

It might, however, be significant to observe that, while Peak District barrow interments of the Beaker period frequently contain associated flint implements, associated polished flint tools are extremely rare, the Elton Moor polished flint axe appearing to be the only recorded example.<sup>5</sup> On the other hand, polished flint tools are frequently found in association with Secondary Neolithic pottery in Britain, and Piggott<sup>6</sup> is inclined to include discoidal knives with the polished-edge knives in the light flake industries of the Secondary Neolithic period.

On this evidence, it seems probable that the Whitwell discoidal knife and the other Derbyshire discoidal knives should be assigned to the pre-beaker Secondary Neolithic peoples of the Peak District rather than the Beaker period.

In conclusion, I should like to thank Mr. J. A. T. Walker, J.P., of Whitwell, the owner of the land on which the Whitwell knife was found, for kindly permitting me to publish the find, Mr. A. Webster, for bringing the find to my notice, Mr. G. D. Lewis of the Sheffield City Museum for his help with references and with regard to the knives in the Bateman Collection, and Mr. T. G. Manby of the Huddersfield Museum for his information on the unpublished knife from Arbor Low.

The Whitwell knife is now in the Sheffield City Museum.

<sup>5</sup> T. Bateman, *Vestiges of the Antiquities of Derbyshire*, 1848, 53-4.

<sup>6</sup> S. Piggott, *Neolithic Cultures of the British Isles*, 1954, 285.

## A MILLSTONE MAKER'S SMITHY ON GARDOM'S EDGE, BASLOW<sup>1</sup>

By JEFFREY RADLEY

### *The problem*

A SURVEY of millstones in the southern Pennines<sup>2</sup> led to the discovery of over 1,000 millstones in various stages of construction and destruction. Two types were discovered: the normal cylindrical type, although undated, appears from secondary evidence to belong to the 19th century; the other type with a mushroom-shaped top, rounded edges and a flat base has not been recorded before. Four hundred have been located and many occur on Gardom's Edge. This type apparently antedates the cylindrical type, so it was decided to excavate to try to discover dating evidence.

<sup>1</sup> This report was made possible by the hard work of Mr. F. Hepworth and Miss A. Penniall. The writer wishes to record his debt to them; also to Mrs. D. McPherson for typing the MS.; and to Mr. H. E. G. Read, Agent to the Trustees of the Chatsworth Settlement, for permission to excavate at Easter 1964.

<sup>2</sup> J. Radley, "Peak Millstones and Hallamshire Grindstones", *Trans. Newcomen Soc.*, 1965 (forthcoming).

Since one quarry has the date 1803 carved on its face, some of the millstones must antedate this. Access ways, digging floors and work areas are covered with variable amounts of soil; others are overgrown with substantial oak and birch trees; and some rejected stones have been virtually buried during quarrying operations for more suitable blocks of stone. The impression is that their age should be of the order of centuries rather than decades.

By one of the work floors, at the end of a short branch track from a principal millstone makers' road, there are numerous grooves on a large rock which were presumably made by sharpening chisels and wedges. It was hoped to discover a workmen's shelter and its associated refuse, such as pottery and perhaps clay pipes. This "polissoir" is unique to the writer, and this was one factor determining the choice of excavation site; the total absence on Gardoms Edge of the newer type of millstone, as well displayed around Hathersage, was another.

### *The site*

Gardom's Edge is a well-defined entity rising 600 ft. above Baslow, between Bar Brook and Blackleach Brook. The edge is about a mile long, cut out of massive millstone grit. The steep slope in front of the vertical rock face is littered with an apron of gritstone blocks shattered from the bedrock by periglacial activity. The back of the edge is also block covered. The rock face and the block rubble form two separate sources of raw material.

There are five quarries in the rock face, with access generally by cart track from above, and seven principal working areas on the scree-covered slope with at least one boundary wall surviving. Each has a dendritic series of access paths, each leading to a "delf" from an old road which winds from near Jack Flat southwards along the foot of the main scree and eventually crosses the edge to join the line of the Chesterfield-Baslow road, where the ancient entrenched packhorse way exists alongside the modern turnpike-constructed highway.

The millstones are found in complete, broken or unfinished forms. The finished stone bears a mark, which may be the maker's or owner's mark; on Gardom's Edge the common mark is "W", and rarer "XXW". On Froggatt Edge it is "W" and "XD"; near Fox House "DX", "RX" and "T".

In the Hathersage area, traces of large huts and stables, paved cart roads and loading-ramps can be seen, but the remains on Gardom's Edge are much less sophisticated. Amongst the scree at the north end of the edge there is a rough hut 10 x 6 ft., with two rooms, constructed of rough blocks and surviving to a height of 2 ft. Tracks are rarely more than 6 ft. wide, suggesting that the completed stones were man-handled down to the main tracks, where pairs of stones were either joined with an axle and rolled away,<sup>3</sup> or placed on sledges or carts.

The site excavated is near the south end of the edge and set in the scree (SK 27097270). There are several millstones in the vicinity; some are buried

<sup>3</sup> D. Defoe, *A Tour through all Britain* (1929 ed.), II, 583.



a. The three-sided enclosure with later rocks stacked on the coal layer.  
The trough soon filled with rain water.



b. Details of the polishing stone. Scale shown by a florin.  
GARDOM'S EDGE.

under scree, others broken or unfinished. An important packhorse way from Baslow climbed the edge to the Three Men of Gardom, three guide cairns set on the skyline and raised upon the probable remains of a round barrow. The site is a hundred yards S.E. of its junction with the quarriers' track. It has two access ways, both wide enough for a cart, from the principal quarriers' track.

### *Surface features (Plate XVIII)*

The plan (Fig. 9) shows the crude features. The main access was into the northern part of the site from the west. This track ends in an area perhaps 20 ft. square. To the right, a 3 ft. gap in the rocks gives access to a cleared rectilinear area on the left, measuring 8 x 6 ft., and to the chief occupation area in front. The spot was selected in order to utilize the natural walls provided by large boulders creating three sides of a shelter. Three rafter-sockets have been carved on the 6 ft. high western and southern rocks; after the removal of several tons of rock debris, some possibly rough walling on the lower eastern rock, a fourth post-socket was revealed in a small boulder. The shelter or hut was from 5 to 10 ft. wide and at least 10 ft. long.

The removal of turf from the overgrown eastern rock revealed a hewn trough, placed to catch rainwater running down the slab.<sup>4</sup> The trough was fresh-looking with little wear on its rim. Nearby was a circular hole, 4 in. in diameter and 4 in. deep, possibly a post-socket, and two roughly hewn hollows of no apparent significance. The principal group of 30 polishing grooves is on the western rock on a near-vertical face at about chest height. A lesser group was found under the turf near the trough on the eastern slab at about thigh height.<sup>5</sup> It was assumed that the trough and two polishing areas would be just outside the entrance to the shelter, but the excavation produced unexpected complications.

### *The excavation*

The removal of 3-5 ft. of rock rubble and 4-20 in. of humus and soil revealed a layer of trodden coal 2-10 in. thick covering the interior of the shelter. Beneath this was a relatively even sandy floor which was fairly loose. This horizon contained many natural slabs and was not bottomed. By the entrance to the hut the coal was found only in scattered fragments, but mixed with ash and blackened sand there were many pieces of slag; at one point the earth was burnt brick red and baked into a hard patch about 1 ft. square. Over it was a flat slab resting on two vertical slabs. All showed traces of burning but not of excessive heat. This was perhaps the site of the hearth. The trenches marked on Fig. 9 were so arranged as to section the site; later the whole area was cleared to reveal a general scatter of burnt fragments of soil and rock.

<sup>4</sup> Similar in form to those found on Hallam Moor, used to water grouse. See J. Radley, *Trans. Hunter Arch. Soc.*, VIII, part 4 (1962), 234.

<sup>5</sup> For other literature on whetting stones, see A. D. Lacaille, "Three Grinding Stones", *Ant. J.*, XLIII (1963), 190-6. Small grooves can be seen in the medieval kitchen at Haddon Hall.

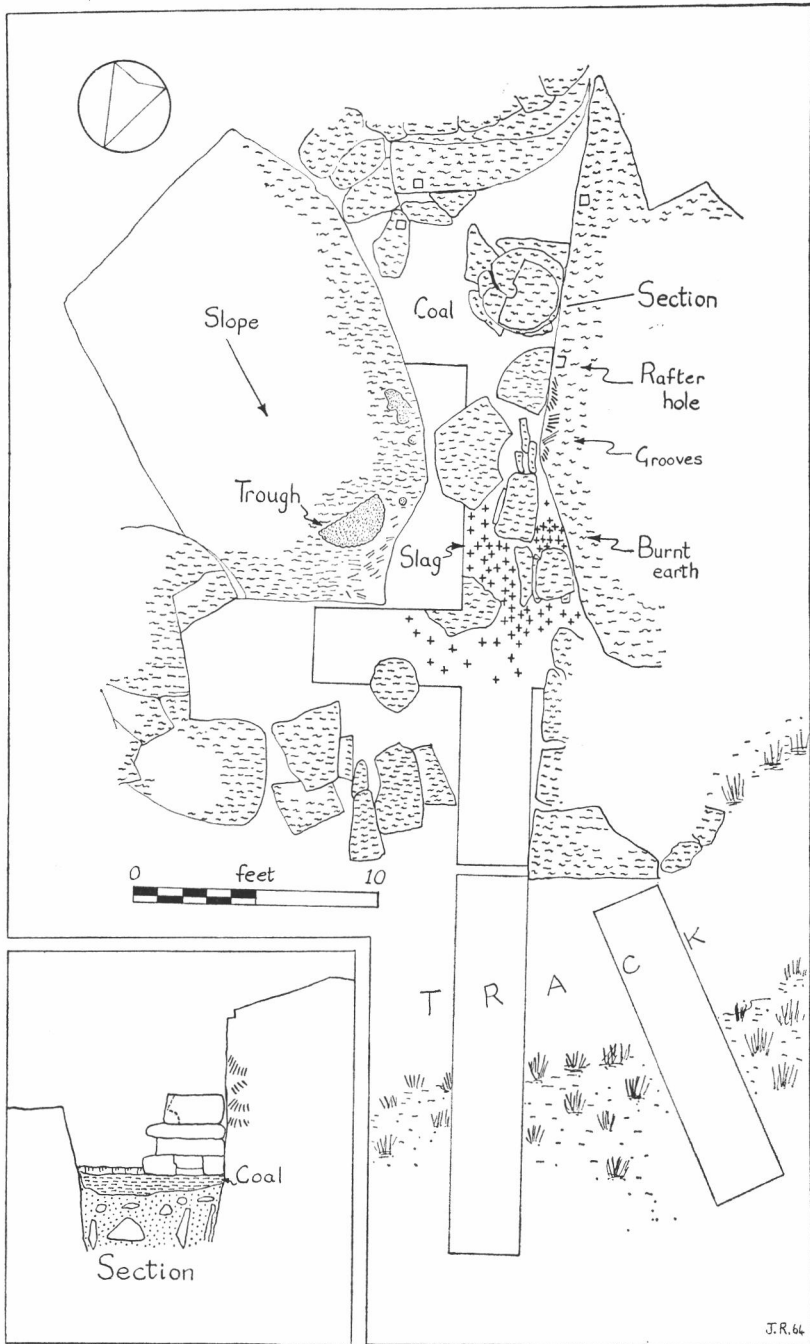


FIG. 9. Plan and section of a millstone maker's smithy on Gardom's Edge, Baslow.

Resting on the layer of coal and against the western rock was a pile of three flat rocks, sitting on two square blocks (see section; Fig. 9). On closer examination, the top stone proved to be a small broken millstone, and the stone beneath it may be a broken rough-out.

Two short trenches were extended east and north from the shelter, and two trenches were cut across the track to determine the nature of the cleared areas immediately adjacent to this industrial activity. All proved negative.

### *Interpretation*

It is easiest to say what was not found: no wood, metal or ceramic of any description was recovered. There was no trace of the people who used this site. It was expected that a broken wedge, a lost tool or a coin might have survived in the sand beneath the polishing marks. The sections across the trackway revealed nothing, not even wheel ruts.

The positive evidence is not easy to evaluate. The coal layer suggests that the hut was used as a fuel store. The absence of a flue or true hearth suggests that it was removed to another site, or that a brazier-type fire was used. The coal could have been mined around Robin Hood hamlet, near Gibbet Moor, or on Beeley Moor, and carried to the site in packhorse panniers. Numerous bell pits in the area produced inferior coal at different periods in Derbyshire's history.<sup>6</sup>

Fused gritstone, baked earth and probably iron slag were recovered. Slag is not an uncommon find on the East Derbyshire moors. The high edges were selected to utilize the wind which generated high temperatures in a furnace. The most common furnace, the lead bole, was displaced in the 16th century. Small ones have been found nearby on the summit of White, Birchen and Baslow Edges; three small boles below Raven Tor occupy a very similar position to the Gardom's site, at c. 1,000 ft. O.D.<sup>7</sup> Curiously the slag found in the excavation is in the lee of the large western rock.

There is no direct evidence connecting the rafter sockets with the trough or the polishing marks; nor to connect these with the slag and this in turn with the coal. However, it seems probable that for a short time there was a small smithy here, burning coal and perhaps using a flue to channel draught to heat wedges and chisels which would be worked on an anvil, sharpened on the rock and cooled in the trough. The piled stones on the coal layer may be a subsequent attempt by a shepherd to make a small shelter, measuring about 10 x 4 ft. in area.

The curious absence of all forms of manufactured materials leaves the initial problem of dating unsolved, but the absence of finds might suggest a fairly remote date. The use of coal in a smithy is probably not significant since coal has been in common use for perhaps 700 years. It has not even been established that the site is related to millstone production, but it is highly probable since it is integrated into the field remains of the millstone makers of the Gardom's Edge area.

<sup>6</sup> There were workings west of Robin Hood (SK 278722), in Gin Pit Field (SK 278719) and by Emperor Stream (SK 277716).

<sup>7</sup> J. Radley, "The Transport of Lead", *Bull. Peak District Mines Hist. Soc.*, II (1963), 1-8.