

THE POLISHED STONE AXE AND FLINTWORK FROM FISSURE CAVE, HARTLE DALE, NEAR BRADWELL, DERBYSHIRE

By J. A. GILKS

INTRODUCTION

The excavation of Fissure Cave (SK 165803) by Mr. A. L. Pill of Bamford between 1961 and 1963 produced one of the most important assemblages of Later Neolithic and Bronze Age pottery yet found in a Peak District cave.

Its publication in (Gilks 1990) was soon followed by a study of the Holocene mammalian fauna from not only Fissure cave, but also New Cave, which is located immediately above the former (Hamshaw-Thomas 1997). Earlier Mr. Hamshaw-Thomas had examined, but not published, the animal remains from both sites and also, importantly the human bones from Fissure Cave (Hamshaw-Thomas *c.* 1994).

Also found by Mr. Pill was a small polished stone axe, some worked flints and a small amount of flint and chert debitage, which form the subject of this paper.

THE FINDS

Polished stone axe (Fig. 1.1)

The axe was found outside the cave in 1962 (A. L. Pill *pers. comm.* 1976) in layer 3, a deposit of yellow clay and limestone gravel with some re-deposited calcium carbonate 0.23m thick, which also produced prehistoric pottery (Gilks 1990), almost all of the flintwork, and the bulk of the human and animal bones (Hamshaw-Thomas *c.* 1994; 1997).

The axe's present location is unknown but a copy of a drawing (Pill 1963, fig. 1) given by Mr. Pill to the author has been copied for this report. However, this is inaccurate in as far as the overall length of the blade varies from 87mm in plan to 92mm in profile. The maximum breadth is 49mm and the thickness 25mm. It is evident from the drawing that the central area of the blade and the cutting edge have been ground smooth, whilst the pointed butt and the lateral edges have been re-chipped, suggesting that, like many such axes, it had been broken and re-chipped at least once. There is no record of its surface colour or excavated condition.

The axe, or more likely a section cut from it by Mr. Pill or one of his associates, was submitted in 1962 to Dr. Ray Dearnley of the Petrographical Department, Geological Museum, South Kensington (now the British Geological Survey, Nottingham) for identification. Dr. Dearnley reported (Pill 1963, 9 Appendix 1; Howe *pers. comm.*):

The stone axe thin section has now been identified. It is an epidotic crystal tuff consisting dominantly of epidote and broken feldspar grains with a matrix of clay minerals and sericite. The specimen is comparable with crystal tuff of Borrowdale Volcanic Series type (e.g. it is somewhat similar to Pike o' Stickle tuff [Group VI, author's entry], which is a well known source

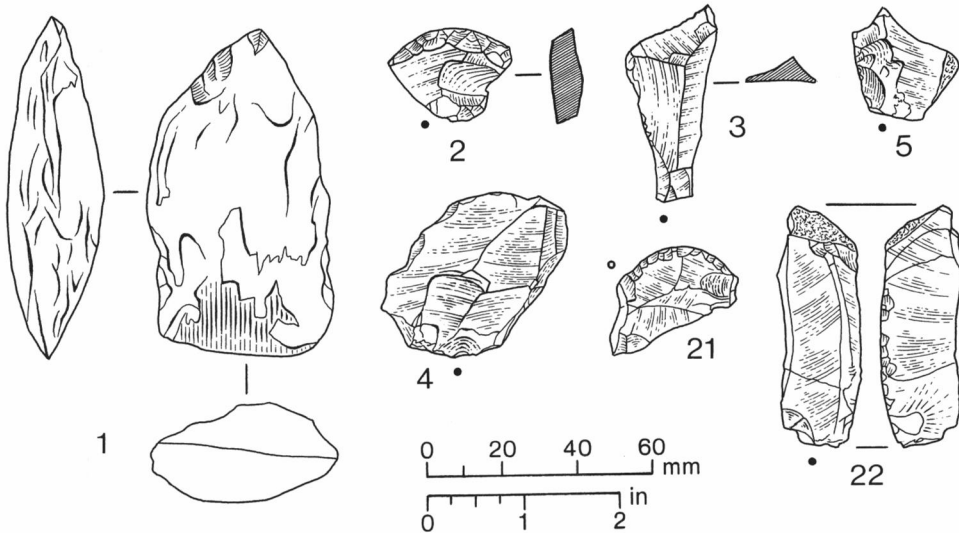


Fig. 1: Fissure Cave. 1 — polished stone axe; 2 — scraper; 3–5 — utilised flakes. New Cave. 21 — scraper; 22 — flake knife.

of stone axes), but this should not be taken to imply that the axe originated there since it is also similar to some Pre-Cambrian (Uriconian) tuffs of Shropshire.

Since the early 1960s many hundreds of stone axes from Derbyshire and neighbouring counties have been thin-sectioned and identified as Group VI, which not surprisingly is the most common group found in the north of England, making it highly probable that the Fissure Cave axe belongs to this group. Two other Derbyshire Group VI axes are from caves; one from Fox Hole (Bramwell 1971, 10, fig. 3.3) and the other from Treak Cliff (Armstrong 1923, 128, fig. 3) (both axes in Clough and Cummins 1988, 189).

Flintwork

A number of humanly struck flints were found both outside and inside the fissure. A typed *Progress Report* (No. 3, 1963) by Mr. Pill in Sheffield City Museum, records the discovery of a 'number of large flint flakes', while in a published summary of the excavations (Pill 1963, 7) he states that:

The most clearly defined flint implement is an Early Bronze Age scraper from the fissure and some proportion of the flints found outside the cave have been used as tools, despite a general lack of purposeful working and symmetry.

Neither of these reports tells us a great deal about the flintwork, other than that one of the pieces recovered was a scraper.

The author attempted to clarify the situation between 1975 and the mid 1980s and in one conversation Mr. Pill described recovering a 'flint knife, two flint scrapers (one of disc type) and five other worked pieces' (Gilks 1990, 8–9).

This would give a total of eight flints, although twenty, including a quantity of chert flakes, were with the prehistoric pottery donated by Mr. Pill to Sheffield City Museum (accession number SHEFM: 1995.79.2).

Figure 1

- 2 End scraper. Tertiary flake, dark grey (10YR 4/1) flint with grey (0YR 5/1) spot on ventral surface; steep retouch on distal end, which also displays utilisation damage and dull polish; some dorsal thinning on the right lateral margin and coarse retouch on the right lateral edge of the ventral surface. Scraping angle 50 degrees. FC/F/3/9
- 3 Tertiary flake, light grey (10YR 7/2) flint triangular cross-section, utilisation damage on the distal end and left lateral edge. FC/B1/3
- 4 Thin tertiary flake, almost white (10YR 8/1 to 8/2) flint, utilisation damage to left lateral edge. FC/B1/3
- 5 Tertiary flake, white (10YR 8/1) flint, with light grey (2.5Y N7/) band, cortex patch on right, steep invasive retouch and edge damage to left lateral margin, distal break. FC/F/1/-/-

Not illustrated

- 6 Primary flake, good quality very dark grey (5YR 3/1) flint, very pale brown (10YR 7/3) cortex. FC/F/3/8/6
- 7 Primary flake, very dark grey (7.5YR N3/) flint, with light yellowish brown (10YR 6/4) cortex, distal break. FC/F/3/8/6
- 8 Primary flake, white (5YR 8/1) flint, with pinkish grey (5YR 6/2) cortex. FC/F/3/5
- 9 Secondary flake, approximately white (10YR 8/2) flint, with brown (10YR 5/3) cortex patch. FC/B1/2
- 10 Tertiary flake, poor quality very pale brown (10YR 7/3) flint. FC/F/3/8
- 11 Tertiary flake, very pale brown (10YR 7/3) flint with very strong brown (7.5YR 5/6) iron staining on both faces. FC/F/5
- 12 Two ?tertiary flakes, very pale brown (10YR 7/4) flint. FC/B/3 and FC/F/5
- 13 Flake, very poor quality, approximately white (10YR 8/2) flint, outer surface light grey (10YR 7/1). FC/B1/3
- 14 Tertiary flake of good quality, glossy, very dark grey (10YR 3/1), chert. FC/B1/3
- 15 Flake of very dark grey (2.5Y N3/) chert. FC/B/3
- 16 Flake of very dark grey (2.5Y N3/) chert, with dark grey (10YR 4/1) surfaces. FC/F/3/4
- 17 Flat fragment of very dark grey (7.5YR N3/) raw chert, with yellowish brown (10YR 5/4) surfaces; narrow flake scars down one lateral edge. FC/B1/3

Numbers	Layer
<i>Found outside fissure</i>	
9	2
3, 4, 12, 13, 14, 15, 17	3
<i>Found inside fissure</i>	
2, 6, 7, 8, 10, 16, ?18	3
11, 12, 19	5

Table 1: Distribution of flint and chert artefacts according to context.

Note: No. 5 was found during sieving outside the fissure, whilst no. 20 has no provenance.

- 18 Small flake of very dark grey (7.5YR N3/) chert. FC/?F/3/4
 19 Small flake of very dark grey (2.5Y N3/) chert, battered along one edge. FC/F/5

Possibly from Fissure Cave

- 20 Tertiary flake, light grey (5YR 7/1) flint.

Raw Materials

Chert

This is generally of good quality, exclusively very dark grey, indeed almost black, whilst several flakes, such as no. 14, exhibit a glossy surface. The source of this chert is unknown, but might well have originated in the Carboniferous Limestone in the immediate vicinity of the cave. Chert has also been widely mapped in the limestone of Monsal Dale and Eyam, whilst it is found in small rolled pieces in the Trent gravels.

Flint

The flint is of variable quality. The dark grey, and good quality very dark grey (translucent) flint, which possesses a light yellowish-brown to very pale brown cortex, is probably derived from the Trent floodplain gravel deposits, whilst the light grey and white flints probably originated from the Lincolnshire Wolds.

Dating

No evidence was recovered from the fissure excavation to suggest that any reduction of raw materials had taken place on site, other than the flat piece of chert with flake scars down one lateral edge (no. 17).

Little of value can be added about the flint debitage recovered by Mr. Pill from his layers 5 and especially 3, other than that whilst none would be out of context in a Neolithic upland industry, the presence of so much good quality chert, often a major component of Later Mesolithic Pennine industries, strongly suggests a Later Mesolithic ascription for most of the debitage.

The most diagnostic tool in the assemblage is the retouched, partly edge-polished, flint scraper (Fig. 1.2), which has many parallels from Later Neolithic Britain. It is almost certainly one of two scrapers mentioned by Mr Pill, this one coming from the fissure itself, whilst the other is just possibly the tertiary flake with invasive retouch (Fig. 1.5). Both pieces exhibit utilisation damage along the retouched edges, as do two tertiary flakes (Fig. 1.3 and 4). This type of damage is perhaps consistent with scraping/cutting of hard materials, such as bone, antler or wood. However, Hamshaw-Thomas observed that there was an almost total absence of human modification, such as cut marks on any of the animal bone from Fissure Cave or New Cave (1997, 37–42). New Cave also produced a flint scraper and knife (Fig. 1. 21 and 22: and Appendix) of Later Neolithic or Earlier Bronze Age date.

Absent from the assemblage is the flint ‘knife’ which was retained by the excavator, according to a letter sent by Mr. Pill (15 November 1989) to Clive Hart, then Assistant Keeper of Antiquities in Sheffield Museum. Mr. Pill suggested that a loan might be arranged of both the knife and the axe (which he had also retained) but this was never fulfilled and their present location is unknown.

The date range of the worked flints spanning the Later Neolithic, the main period of usage of the fissure, to the Earlier Bronze Age is consistent with the ages of Peterborough wares, Beakers and Collared urns. Like the pottery, the lithics had been brought to the cave probably as tools and had possibly acquired much of their utilisation damage before introduction to the site.

COMMENT

Much new research has been undertaken on Neolithic and Bronze Age activity in the Peak District since the author's publication in 1990 (Garton 1991; Barnatt 1996, 1998, 1999 and 2000; Barnatt and Smith 1991), and some revision is necessary.

Firstly a sherd, which originally was described as Towthorpe Ware (Gilks 1990, 10–11, 17, fig. 2.1), is now considered to be in the Mildenhall style of the Earlier Neolithic. The sherd is in a soft blackish-brown fabric, tempered with a little crushed limestone, and has an applied horizontal, imperforate, peaked lug. Lugs are a feature of the style (Longworth 1960, 239–40, fig. 28) and are often simple, with some perforated and others 'slack' and merging with the pot's carination. In the Peak District Mildenhall style pottery has been recovered from Astonhill (May 1971, 34, fig. 2.2) and Wigber Low (Manby 1983, 53, fig. 29), whilst at Hognaston sherds of a plain bowl were found in a pit (context 11) beneath a round barrow (Manby 1996, 160–62, fig. 3.15c). Charcoal from the pit has produced a radiocarbon date of BM 2421, 4930 ± 60 BP (Collis 1996, 144–45), which when calibrated gives a date range of 3770–3650 cal. BC at one sigma, and at two sigma 3940–3860/3810–3630 cal. BC. The last date of 3810–3630 cal. BC is thought to be nearest to the true age and so long as the charcoal was not residual it provides a *terminus post quem* for the charcoal and by association for the pottery. Ward describes a comparable vessel, probably of Mildenhall type, from Rains Cave (now lost) (Ward 1889, 39). It is in a similar fabric with a contracted neck and imperforate lugs on the shoulder, and incised lattice decoration on the body. In addition, a sherd with a simple peaked lug from Briar Hill causewayed enclosure, near Northampton, is similar to that from Fissure Cave (Bamford 1985, 103, fig. 53. NP30).

The Mildenhall style is one of the earliest Neolithic ceramic traditions found in England with its core distribution in East Anglia, the Fens and the Midlands, with outlying finds in the Peak District and Lincolnshire. The early fourth millennium BC date for the Hognaston bowl is consistent with the still limited number of dates obtained for the style. Also it is one of the earliest dates for Neolithic pottery from the Peak District and contemporary with the dated Grimston Ware from Lismore Fields (building 1), Buxton (Garton, 1991, Appendix 1).

However, this is only one vessel out of a comparatively large assemblage for a cave, which is dominated by Peterborough Wares (Ebbsfleet, Mortlake and Fengate styles) as well as probably regionally evolved Later Neolithic styles (Gilks 1990, fig. 2). Recent calibration of radiocarbon determinations has had an impact on the dating of the Peterborough tradition as a whole and therefore on the dating of the Fissure Cave material. Gibson and Kinnes (1997; Gibson 1999, 154–64, fig. 38, table 9) see the Peterborough tradition emerging from regional decorated Middle Neolithic bowl styles and spanning the period 3400–2500 cal. BC, and the typological perception of a stylistic sequence is not supported by associations, stratigraphy or radiocarbon dates (Gibson

and Kinnes 1997, 67, 70). Longworth argued convincingly that the southern Fengate style played a formative role in the emergent Collared Urn series of the full Earlier Bronze Age (Gibson and Kinnes 1997, 65), and it is worth noting that sherds of two Collared urns were found in Fissure Cave and one in nearby New Cave (Gilks 1990, 16–19, fig. 3.12–14).

CONCLUSION

The main conclusion from re-examination over the past decade of the artefacts, human and animal remains from Fissure Cave, and study of Mr. Pill's material in Sheffield City Museum, is that the evidence supports the view long held that there were at least three major phases of activity on the site, two of which are clearly linked.

Burials

At least four individuals were interred in the fissure — an adult (?male) aged 33–45; two young adults possibly aged 15–21; and an individual aged under 15 (Hamshaw-Thomas *c.* 1994).

Neolithic and Bronze Age occupation

Earlier Neolithic activity is attested by the Mildenhall style bowl; ?Middle–Later Neolithic activity by Peterborough and locally evolved wares, and a re-worked polished stone axe and edge-polished flint scraper; and the Bronze Age by a fragment of Beaker and sherds of two Collared urns. The rest of the flintwork is attributable to either or both the Neolithic and Earlier Bronze Age. The bones of domestic animals, including caprine, cattle and pig, are thought to relate to one or both periods of activity (Hamshaw-Thomas *c.* 1994, 1997, 39).

Romano-British usage

This is demonstrated by fragments of late third century, coarse ware jars, sherds of late fourth century colour-coated ware, a lead object, a bone point and three bronze coins : (a) Valentinian, Sisca mint (b) Valens (c) House of Valentinian (largely indecipherable). Branigan and Dearne have suggested a date of *c.* AD 260–400 for this phase (Gilks 1990, 7; Branigan and Dearne 1991, 27 (P15); 1992, 86 (P15), 87).

There is compelling evidence that the rear of the fissure had been used first in the fourth millennium BC for the burial of an adult male whose skull was recovered from layer 3 at a point where it was undisturbed (A. L. Pill *pers. comm.*). Whether the remains of three further individuals were interred at the same time or individually over a number of years cannot be determined. However, if complete or partially skeletonised bodies had been buried then the absence of most of the skeletal remains might be due equally to their removal for rituals, or by predators such as the fox, bones of which were found in the cave (Hamshaw-Thomas 1997, 39–43, fig. 2).

The Later Neolithic occupation appears to have been neither intensive nor prolonged and was probably due to only occasional visits over many years perhaps by the same group or their descendants whose ancestors had been interred in the cave (Woodward 2000, 124–25; Parker Pearson 1999). In all probability they were largely pastoralists as

were possibly the great majority of groups who inhabited many other Peak District caves for short periods. For example, Fox Hole (Jackson 1953; Bramwell 1971) and Wetton Mill rock shelter (Kelly 1976) have both produced comparable archaeological assemblages.

Further activity in the late third or early second millennium BC (*c.* 2000–1700 cal. BC) is attested by the presence of a Beaker and two Collared urns, presumably domestic as none appear to have been associated with a burial.

With the exception of parts of layer 3, almost the whole stratigraphic sequence was irrevocably disturbed, especially outside the fissure, by the small scale exploitation of the cave, probably again as a temporary shelter, in the third to fourth centuries AD.

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APPENDIX

FLINTWORK FROM NEW CAVE

New Cave is only a few metres above Fissure Cave and was excavated by Mr. Pill between 1961 and 1963. He found fourteen fragments of a Collared urn (Gilks 1990, 9–10, fig. 3.14), two flint tools, two, possibly three, flakes (Sheffield City Museum accession number SHEFM: 1995.79.13) described below, and the bones of caprine, cattle and pig (Hamshaw-Thomas 1997, 37–39, fig. 1) in a much disturbed layer of blackish mould in and close to the entrance (see Gilks 1990 for summary of the excavation).

Fig. 1. 21, 22

- 21 Scraper. Thin tertiary flake, probably originally very dark grey (2.5Y N3/), almost bluish, flint with light grey (7.5YR N7/) cortication; shallow retouch and utilisation damage along one edge. NC/1/A
- 22 Knife. Secondary flake, light grey (7.5YR N7/), pinkish grey (7.5YR N7/2) to brown (10YR 5/3) banded flint, with brown (7.5YR 4/4) cortex patch on distal end, which also exhibits some light grey (7.5YR N7/) cortication; shallow invasive retouch/edge damage on ventral left lateral edge. NC/1/T

Not illustrated

- 23 Flake of good quality, very dark grey (2.5Y N3/) chert. NC/1/C
- 24 Small flake of good quality, very dark grey (2.5Y N3/) chert. NC/1/B/13

Probably from New Cave

25 Tertiary flake, white (10YR 8/2) flint. NC/1/A or ?4.

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