey. The variations are minor, involving the bone which takes longest to cremate and which were likely to lie at the pyre's peripheries. No specific problems in pyre technology are implied (McKinley 1994a, 72–81; 2000).

The overall weight of bone recovered is substantial with a total of 1,679.1g from the burial and a further 236.0g from the redeposited pyre debris remaining in the grave fill and within the collapsed urn. The weight of bone from the burial alone puts it amongst the highest weights recovered from a single cremation burial. The burial has distinct similarities with the earlier Bronze Age primary barrow burials from which consistently high weights of bone are recovered (average of 1,525.7g from a sample of 18, current maximum 2,747g; McKinley 1997).

The maximum recorded bone fragment was 70mm from the main part of the burial. The maximum fragments from the redeposited pyre debris were generally smaller at between 20–43mm. The majority of bone fragments from the main part of the burial was recovered from the 10mm sieve fraction (c. 70%), with lower proportions of 16–72%, average 36%) from the less well protected redeposited pyre debris. There are a number of factors which may affect the size of cremated bone fragments the majority of which are exclusive of any deliberate human action other than that of cremation itself, including the additional protection offered the material in the ground by enclosure in a ceramic vessel (McKinley 1994b). There is no evidence to suggest deliberate fragmentation of bone prior to burial.

All skeletal elements were well represented, with what is likely to have been full or near-full recovery of the remains from the pyre for burial or inclusion in the grave within the redeposited pyre debris. Such all-inclusive deposits are not common within the mortuary rite, but appear most frequently at Bronze Age sites (McKinley 1997). Although the burial contained substantially more bone than the pyre debris (88% of the total), there is no evidence to suggest specific parts of the remains were collected for deposition within the burial; similar proportions of the various skeletal elements were recovered from both deposits. The inclusion of pyre debris within the grave fill is a common characteristic of the mortuary rite both in the Bronze Age and within other periods (McKinley 1997).

Pyre goods, in the form of c. 42.3g of cremated animal bone (including immature cattle), were mostly recovered from the burial with small amounts from the redeposited pyre debris. A survey of Bronze Age burials has shown that c. 16% contain small quantities of animal bone (McKinley 1997).

## The urn

### *Description*

This is a relatively large Biconical Urn (Fig. 4), nearly 400mm tall compared with the average height range of 300 to 400mm (Gerloff 1975, 237): rim diameter 300 mm externally; shoulder 382mm diameter; neck (distance shoulder to rim) 98mm. Although originally complete when buried the actual height and base diameter cannot now be determined because of the collapsed state in which the inverted urn was found (described above). However, Gerloff (*ibid.*) claims their maximum diameter is usually a few centimetres less than their height.

The shape is strongly bipartite with a high, sharply angled shoulder forming the widest part of the urn and a straight neck angled inwards to a short, everted rim smaller in diameter than the shoulder. The urn is mainly plain apart from deep combined finger tip and nail decoration on top of the rim, forming a slight 'pie-crust' edge, and shallow but deliberate finger nail impressions around the rim's inner edge. In addition there are the incomplete remains of what formed part of a prominent applied feature with finger nail decoration along the outer edge. Judging by the evidence of scars on the outer surface of the vessel this was attached just below the rim and originally there may have been more of them. The form is now indeterminate but many examples are known of horseshoe style 'handles' similarly placed, illustrated for example by Tomalin (1983) in his thesis on British Biconical Urns, and for instance on a Biconical Urn from Bixley, Norfolk

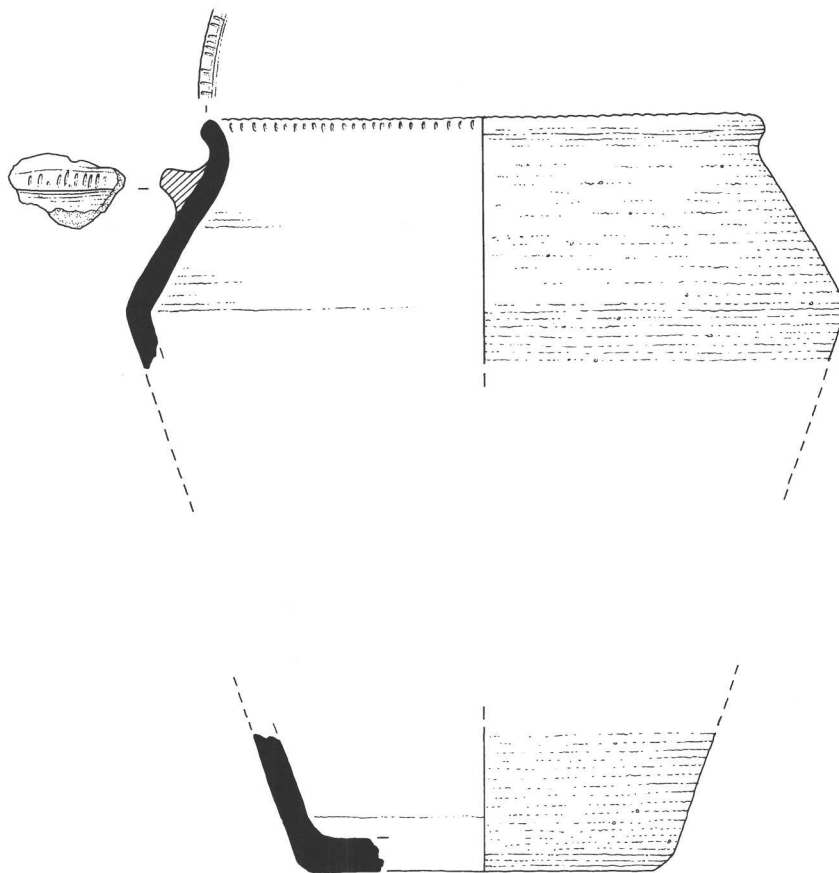


Fig. 4: Carsington Pasture Barrow: the Biconical Urn. Scale 1:4.

(Percival 2000, 43–44: P9), an urn with an angular shape very like that from Carsington. Although no evidence survives for curved shaping on the Carsington fragment this possibility cannot be ruled out. Alternatively, however, it may have formed a lug or part of a decorative cordon, but the attachment scars are not continuous around the few neck pieces surviving. Tongued lugs are applied usually as opposed pairs on the shoulder but occasionally occur at different heights, such as above the shoulder (e.g. Tomalin 1983, 446: DB36, Tarrant Keyneston, Dorset) or at both the shoulder and high on the neck (e.g. *ibid.*, : FB32.1 Pouzillac, Gard, France). A pair of tongued lugs can also accompany a pair of horseshoe ‘handles’ as at Bulford, Wiltshire (*ibid.*, 500: WB13, D. Tomalin *pers. comm.*), where the lugs bear finger nail impressions.

The average body thickness is 12mm and the outer surface is smoothed but lumpy and ranges in colour from brick red to dark red. All the pieces are friable, many having fragmented completely, and the black core suggests a short firing in an open-fire. The fabric is tempered moderately (10 to 15%) with large (average size 5mm) angular inclusions which thin-sectioning has demonstrated include volcanic rock likely to have been locally obtained (see below).

***Fabric petrology*** by Ron Firman

The silty clay matrix, probably with a high illite/hydrous mica content, could have been found in surface sediments in nearby pockets in the limestone or in the Namurian mudstones and some of the glacial tills covering them, which lie adjacent to Carsington and Hopton, immediately to the south of the limestone escarpment. The larger inclusions consist of intensely altered volcanic particles, derived from an explosive volcanic deposit. They include devitrified glass shards, optically transparent lithic fragments with porphyritic, non-porphyritic and spheroidal textures, and structureless black opaque material of irregular shapes, some resembling flattened rounded globules. The original minerals characteristic of basic volcanic rocks have all been replaced by softer minerals such as serpentine (after olivine), chlorite (after pyroxene), kaolinite and other clay minerals (after feldspars), presumably formed partly by chemical reactions within the vent later supplemented by weathering in geologically recent times.

Nearby volcanic agglomerate outcrops are the most likely source, several being within 6km of the barrow. Some are to the north-east close to silty clay, but the nearest and perhaps the most likely, given the barrow's aspect to the east and south (see above), is the Hopton 'vent agglomerate'. In the grounds of Hopton Hall glacial till covers the southern margin of the vent agglomerate (as mapped by the Geological Survey of Great Britain) and natural mixtures of till (largely derived from Namurian mudstones) and agglomerate are likely to occur which would have been suitable for pottery manufacture with or without further mixing. However there are problems in correlating detailed petrographic descriptions of Derbyshire agglomerates and tuffs (Bemrose 1894) with that seen in pottery thin-sections (e.g. *cf.* Bemrose's description of the Speedwell vent, Castleton [625–6], with Guilbert and Vince 1996, 52–4, for volcanic inclusions in pottery from Mam Tor [unfortunately these thin sections were not available for comparison]). Geologists collect the hardest, least altered, unweathered samples for sectioning whereas the potter selected the softest most altered material, and, even allowing for the effects of firing, the pottery mineralogy differs markedly from that described by Bemrose for vents in the vicinity of Carsington. In addition agglomerates are likely to be far more variable than any one sample selection suggests and no one assemblage should be used to identify a particular vent. Therefore, it is not possible to be certain geologically which vent deposit was involved.

**Associated artefacts from the grave**

The head of a perforated bone object, an undiagnostic small flint flake and a minute fragment of lead were recovered from the sieved residue of the redeposited pyre debris around the urn.

The bone object (Fig. 5) measured 15mm long and 8mm in diameter at the snapped end. It tapered slightly towards the flat topped, slightly broader head, which has a high polish. A small perforation, approximately 2 mm in diameter, lies immediately below the head. The fragment may be part of a simple bone pin, however it is remarkably similar to the end of a pair of tweezers. Similar items have been found associated with cremation burials from a number of barrows in Wiltshire including Upton Lovell G.2 (Hoare 1812, 74, Pl. IX), Winterbourne Stoke G.4 (Annable and Simpson 1964, 48, Pl. 221) and Amesbury G.11 (*ibid.*, 53, Pl. 327).

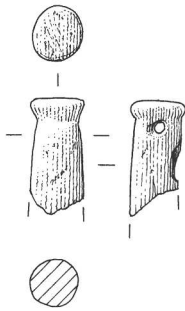


Fig. 5: Carsington Pasture Barrow: the bone tweezers. Scale 1:1.

None of the objects were burned, indicating that they had not been incorporated in the cremation pyre.

### Other finds

An unretouched flint flake and a broken flint flake were found in the back fill of the 1980's excavation. They are both undiagnostic and it is impossible to speculate as to whether they formed grave goods of an earlier burial or relate to pre-barrow activity on the old ground surface.

### The charcoal by Rowena Gale

Three samples of charcoal were recovered by flotation from the cremation burial. The largest sample (12gm) was from redeposited pyre debris around the cremation urn, with 2gm from the interior of the collapsed urn and 1gm from direct association with the cremated human bone.

The charcoal was firm and well preserved. Fragments measuring over 2mm in radial cross section were selected for examination and prepared using standard methods (Gale and Cutler 2000). The charcoal was examined using incident light on a Nikon Labophot-2 microscope at magnifications up to x400. The anatomical structures were matched to reference slides of modern material.

The charcoal from the three samples was all identified as ash (*Fraxinus excelsior*) and, although some small fragments were not identified, the high ratio of ash present suggests that this was the only species used as pyre fuel. The charcoal consisted of roundwood but since this was rather comminuted it was not possible to assess the age of the wood used. The absence of heartwood suggests the use of fairly narrow stems, i.e. not mature trunk or cordwood.

Two samples from the redeposited pyre debris were selected for conventional radiocarbon dating (> 10gm).

Lab ref	Determination BP	Calibrated date 95.4%	Σ13C
Wk 12414	3346 ± 53	1750 – 1500	–25.3
Wk 12477	3301 ± 45	1690 – 1450	–24.6

## DISCUSSION

### The barrow

The barrows of the Peak District were re-assessed in detail by the Peak District Barrow Survey (Barnatt and Collis 1996) and the results of this survey have provided an



invaluable source of data towards placing the barrow at Carsington Pasture in its wider context.

The excavation itself, although of limited extent, formed an important addition to the 25 other barrow excavations that have taken place under controlled conditions in the Peak since 1926 (Barnatt 1996a, 15). The south-east of the Peak District has been particularly poorly studied possibly because, as at Carsington, individual mounds have been masked by lead mine waste heaps.

The barrow lies on the southern edge of the South East Uplands, an area of the Limestone Plateau which contains between 44 – 60 barrows, one of the largest quantities of mounds on the Limestone Plateau. They are evenly distributed across the area. The more immediate environs within a 3km radius of Carsington Pasture contains approximately thirteen definite and seven possible barrows, including uncertain mounds with no archaeological record, quarry dumps and a gallows mound (Barnatt, 1996a Fig. 1.3, Derbyshire SMR). All are considered to be of Bronze Age date with the exception of the Neolithic chambered cairn at Harborough Rocks (Ward 1890, 109), approximately 1km to the north. The SMR also lists the possible stone circle on Brassington Moor and the Westward Stone at Wirksworth with a number of individual finds spots of stone tools and prehistoric pottery which confirm that this part of the Derbyshire Peaks was densely occupied throughout the Bronze Age period. There are only two definite barrows, recorded at Ows Low, Carsington and Big Lane, Hognaston, that lie within 3km of Carsington Pasture to the south of the Limestone Plateau.

The barrow on Carsington Pasture is typical of many in the Peak District, which were frequently constructed as individual earthen bowl barrows without a ditch, of 10 – 20m diameter (Barnatt 1996a, 26–27) with multiple burials, including both inhumation and cremation burials. Locally, within three kilometres of Carsington Pasture, Slipper Lowe, on Brassington Moor, measured approximately 11m in diameter and 0.30m high, and produced a primary inhumation associated with a Beaker and three other inhumations, although these are undated. At Moot Lowe, Bateman (1848, 51–2) excavated a barrow 14m in diameter and 1.2m high, which contained a crouched inhumation and a secondary cremation burial in a Collared Urn, with a rivetted bronze dagger.

The results of the excavation have shown other similarities with barrows on the Limestone Plateau relating to construction and use of the mound as a funerary monument. Barnatt (*ibid.*, 33) showed that 82% of the few dated sites from the Limestone Plateau were constructed over Late Neolithic or Bronze Age artefacts or inhumations. He also reassessed the results of 20th century barrow excavation archives on the Peak District (*ibid.*, 38) and showed that barrows of over 12m diameter consistently contained multiple burials with five or more individuals and that the total exceeded 20 burials in 40% of cases. He also showed that they were frequently of multiple phase construction (*ibid.*, 123), including some, Hind Low (Ashbee and Ashbee 1981), Wigber Low (Collis 1983), Harland Edge (Riley 1966) and Stanton Moor (Heathcote 1930) that were constructed with ‘crudely concentric kerbs’, that were later incorporated into the mound structure. Barnatt (1996a, 49) argued that that such kerbs, which could be of turf or stone construction, may have initially formed ‘open’ monuments, where a number of separate primary burials were placed within an ‘open’ ring prior to the construction of the mound.

The radio carbon determinations have shown that the barrow on Carsington Pasture is likely to have been constructed before 1500 BC. The excavation has also produced evidence for multiple burials, a possible primary juvenile inhumation, which may have been accompanied by the 'bronze object' (Barnatt 1996b, 215) placed on the Limestone pavement and a secondary cremation burial in a Biconical Urn, within less than a third of the mound area. There may have been several primary burials, which were placed within the turf stack ring and later covered by the mound. It is therefore possible to speculate that this too represents a multiple burial and multi-phase monument that underwent a prolonged period of use.

The evidence observed in the excavated section was unable to provide conclusive proof that the mound underwent subsequent major reconstruction.

The location for the monument appears, like many other funerary monuments of the period to have been selected with care. It occupied the lip of a steep east-facing slope, that lay in an area of open pasture and overlooked the head of a tributary valley of the former Scow Brook, now part of the Carsington Reservoir. The barrow lay east of the ridge of Carsington Pasture and would not have been visible from the valley of the Havenhill Dale Brook to the west. This valley is itself overlooked by three other barrows located along the Limestone Plateau edge. The Carsington Pasture barrow also lies at the extreme northern edge of land that could be observed from a turf-built barrow in the valley that was excavated at Big Lane, Hognaston in 1983 (Collis 1996). This barrow covered a primary cremation burial in an upright Collared Urn and produced a radio carbon determination of 3430 +/- 80 BP (1950-1530 BC), and possibly contemporary with the use of the Carsington Pasture barrow.

The barrow itself subsequently became a reference point in the planning of a later field system, which has been plotted (Guilbert 1994) from aerial photographs across Carsington Pasture down the limestone scarp to Carsington village. The barrow was incorporated in a curving earthwork, which can be traced from west of the barrow, curving south and showing no respect for the contour of the plateau edge. It is of stone construction and probably originally built as a wall. Guilbert concluded that this earthwork, which is abutted by a series of additional perpendicular boundaries, may have been of considerable antiquity and marked the initial land division on Carsington Pasture. Subsequent field boundaries were added to sub-divide the land and much of the area was incorporated into a medieval ridge-and-furrow open field system, with a possible parallel-sided drove-way and strip lynchets on the steep slopes overlooking Carsington village. Guilbert noted that the traces of ridge-and-furrow, especially on the plateau, are frequently faint, however the Time Team geophysical survey detected traces that were considered to represent ridge-and-furrow cultivation aligned parallel to the low bank.

### **The cremation burial**

Biconical Urns are best known from the 'Wessex culture' area of southern England and compare closely with pottery in Continental Europe from the Alps, southern Germany and the Rhineland (Gerloff 1975) to France and the Netherlands (Tomalin 1983). Tomalin's (1983; 1988) case for the migration of pots and people into southern Britain from the Continent towards the end of the Early Bronze Age has not been universally accepted (e.g. Burgess 1980, 125, but revised opinion in favour of British and French

Biconical urns representing cross-Channel contacts in Burgess 1987, 307–320; *contra* to Tomalin, Gibson sees biconical and handled pots as more closely related to Food Vessels – Gibson 2002, 101–3), but there is general acceptance that cross-Channel contacts increased with the development of widespread trade networks established with the introduction of metals. Tomalin has identified a number of urns as belonging to the earliest phase on the basis of form, decoration and fabric as Inception Series and Supplementary Series Biconical Urns and has suggested their arrival around the period of transition between Wessex 1 and 2 and the beginnings of Wessex 2 (Camerton-Snowhill – Gerloff 1975), about 1700 to 1600 cal. BC. However there are problems with firm dating of these urns because of a lack of dateable associated artefacts and radiocarbon dates. As part of the initial development of Biconical Urns in England during Wessex 2 Tomalin (1983; 1988) suggests the new forms were adopted by insular potters to produce Form 3 Biconical Urns, which are often indistinguishable in form and decoration except for their use of grog as the chief tempering material. Identification, therefore, is dependant on fabric analysis and further complicated by the fact that outside Wessex the characteristic flint tempering material of Tomalin's Inception and Supplementary Series would not necessarily have been obtainable.

The use of volcanic rock as inclusions in the Carsington urn could indicate a departure from the grog traditionally used by local Early Bronze Age potters (e.g. Beswick in Barnatt 1994, 314), and have served as a substitute in an area where flint was not obtainable geologically. The radiocarbon date for this burial also accords with Tomalin's dating of the earlier phase of Biconical Urn development. Furthermore, the probable association with Wessex style bone tweezers (see below) implies some form of direct or indirect connection with the 'Wessex culture' area. Such 'Wessex culture' associations with Biconical Urns are rare, especially outside Wessex, but two finds of gold-cased beads, comparable with Wessex gold work (Taylor 1980) are known. The first is the discovery of two beads found with a secondary cremation burial inside an inverted Biconical Urn at Great Bircham, Norfolk, and the second a bead from a Brecon cave, Powys, where a Biconical Urn domestic assemblage is also attested (Tomalin 1986, 112).

Parallels for the bone tweezers lie almost entirely in 'Wessex culture' burials. Proudfoot (1963) listed 12 examples from barrows in Wessex and another pair has been found with a cremation burial at Radley Hills, Oxfordshire, in the Upper Thames at the northern limit of 'Wessex culture' burials (Barrow I, Grave Pit 11: Barclay and Halpin 2000, 141–8, 285, 328). Radiocarbon dates suggest a range 1940–1750 cal. BC (68% confidence) (or 2040–1680 cal. BC, 95% confidence) (3520  $\pm$  70 BP, OXA-1886) which would accord broadly with the overlap period for Wessex 1 and 2 and with the upper end of the Carsington date range. Previously the only pair identified outside Wessex, prior to the Carsington discovery, were from Fort Harrouard, France, on the west side of the Paris Basin in association with biconical style pottery (Gerloff 1975, 240), and incidentally the only example known outside Britain. Tomalin (1983, 244–5) has pointed out that bronze razors feature among the few grave goods found with Biconical Urns and were probably used for removing facial hair, a practice which was likely to have been an overt expression of group identity. Bone tweezers are the only other depilatory instruments known for the period and are associated with male graves (Proudfoot 1963, 412–4, 424–5), although not directly with a Biconical Urn prior to the Carsington find. The only other tweezers found in the Peak District are very different in style. They are

triangular shaped and folded and were found with an unurned secondary cremation burial in a barrow on Bailey Hill, Hanson Grange, Staffordshire, in 1850 (Bateman 1861, 169–70). Like Carsington the site lies towards the southern end of the Peak District.

In southern England, Biconical Urns are usually associated with cremation burials often as secondaries in earlier barrows and with few associated finds. However, domestic biconical assemblages also occur, for example in East Anglia (Tomalin 1983) and the south-west, but in Wessex the urns are confined to burials peripheral to the Stonehenge area and on settlements pottery of the related Deverel Rimbury tradition is found (Healey 1995, 180). In contrast Biconical Urns are largely absent in the north where there is a rich variety of indigenous urns such as Collared and Cordoned Urns, Food Vessel Urns and Encrusted Urns. The Peak District is on the margins of this north/south divide.

Peak District Early Bronze Age pottery comprises predominantly Food Vessels and Collared Urns with occasional Cordoned Urns. Tomalin (1983, 301, 436) illustrates five simple bipartite vessels from Stanton Moor most of which appear to be closer to Cordoned Urns than to Biconicals. However, there are possibly two or three other Biconical Urns from the Peak District besides the Carsington urn. A probable Biconical Urn was found in a secondary cremation burial at Narrowdale Hill, Alstonefield, Staffordshire (Tomalin 1983, 322, 489–St B1) excavated by Thomas Bateman in 1846 (Bateman 1855, 89). This appears to have been a plain Biconical Urn with a tongue shaped lug on the shoulder. Heavy-handed 19th century restoration with plaster of Paris was perhaps responsible for the elongation of the neck and biconvex shape evident in Tomalin's illustration when compared with an original watercolour by Jewitt (*Relics of Primeval Life*, Bateman MS, Sheffield City Museum, B41 J2/15) which depicts an angled shoulder and a relatively short neck. Alstonefield, like Carsington Pastures, lies at the southern end of the Peak District, 12km north-west of Ashbourne. A second possible Biconical Urn from the Peak District was excavated in a cremation cemetery, containing mainly Cordoned Urns, at Eaglestone Flat, Curbar, east of the main gritstone scarp on the eastern side of the Derwent Valley (Barnatt 1994, 310, 316–7, 323). It was described as a hybrid urn and is a simple biconvex shape with an everted rim decorated with twisted cord herringbone. An elaborate network of cord impressed designs and applied loops, comparable with the horseshoe 'handles' on Wessex Biconical Urns, decorates the upper part of the body and these appear to be a skeuomorphic representation of a carrying device. Tomalin (1983, 48) attributes handled rope-work containers for pot carrying to Biconical Urn users which he suggests triggered the adoption of a skeuomorph response in the north of Britain among Form 3 Biconicals, and particularly in north and east Ireland and central Scotland among Encrusted Urns. Urn 7 from Eaglestone Flat could also be evidence of this response. Charcoal from under the associated cairn (cairn 273) gave an age range of 1737–1400 cal. BC (3250  $\pm$  80 BP, OXA-3090) (Barnatt 1994, 346), comparable with the range from the Carsington Pasture burial. The apparent contemporaneity of Biconical Urns with Collared Urns (barrow at Big Lane Hognaston, see above) and Cordoned Urns (Eaglestone Flat) raises interesting questions of social relationships, functions and detailed chronology of pot styles which at present archaeology cannot answer.

The general absence of Deverel Rimbury pottery north and west of the River Trent (Knight 2002, 123) appears to mirror the lack of Biconical Urns in the area, and

contrasts with lowland England where Biconicals were 'straightened' to become bucket urns of Deverel-Rimbury type, and continued through to the later second millennium BC. In the north it is thought that Cordoned Urns, arguably closely related to Collared Urns (Beswick in Barnatt 1994, 322; Gibson 2002, 102; *contra* Tomalin 1983, 124: where strong Biconical Urn influence is proposed) and simple bipartite shaped vessels continued (Burgess 1980, 94), possibly influenced by Collared Urn and by Biconical Urn shapes. Not until the later Bronze Age, in the first part of the first millennium BC, do tall, high shouldered vessels with finger tip decoration reappear, and these are generally thought to derive from Continental large bronze *situlae* of the Bronze Age/Iron Age transition (e.g. Gibson 2002, 112). In Derbyshire they are well represented at Mam Tor hillfort (Barrett in Coombs and Thompson 1979, 44–47) but the assemblage also includes sherds of a jar with applied 'horse shoe motifs' (*ibid.*, 38: fig. 23), found alone in a pit and described by Barrett as 'unparalleled' in the later Bronze Age (*ibid.*, 47). The pit (f), located on Platform 4 about half way along the eastern side of the hill, appears on the plan to be separate from the house structure and was not fully excavated (Coombs and Thompson 1979, 22–4). The unusual appearance of the fabric is described (*ibid.*, 33, 36) as hard with an outer surface bearing a slip or slurry, fairly consistently oxidised in firing and burnished. The incomplete neck slopes inwards to an everted rim. Thin-sectioning has shown that the fabric contains volcanic rock inclusions probably from local outcrops (Guilbert and Vince 1996, 53–4: sherd 23.4). This might just possibly be the remains of another Early Bronze Age Biconical Urn. Tomalin (1983, 134; 1988, 214) refers to gloss burnishing as an intrusive Amorican feature copied on a small number of Form 3 urns in the Wessex region and its seaboard, and there are two Early Bronze Age barrows within the circuit of the hillfort (Coombs and Thompson 1979, 10, 11).

Both the urn and the tweezers from the Carsington barrow appear to be intrusive artefacts on the Peak District scene in the Early Bronze Age with links to Wessex and ultimately possible Continental connections. Together with the other two or possibly three Biconical Urns identified they may represent the presence of people linked to cross-Channel trade networks, possibly prospectors, who were searching and exploiting metal ores in the Peak District. The presence of copper ores is known along the Manifold Valley (Garner 1844) on the western side of the Peak District, and their exploitation in the Early Bronze Age at Ecton Hill is attested by the discovery of stone mauls (Bateman Collection, Sheffield Museum) and more recently an antler tool, radiocarbon dated to between 1880 and 1630 cal. BC (3445 ± 35 BP, OXA-7466) (Barnatt and Thomas 1998). Other copper sources used in prehistory include nearby Alderley Edge, Cheshire, and further to the west Great Orme, Llandudno, and other sites in Wales. Later in the Bronze Age Peak District lead may also have been exploited.

## CONCLUSIONS

The small excavation of the bowl barrow at Carsington Pasture produced important results that contribute to the wider regional, topographical and chronological picture. It has also produced a closely-dated secondary urned cremation burial that carries important implications for the use, typology and date of Bronze Age cremations and burial practice in the Peak District.

The site archive, with the unique site code CPC 02 includes individual context and finds records, drawings and a photographic record with detailed specialist reports. This material has been deposited with the finds at Buxton Museum and Art Gallery, where it has been accessed as DERSB:2004.7.

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## REFERENCES

- Annable, F.K. and Simpson, D.D.A. (1964) *Guide Catalogue of the Neolithic and Bronze Age Collections in Devizes Museum*. Devizes. Wiltshire Archaeological and Natural History Society.
- Ashbee, P. and Ashbee, R. (1981) A cairn on Hindlow, Derbyshire: excavations, 1953. *DAJ* 101: 9–41.
- Ashwin, T. and Bates, S. (2000) Excavations on the Norwich Southern Bypass, 1989–91. Part 1: Excavations at Bixley, Caistor St Edmund, Trowse, Cringleford and Little Melton. *East Anglian Archaeology* 91.
- Barclay, A. and Halpin, C. (2000) *Excavations at Barrow Hills, Radley, Oxfordshire. Volume 1: The Neolithic and Bronze Age Monument Complex*. Oxford Archaeological Unit. Thames Valley Landscapes Volume 11.
- Barnatt, J. (1994) Excavation of a Bronze Age Unenclosed Cemetery, Cairns, and Field Boundaries at Eaglestone Flat, Curbar, Derbyshire, 1984, 1989–1990. *Proceedings of the Prehistoric Society* 60: 287–370.
- Barnatt, J. (1996a) Barrows in the Peak District: a Review and Interpretation of Extant Sites and Past Excavations. In J. Barnatt and J. Collis 1996: 3–94. Sheffield. J. R. Collis.
- Barnatt, J. (1996b) Barrows in the Peak District: a Corpus. In J. Barnatt and J. Collis 1996: 171–262. Sheffield. J. R. Collis.



- Barnatt, J. and Collis, J. (1996) *Barrows in the Peak District. Recent Research*. Sheffield. J.R. Collis.
- Barnatt, J. and Thomas, G. H. (1998) Prehistoric Mining at Ecton, Staffordshire; a dated antler tool and its context. *Mining History* vol. 13 part 5: 72–78.
- Barrett, J. (1979) The pottery – discussion. In D. G. Coombs and F. H. Thompson 1979. *DAJ* 99: 44–47.
- Bateman, T. (1848) *Vestiges of the Antiquities of Derbyshire*. London.
- Bateman, T. (1855) *A descriptive Catalogue of the Antiquities and Miscellaneous Objects preserved in the Museum of Thomas Bateman at Lomberdale House, Derbyshire*.
- Bateman, T. (1861) *Ten Years' Diggings in Celtic and Saxon Grave Hills in the Counties of Derby, Stafford and York, from 1848 to 1858*. London and Derby. (Reprinted 1978 – Moorland, Buxton).
- Beek, G.C. van (1983) *Dental Morphology: an illustrated guide*, Wright PSG Bristol.
- Bemrose, H. H. A. (1894) On the Microscopical Structure of Carboniferous Dolerites and Tuffs. *Quarterly Journal of the Geological Society* 50 part II: 625–641.
- Beswick, P. (1994) Prehistoric Pottery. In J. Barnatt 1994. *Proceedings of the Prehistoric Society* 60: 314–324.
- Buikstra, J.E. and Ubelaker, D.H. (1994) *Standards for data collection from human skeletal remains*. Arkansas Archaeological Survey Research Series 44.
- Burgess, C. (1980) *The Age of Stonehenge*. Dent. London.
- Burgess, C. (1987) Les rapports entre la France la Grande Bretagne pendant L'Age du Bronze. *Les relations entre le Continent et les Illes Britannique a l'Age du Bronze*. Supplement to Review Achaeologique de Picardie. Amiens.
- Chamberlain, A.T. (1999) Carsington Pasture Cave, Brassington, Derbyshire: a Prehistoric Burial Site. *Capra* 1.
- Collis, J. (1983) *Wigber Low, Derbyshire: A Bronze Age and Anglian Burial Site in the White Peak*. Sheffield: University of Sheffield.
- Collis, J. (1996) A Bronze Age Barrow at Hognaston, Derbyshire. In J. Barnatt and J. Collis 1996: 137–170. Sheffield. J.R. Collis.
- Coombs, D. G. and Thompson, F. H. (1979) Excavation of the Hillfort of Mam Tor, Derbyshire 1965–69. *DAJ* 99: 7–51.
- Gale, R. and Cutler, D. (2000) *Plants in Archaeology*, Westbury and Royal Botanic Gardens, Kew.
- Garner, R. (1844) *The Natural History of the County of Stafford*.
- Gejvall, N.G. (1969) Cremation. In D. Brothwell and E. Higgs (eds). *Science and Archaeology*. London: Thames and Hudson, 468–479.
- Gerloff, S. (1975) The Early Bronze Age dagger in Great Britain and a reconsideration of the Wessex Culture. *Præhistorische Bronzefunde* VI/2. Beck'sche Verlagsbuchhandlung. Munchen.
- G.S.B. Prospection (2002) Carsington Pasture, Derbyshire. Unpublished Client Report 2002/56.
- Gibson, A. (2002) *Prehistoric Pottery in Britain and Ireland*. Tempus. Stroud.
- Guilbert, G. (1994) Archaeological Reconnaissance on Carsington Pasture, Derbyshire. Unpublished document held by Derby. S.M.R.
- Guilbert, G. and Vince, A. (1996) Petrology of some Prehistoric Pottery from Mam Tor. *DAJ* 116: 49–59.

- Healey, F. (1995) Pots, pits and peat: ceramics and settlement in East Anglia. In *'Unbaked Urns of Rudely Shape' Essays on British and Irish Pottery for Ian Longworth*: 173–184. Oxbow Monograph 55. Oxford.
- Heathcote, J.P. (1930) Excavations at barrows on Stanton Moor. *DAJ* 51: 1–44.
- Hoare, R.C. (1812) *The Ancient History of Wiltshire* 1. London: William Miller.
- Holden, J.L., Phakley, P.P. and Clement, J.G. (1995a) Scanning electron microscope observations of incinerated human femoral bone: a case study. *Forensic Science International* 74: 17–28.
- Holden, J. L., Phakley, P. P. and Clement, J. G. (1995b) Scanning electron microscope observations of heat-treated human bone. *Forensic Science International* 74: 29–45.
- Knight, D. (2002) A Regional Ceramic Sequence: Pottery of the First Millennium BC Between the Humber and the Nene. In A. Woodward and J. D. Hill *Prehistoric Britain, The Ceramic Basis*: 119–142.
- Lawson, A. (ed.) (1986) *Barrow Excavations in Norfolk 1950–82*. East Anglian Archaeology 29.
- Mays, S. (1998) *The Archaeology of Human Bones*. London: Routledge.
- McKinley, J. I. (1994a) *The Anglo-Saxon cemetery at Spong Hill, North Elmham Part VIII: The Cremations*. East Anglian Archaeology No. 69.
- McKinley, J. I. (1994b) Bone fragment size in British cremation burials and its implications for pyre technology and ritual. *Journal of Archaeological Science* 21: 339–342.
- McKinley, J. I. (1997) Bronze Age 'Barrows' and the Funerary Rites and Rituals of Cremation. *Proceedings of the Prehistoric Society* 63: 129–145.
- McKinley, J. I. (2000) The Analysis of Cremated Bone. In M. Cox and S. Mays (eds.) *Human Osteology*. Greenwich Medical Media: 403–421. London.
- McMinn, R.M.H. and Hutchings, R.T. (1985) *A colour atlas of human anatomy* London: Wolfe Medical Publications.
- Percival, S. (2000) Pottery. In Ashwin and Bates 2000: 42–44.
- Proudfoot, E. V. W. (1963) Excavation of a Round Barrow in the Parish of Edmondsham, Dorset. *Proceedings of the Prehistoric Society* 29: 295–425.
- Riley, D.N. (1966) An Early Bronze Age cairn on Harland Edge, Beeley Moor, Derbyshire. *DAJ* 86: 1–13.
- Rogers, J, Waldron, T., Dieppe, P and Watt, I. (1987) Arthropathies in Palaeopathology: the basis of classification according to most probable cause. *Journal of Archaeological Science* 14: 179–193.
- Rogers, J. and Waldron, T. (1995) *A field guide to Joint Disease in Archaeology*. Chichester: Wiley.
- Taylor, J. J. (1980) *Bronze Age Goldwork of the British Isles*. 2 vols. Cambridge.
- Tomalin, D. J. (1983) *British Biconical Urns: Their Character and Chronology and Their Relationship with Indigenous Early Bronze Age Ceramics*. Unpublished PhD Thesis, University of Southampton.
- Tomalin, D. J. (1986) Garboldisham 1963. In A. Lawson 1986: 110–112.
- Tomalin, D. J. (1988) Amorican Vases a Anse and Their Occurrence in Southern Britain. *Proceedings of the Prehistoric Society* 54: 203–221.
- Ward, J. (1890) On Some Diggings Near Brassington, Derbyshire. *DAJ* 12: 109.