

The mystery of the Bulkeley stone ‘wheels’

Walkers familiar with Bulkeley Hill, and in particular the path leading left up the hill from the junction of Stonehouse Lane and Mill Lane, may have noticed several large circular, wheel-like stones, looking very much like millstones, (picture 1).

Their presence indicates a lost activity involving the quarrying of rock and stonemasonry to create these stones. But what exactly are they, and what was their purpose? Do they provide any insights that could connect to other long-gone quarrying industries thereby increasing our understanding of Sandstone Ridge geoheritage?

This article will try to throw some light on what their intended purpose may have been.



Picture 1. Several circular, large wheel-like stones exposed at the surface and used to build up the path adjacent to the old sand pit, near entrance to Bulkeley Wood



Picture 2. An unknown number of wheel-like stones stacked on top of each other to support the steep-sided bank

These millstone-like stones appear to have been used to build up a path, level with the adjacent field, but with a steep slope to the right, dropping into an old excavation. This excavation, on the Ordnance Survey map of 1898, is described as a sand pit. On the steep side of the path, stacked ‘millstones’ can be seen, possibly to provide both bulk and stability to this bank, (picture 2).

Over 20 of these circular stones can be seen along the floor of the footpath, covering a distance of about 15 metres. Most, if not all of these stones appear broken or damaged.

These stones are circular, all of a similar size, measuring about 84cm (33") in diameter (pictures 3 & 4). Width is more variable but one exposed stone along the surface of the path, and which looked representative, measured 20cm (8") wide.

There are no stones seen that have a central spindle or axle hole cut.



Pictures 3 & 4. Two of several, large 'millstones' measuring around 84cm in diameter.



One stone which was examined from the bank at the side of the path, measured approximately 66cm (26") wide, with a similar diameter. This huge cylindrical stone would weigh close to two tonnes, a considerable weight, and not something likely to have been transported very far (picture 5).

Picture 5. A particularly wide (26"/66cm) cylindrical stone



Interestingly, the building of this bank and elevated footpath may have involved some more intricate stonework. In one small, well-preserved area, the banking appears to have been faced with small stones, (picture 6).

Picture 6. Stone facing of the footpath banking

So why are these stones here?

In the Derbyshire Peak District, there are a number of quarries where millstone-shaped stones were simply abandoned on site, unfinished or uncollected, often in large numbers, (picture 7). Reasons for this could be that the market disappeared, the quarry went out of business, a cancelled order, or because of faults and fractures in the stones. For what ever reason, abandoned stone 'wheels' are well documented (ref. #1). Based on this evidence from Derbyshire, it is supposed that if the Bulkeley stones were not sourced from the adjacent sand pit, then very likely from nearby.

The sand pit next to where the Bulkeley stones are located is presumed, from its name, to have functioned as an open pit from which unconsolidated sand was dug, (this would be sand deposited towards the end of the last ice age). However, it is possible that this was a quarry, but without any exposed rock surfaces it is very difficult to compare and say whether these stones were quarried from this location. The solid geology of this site is assigned to the Wilmslow Sandstone Formation.



*Picture 7. Abandoned pulp stones
below Surprise View near
Hathersage, Derbyshire (1)*

What was the function of these stones?

The initial thought might be that they are old millstones, for the milling of grain, but there are other purposes to consider and so it is important to distinguish between them.

Millstones are used in pairs to shear grain fed into a narrow gap between their faces. The dressed surface (of ridges and grooves), helping to shear and break up the grain. Millstones have been produced in the Peak District, using Millstone Grit (a hard-wearing, coarse-grained sandstone) from the 13th century. The wheel-like cylindrical shape was produced in the 18th and 19th centuries, replacing the earlier dome shape.

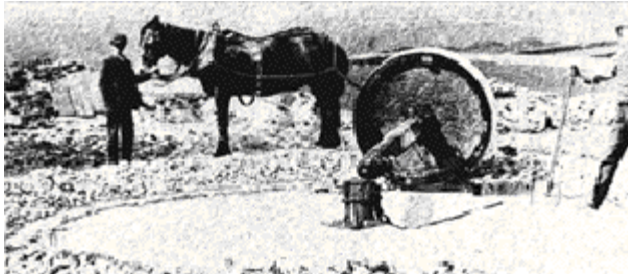
Peak District millstones were known to leave stone powder in the ground grain, (for white wheat flour milling the use of harder French Buhrstones was preferred). The sandstone that these Bulkeley stones are cut from is much more friable (crumbly) than Millstone Grit. The Bulkeley stones are cut from more weakly cemented sandstone, in other words the sand grains which are bound together forming the rock are not strongly bonded to each other as is the case with Millstone Grit. Also, the high iron content in the Bulkeley stones would have discoloured the ground flour. For these reasons, the use of these stones as millstones is suggested to be unlikely.

The location of these stones near to a former flour mill (Mill Lane) is considered coincidental, as prior to the Industrial Revolution, most communities had access to one.

Pulpstones, were also produced in the Peak District, to a similar size to the Bulkeley stones. Mounted vertically on their edges they were used for crushing a wide range of material, from food stuffs to wood pulp for example.

A **grindstone** is a round sharpening stone used for grinding or sharpening ferrous tools. Grindstones are usually made from sandstone and were also used in the edge-tool industry and in cutlery manufacture. They would have been very common in a rural community. Grindstones are typically smaller and thinner than these Bulkeley stones.

Similar looking stones, **edge runners** are cylindrical stones mounted on an axle and used to crush a variety of materials and even foodstuffs as they rolled around a pivot. They were also used to crush ore or rock. Picture 8 shows an edge runner in use: the horse pulled one end of a massive spindle, fixed at the other end to a pivot in the centre of the circle. The runner then rolled along a circular track. Large pieces of lead ore, in this case, were shovelled in front of the runner. Note how the edge runner is mounted within a steel or iron tyre, presumably to prevent the edge runner (the stone wheel) from breaking up over the potentially harder material it is crushing.



Picture 8. An edge runner in use (ref. 2)

In the now abandoned sandstone quarry at Gornal, South Staffordshire, stone which was considered too small for building was crushed down using large stone wheels, drawn around a central pivot by horses. Larger pieces were used for road building and other purposes, while the fine sand was highly regarded as a floor scouring agent and sold around the district (ref. #2).



Picture 9. Derelict crushing stone that was used to grind small fragments of sandstone into sand, from a quarry near Dudley. Note the steel band secured around the stone with wood chocks.

Another reference, although published in 1925, is a transcript of an account from 1845, from Dobworth, a village in Saddleworth, (ref. #3).

Peggy has a sand mill, a large circular stone turned by a donkey, for every housewife uses sand for the floor instead of carpets. She hawks it round the district and sells it a halfpenny a quart, and you can hear her shouting "Ony Sond" a quarter of a mile away. Her husband makes "stone mops" and besoms out of heather from the moors. At one time he found the parish constables

The above examples combine to tell us that sand pedlars and those that mined or quarried sand for the purposes of cleaning floors and scouring, also had the facilities to use large stone wheels or edge runners to crush sandstone pieces into loose sand. So could these examples of linked practices (sand extraction, sand crushing, sand peddling) allow us to interpret the Bulkeley stones?

Were these Bulkeley stones fashioned by stonemasons, possibly in the adjacent sand pit, for use as edge runners to crush fragments of sandstone, extracted from a number of nearby sand mines, into sand to be then sold around the district? And if this is the case, it provides a marvellous link, within our Sandstone Ridge geoheritage, to the local sand mining activities from the 18th and early 19th centuries, previously documented (ref. #4).

So do these Bulkeley stones represent unfinished or damaged edge runners? Well, who knows!

But if anyone can shed any further light on these, we would very much like to hear from you!

Nick Holmes

References

- (1) [Peak District Millstones \(freeuk.com\)](http://freeuk.com)
- (2) http://www.lowergornal.co.uk/i_quarrying.htm
- (3) Wrigley, Ammon, 1925. At the Sign of the King's Head. Taylor & Clifton, Excelsior Press, Uppermill.
- (4) [D495401.pdf \(sandstoneridge.org.uk\)](http://sandstoneridge.org.uk)