

# A BRONZE SHIELD FRAGMENT AND SPEARHEAD FROM ELVASTON QUARRY, DERBYSHIRE

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## SUMMARY

Two Bronze Age metalwork artefacts were recovered from the conveyor belt at Elvaston Quarry, Derbyshire in 1985, together with a human skull and various animal bones. The metalwork comprised a fragment of a Yetholm type shield and a large Class IIIa spearhead, basal looped with triangular blade. The circumstances of the recovery suggest that all the items were associated but, by the nature of the extraction process, any stratigraphic relationship was lost. The location of the site adds to the growing evidence of riverine metalwork deposition in the South Derbyshire Trent Valley. The details of this find have not previously been published.

## CIRCUMSTANCES OF RECOVERY

On June 3rd 1985, quarry operatives at Tarmac's Elvaston Quarry spotted a large spearhead and a human skull on the conveyor belt. They immediately stopped the belt and phoned the Derbyshire Museum Service. Two members of the Elvaston Castle Estate Museum staff went to the site and recovered the spearhead and skull, and removed other items of archaeological interest from the same section of the conveyor belt. These included the shield fragment and a quantity of animal bone. The quarry face, from which the material had been extracted, was inspected and proved to be a vertical section to a depth of 13m. No structures were evident in the quarry face, and all the material on the belt was the result of a single pass of the grab (M. Tong *pers. comm.* January 2001).

At the time of the find, Elvaston Quarry was located on the south side of the Draycott-Sawley Road, opposite the reservoir (Fig. 1). The site was on low-lying land, adjoining the north bank of the River Derwent, and 1.5 km from its confluence with the River Trent. The grid reference of the find spot is estimated at SK 4517 3268 (M. Tong, based on a site visit, January 2001). The site was likely to have been crossed by braided, mobile channels in the Bronze Age, since palaeochannels were observed in this section of the quarry, and were mapped immediately to the south around Church Wilne where a rescue excavation was carried out (Knight & Howard 1995, 101 and 109, fig. 5:2). Channel mobility is a common feature in the floodplain surrounding the confluence of the Trent and Derwent as further demonstrated by the palaeochannels at Hemington Quarry (Salisbury 1992, 158, fig. 14:2) and Shardlow Quarry (unpublished map, C. Salisbury, August 2002). Work at the quarry location of the 1980s has now ceased, and the area is covered with landfill and planting. The Elvaston Quarry operation has moved on, and is presently located south of the River Derwent, next to the A6 between Thulston and Shardlow (Grid reference SK 42 31).

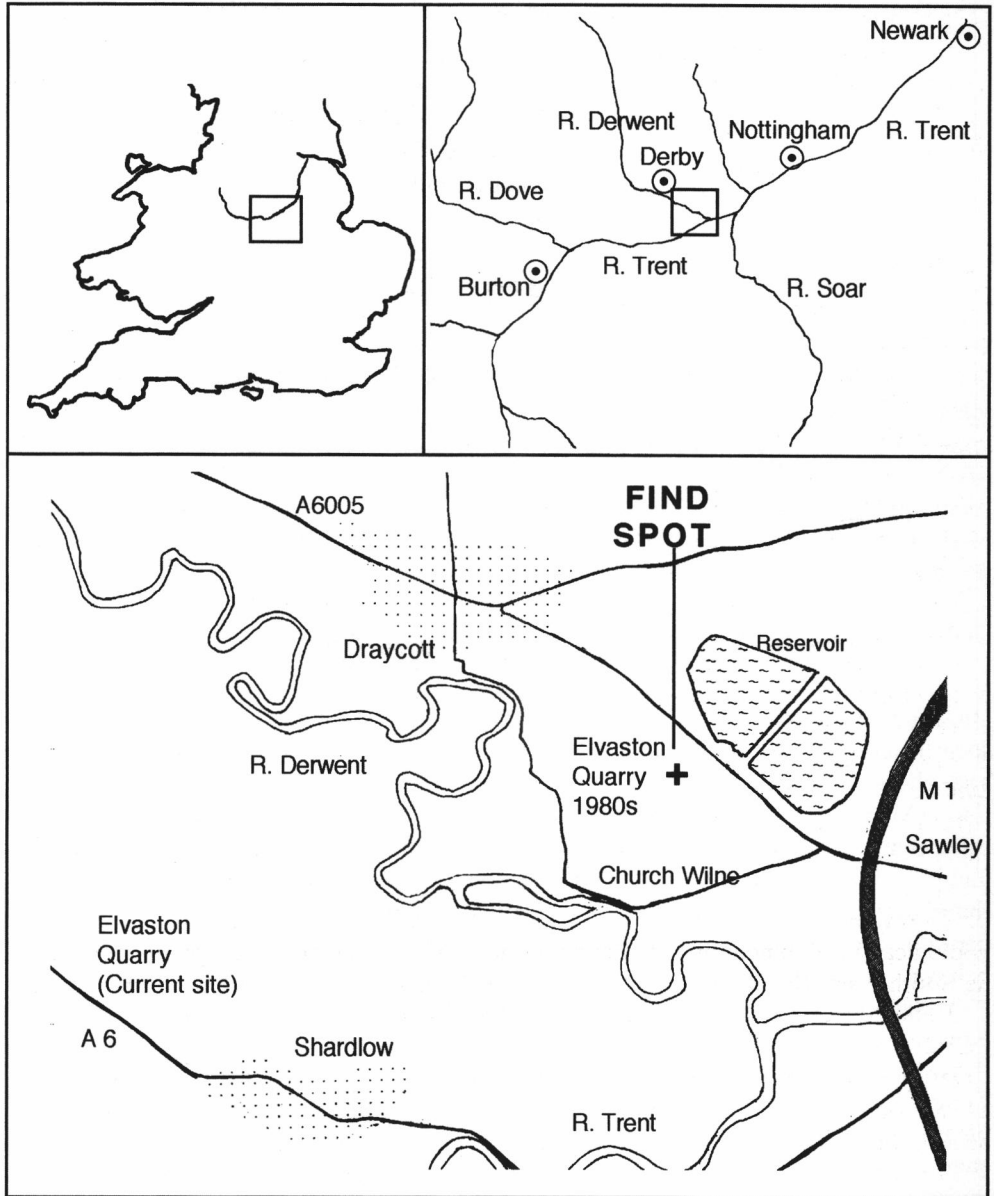


Fig. 1: Location of Elvaston Quarry and the find spot.

The metalwork, human and animal remains were taken to Derbyshire Museum Services at Buxton Museum, and the spearhead was subsequently sent on to Doncaster Museum laboratory for conservation. All this material is now held in the Buxton Museum collection.

As a footnote to this find, Elvaston Castle Estate Museum received a phone call from the Quarry six months later in December 1985, reporting that a complete bronze shield

had just been found on the conveyor belt, and had been put aside under the conveyor. A member of the Museum staff immediately drove over to the Quarry, but the shield had been stolen in the short time that it had taken the operative to make the phone call in the site office. The description of the artefact matched that of a Bronze Age shield, roughly 600mm in diameter (M. Tong *pers. comm.* January 2001).

## THE FINDS

### The shield

The shield fragment (Fig. 2) is roughly rectangular in shape, measuring 84mm by 98mm and weighing 32g. The decoration on the surface of the shield fragment consists of twelve raised concentric ribs alternating with rows of small circular bosses. This decoration is typical of the Yetholm type shield. The fragment does not extend either to the rim or to the centre of the complete shield, but by projecting the arc described by the decoration, it can be determined that the shield would have had a diameter in excess of 390mm. The original diameter is likely to have been considerably greater because examples of other Yetholm type shields range from 457mm to 705mm in diameter (Coles 1962, 187; nos 8 and 32).

Weathering at the edges indicates that the shield was broken in antiquity. Beaten sheet bronze is thin and would break up easily once the integrity of the shield's structure had been destroyed. The straight edges of the breaks suggest that the fragment had been purposefully folded and snapped apart. A close watch on the conveyor belt was kept after the initial find, but no other fragments of the shield were found. However, there was no metal detection equipment on the belt and small pieces might easily have passed unnoticed.

Beaten bronze shields from the Bronze Age are rare in central, northern and western Europe. Some thirty-five have been recovered in the British Isles, the main source of these artefacts (Coles 1962; Needham 1979; Coles *et al.* 1999). The Yetholm type is the most prevalent, accounting for twenty of the British Isles series. Coles detected a typological development in Yetholm type shields with the smaller examples coming from the South East, the Thames Valley and East Anglia, and the larger examples coming from north of a line from the Trent to Mid Wales and stretching up to Aberdeen (Coles 1962, 165–66).

Dating of beaten bronze shields has proved notoriously difficult, as the only secure associations have been with other shields. Coles considered the eighth century BC to be the most likely date of development and exploitation of these shields. The date was based on Continental analogies with other metalwork types such as *phallerae* and buckets, on rock engravings from south-west Iberia, and on the use of concentric circles in decoration (Coles 1962, 166). A shield from Langwood Fen, Chatteris, Cambridgeshire, recovered in 1870, was found during ploughing in the same field as a leaf shaped, basal looped spearhead, which is normally attributed to the fourteenth and thirteenth centuries BC. However, the association was not considered secure, and has generally been discounted (Coles 1962, 166).

Further dating evidence has come from a Nipperwise type shield found in 1977 in the Thames at Long Wittenham, Oxfordshire. This had a lozenge-shaped perforation on its face which is characteristic of spearhead types produced in the Middle Bronze Age and

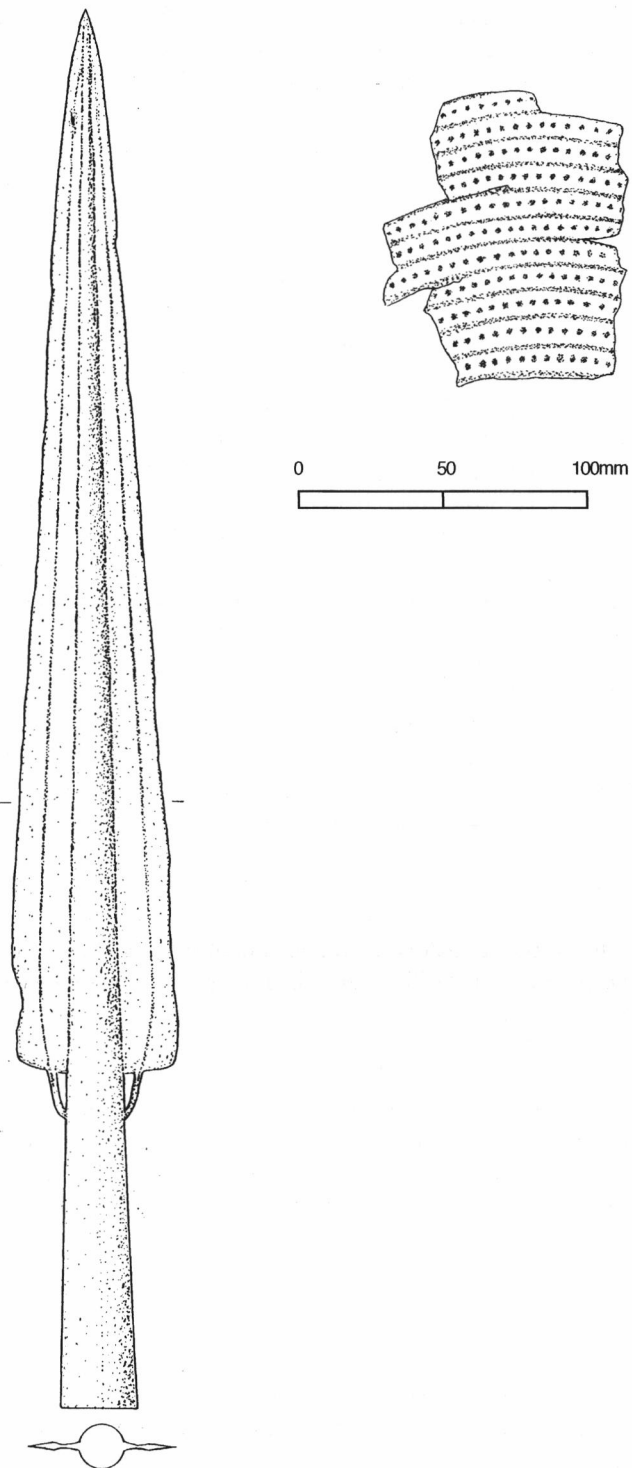


Fig. 2: Spearhead and shield fragment, found at Elvaston Quarry, June 1985.

Late Bronze Age 1 (Needham 1979, 129). This evidence, together with further analysis of the typological development of Central and Northern European shields, led Needham to push back the initial production of beaten bronze shields to the later part of the Middle Bronze Age (Needham 1979, 132).

A Yetholm type shield was found in December 1997 at South Cadbury, Somerset. Late Bronze Age pottery was recovered from the same level of the ditch as the shield, but no more precise a date range could be placed on the shield than 1100–700BC (Coles *et al.* 1999, 37 and 44).

### **The spearhead**

The Elvaston Quarry spearhead (Fig. 2) is identified as Class IIIa, basal-looped with triangular blade (Greenwell & Brewis 1909, 459, and figs. 22, 23). A clear differentiation within Class IIIa has been made between those with leaf-shaped blades and those with triangular blades, with the former considered the earlier type, and the latter an evolution of it (Ehrenberg 1977, 11). Ehrenberg estimates the period of production of the Class IIIa leaf-shaped blades extended from 1400BC to 1150BC. The triangular blade's main period of production was put at 1200–1000BC (Ehrenberg 1977, fig. 2). A further and distinctive Irish and Scottish evolution of the triangular bladed spearhead continued into the late Bronze Age (Ramsey 1989, Vol 1, 81). The Oxford Radiocarbon Accelerator Programme analysed the wooden shafts of four spearheads of the Elvaston Quarry type — from Isleworth, St Ives, Fairford and Mortlake. The results indicate that the start of production should be pushed back at least to the beginning of the thirteenth century BC (Needham *et al.* 1997, table 1). A number of British hoards contain spearheads of the Elvaston type. These include Ambleside, Appleby, Burringham, Maentwrog, Farnley, Shelf and Wallington. All are attributed to the Penard industrial phase or the Wallington Complex in Northern England, which Needham considered to be contemporary, and dated to the period 1200–1000 BC (Needham 1990, 266).

The Elvaston spearhead has a triangular blade with horizontal base and blade ribs aligned to the blade edges; the midrib is circular; the loops are below the blade and have rectangular plates. There is a hole in the socket below the blade and another in the midrib midway up the blade (on the reverse side to that illustrated in Fig. 2). The blade edges are damaged, suggesting continued usage. The spearhead has an overall dark patina, different in appearance to the lighter and duller surface of the shield fragment. This variance may be caused either by different deposition conditions, or because the spearhead was conserved on recovery whereas the shield was untreated. A section of wooden shaft was found in the socket, and has been preserved.

The Elvaston spearhead is the second largest out of twelve Class IIIa spearheads, basal-looped with triangular blade, that have been recovered from the River Trent (Table 1).

### **The human and animal bones**

The human skull found next to the spearhead is of an adolescent *homo sapiens sapiens*, and is in good condition. The sixty-one animal bones are predominantly from ox and red deer. There are butchery marks on some of the ox bones. A single horse bone was identified. No detailed research has been carried out on this material beyond identification of the individual bone and animal types.

| Location            | SMR or Museum no.     | Length<br><i>mm</i> | Width<br><i>mm</i> | Weight<br><i>g</i> |
|---------------------|-----------------------|---------------------|--------------------|--------------------|
| Attenborough        | Notts SMR 00562a      | 564                 | 64                 | 442                |
| *Elvaston Quarry    | Buxton Museum EQ2     | 484                 | 53                 | 368                |
| Bottesford Moor     | North Lincs SMR 1044  | 442                 | 50                 | 410                |
| Clifton             | Notts SMR 01011       | 412                 | 63                 | 422                |
| River Trent, Derbys | Derby Museum 1973–825 | 396                 | 52                 | 433                |
| Attenborough        | Notts SMR 00562a      | 392                 | NA                 | NA                 |
| Hoveringham         | Notts SMR 01412       | 372                 | 48                 | NA                 |
| Colwick             | Notts SMR 00958       | 289                 | 49                 | 354                |
| Drakelow            | Derbys SMR 422110033  | 233                 | 58                 | 260                |
| Burringham Hoard    | North Lincs SMR 1344  | 222                 | NA                 | NA                 |
| Clifton             | Notts SMR 06811       | 190 estimated       | 43                 | 80                 |
| Burringham Hoard    | North Lincs SMR 1344  | 150 estimated       | NA                 | NA                 |

*Table 1: Comparative sizes of Class IIIa spearheads, basal-looped with triangular blade, from the River Trent. Sources: County Sites and Monuments Records (SMR) and Museum Records.*

## DISCUSSION

### Dating issues

The artefacts were recovered close together on the conveyor belt, as the result of a single pass of the grab. Although this suggests that the artefacts were probably deposited together, it cannot be considered a secure association because the stratigraphy was destroyed in the extraction process. The dates now attributed to Yetholm type shields are 1100–700BC, and to Class IIIa spearheads with triangular blades of the Elvaston type are 1300BC–1000BC, as described above. If indeed the two artefacts were deposited together at a time when both were in current production, then the overlap period is 1100BC–1000BC, which gives support to the lowering of beaten bronze shield dating in Needham (1979) and Coles *et al.* (1999). The Long Wittenham shield with its lozenge shaped perforation, referred to above, provides a similar indication that beaten bronze shields were contemporary with spearheads from the Middle Bronze Age/Late Bronze Age I. The potential exists for confirmatory radiocarbon dating of the Elvaston material with the availability of the wooden shaft from the spearhead, the human skull and the animal bones.

### Metalwork deposition in the Trent

The concentration of high status metalwork in rivers and bogs has been noted in Northern Europe, and has been attributed primarily to ritual deposition (Torbrügge 1971; Bradley 1998). In the British Isles, metalwork deposition in rivers has been documented for the Thames (Ehrenberg 1980; Needham & Burgess 1980) and more recently for the Trent (Scurfield 1997; Davis 1999). In the case of the Trent, 172 metalwork artefacts have been identified with a preponderance of large and impressive spearheads, rapiers, swords and shields. 55% of the assemblage is accounted for by weapon types, while axes account for only 45% (SMRs, Museum Records and author's research).

There is a concentration of high status metalwork from the section of the Trent centred on the Nottingham conurbation, which includes Attenborough, Clifton, Colwick and Holme Pierrepont. The 67 artefacts from this 20km section represent 39% of the total Trent assemblage. This level of recovery has occurred as a result of extensive river dredging and gravel quarrying. Aerial photography and subsequent excavation have demonstrated that the floodplain between the Trent's confluence with the Dove and the Derwent contains a large number of Neolithic and Early Bronze Age archaeological features (Hughes 1961, 149–50; O'Brien 1978). It might be anticipated that the proliferation of field monuments would be matched by a metalwork concentration from the river, but this has not yet proved to be the case. Only seventeen artefacts have been recovered from this 25km section of the river and its immediate floodplain. The explanation may well be recovery bias rather than absence of deposition, in that there has never been a regular dredging programme for the Trent above Shardlow because water borne transport has been directed through the nearby canal system. However, recent quarrying has led to an increase in the known assemblage of high status metalwork from the area, with the shield fragment and spearhead from Elvaston Quarry in 1985 and the recovery of nine metalwork artefacts from Shardlow Quarry in 1997–2002 (Derby Museum L1998–456, and Hanson Aggregates).

River burial is one of the reasons attributed to ritual metalwork deposition in rivers. The association of human skulls with high status metalwork from the Thames has been argued by Bradley and Gordon (1988). In the Trent, human skulls have been recovered from Clifton Grove and Langford Lowfields, suggesting river burial, but there is no direct association with metalwork deposition in these cases (Phillips 1941, 134; Garton *et al.* 1995, 9). The recovery of a human skull with the spearhead and shield on the Elvaston Quarry conveyor provides possible evidence of a connection between human burial and high status metalwork deposition in a riverine environment in the Trent.

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