The Vaccary Walls of Wycoller, Pennine East Lancashire – a geologist's view

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Dry stone walls are an often taken for granted part of our upland landscape and to a resident of the Pennines "no landscape looks quite right to me without them" (Priestley 1934), but not all drystone walls are the same. The distinctive very straight upright slab (orthostat) walls of the Wycoller (SD 93183928) area form an iconic image of the Pendle region and are often used in tourism publicity materials (Figure 1). The nature and origin of these features has been a subject of debate for many years stemming from their association with the remains of medieval organised cattle farms (vaccaries) which characterised the Rossendale and Blackburn Forest areas when under the rule of the DeLacy family of Pontefract Castle. Various ages have been suggested for these walls from Bronze Age to 18th or even early 19th centuries (Taylor 1982) with Bentley suggesting a most likely age of around 1260 AD but Ramm (1988) proposed a 16th century Tudor age based on physical studies, surveying requirements and literature sources. The exact purpose of the stones has also been a subject of debate as, although the slabs are ground fast, they do not appear capable of surviving the pressures applied by leaning or pushing cattle. This would fit with them being built as part of the apportionment of the vaccaries rather than having a direct cattle farming utility, as was proposed by Ramm (1988). Greenwood suggested they were to keep out wolves but much of the walls are of a height which could easily be crossed by large canids and there are many holes between slabs. Writing in a February 1982 edition of *Country Life* magazine Wright made the intriguing suggestion that they were designed to allow sheep to pass from field to field but not cows.

While much has been said on the archaeological significance of the stones very little consideration has been given to the geological origins and sourcing of the slabs. The presence of orthostat walling requires a supply of slabs so they are usually found in areas where an appropriately fissile lithology outcrops such as the slate belt of Cornwall, Wales, Cumbria and southern Scotland, the Devonian sandstones of Caithness and Orkney, the Jurassic limestones of the Cotswolds or adjacent to the limestone pavements of the Pennines in the UK (Taylor 1982, Winchester 2006, Raistrick 1946) and across the channel in Brittany (Meirion-Jones, 1984). The availability locally of an appropriate lithology is the major factor in the distribution of orthostat, sometimes referred to as slab fence, walling.

At Wycoller the slabs are typical coarse-grained and poorly sorted sandstones of the Rough Rock sandstone of the Millstone Grit Group with fossil casts of wood fragments (*Lepidodendron* sp.) often preserved (Figure 2). Great care has been taken in the selection of slabs as, although there is considerable variation in thickness, there is limited variation between adjacent slabs. The same can be noted for height selection where overall there is significant variation but adjacent slabs have been placed of

similar heights. In a number of cases adjacent slabs have been split from a single block requiring a high degree of stone masonry skill (Figure 3). Lines of notches can sometimes be seen on slab edges where a nicking tool has been used to create spaces for wedges to be hammered in to split the block.

As to geographical origin of the Trawden slabs Bentley (1975) and Ramm (1988) both suggested they were quarried from outcrops on Combe Hill but this seems unlikely as each slab would have to have been transported more than two kilometres. The slabs were most likely sourced as close as possible to their end use site as transportation of walling materials, especially large slabs such as these, would be an onerous task. The process would more likely have been one of 'stone getting' rather than true quarrying (Johnson 2016). The Pennine Gritstone country was marginal to the Last Glacial Maximum ice sheet, the northern slope of Boulsworth Fell, just to the south of the study area, being the glacial limit (Clark *et al.* 2017). The area was therefore subject to a periglacial regime for much of the late Pleistocene resulting in the distinctive gritstone tors of the area such as Ladlaw on Boulsworth, Widdop in the headwaters of the Hebden Water valley and the less spectacular but more local example of Fosters Leap close to Wycoller. Periglacial weathering combined with mass movement processes produces blockfields below gritstone summited hills. Blockfields are a distinctive feature of the 'upland' assemblage of periglacial phenomena as described by Ballantyne and Harris (1994) and the presence of blockfields below gritstone topped hills of the Pennines are common, though relatively rarely described, features of the area and have received little attention compared to the spectacular examples in more mountainous terrains. These blockfields are generally considered as product of periglacial weathering and mass movement processes. Linton (1964) noted the association of blockfields in the gritstone Pennines with scarp edge tors and solifluction deposits supporting a periglacial origin. Tufnel (1969) reviewed the literature on periglacial features in northern England and stressed that the role of slope processes has largely been ignored. Harris (1987) included the Vale of Edale in the Dark Peak of Derbyshire in his study and again stressed the importance of downslope movement resulting in the orientation of clasts parallel to the direction of slope. Though both these studies mainly observed with finer grained materials, the principle that downslope movement and orientation of clasts occurs under periglacial conditions must also apply to larger blocks. Rapid downslope movement of larger blocks on Cross Fell in the northern Pennines was described by Tufnell (1976).

Block fields would provide a ready source of slabs on the valley side and such a blockfield below the scarp edge tor of Fosters Leap (SD 94143913) would be a target for stone getters closer to the vaccary sites than the hill top quarry on Combe Hill (SD 96053924) suggested by Bentley (1975) and Ramm (1988) (Figure 4). Downslope movement of blocks may have also occurred during the Holocene in response to removal of material at the base of the slope by the stream of Wycoller Beck. Certainly the stone free valley side fields we see today have been deliberately cleared. Garnett (1849) mentions being told by a local farmer that he created a new field from the moorland by removing 921 cartloads of stones, which he sold to the Surveyor of Roads. A possible source for the slabs used in the stone bridges across Wycoller Beck being from 'glacial erratics' has been suggested by McEwan (2008 p.125).

The coarse grained and relatively thickly bedded sandstones of the Millstone Grit would not at first appear to be an ideal material for orthostat walling, compared for example to the cleaved slates of Wales or Cumbria, as the slabs being utilised are not as easily split. The development of valley side block fields as a result of the extensive periglacial weathering of the region during the late Pleistocene would have provided a supply of already isolated blocks on the hillside much closer to the wall sites than the previously suggested hill top bedrock source. The detachment of blocks from the bedrock and their subsequent downslope movement could in part account for the decision to utilise this non-ideal lithology when subdivision of the onetime vaccary plots took place. The assertion that the distinctive walls of Wycoller were probably built under the supervision or at the instigation of one man, whether landowner, agent or surveyor made by Taylor (1982) may well be valid. The availability of slabs as a result of the periglacial weather regime the area was subjected to during the late Pleistocene however may also have been a major factor in dictating the choice of such a distinctive walling style.

References

Antiquity 1982. Editorial note. *Antiquity* **56** p.163

Ballantyne C K & Harris C 1994. *The Periglaciation of Great Britain*. Cambridge University Press

Bentley J 1975. *Portrait of Wycoller*. Nelson Local History Society

Clark C D, Ely J C, Greenwood S L, Hughes A L C, Meehan R, Barr I D,,Bateman M D, Bradwell T, Doole J, Evans D J A, Jordan C J, Monteys X, Pellicer X M, Sheehy M 2017. BRITICE Glacial Map, version 2: a map and GIS database of glacial landforms of the last British-Irish ice sheet. *Boreas* **47(1)**11-e8

Garnett W J 1849. *Prize report on the farming of Lancashire*. Royal Agricultural Society

Greenwood J 1993. *Trawden another glance*. Privately published, Nelson

Harris C 1987. Solifluction and related periglacial deposits in England and Wales. in Boardman J (ed). *Periglacial processes and landforms in Britain and Ireland*. Cambridge University Press. pp.209-223

Johnson D 2016. *Quarrying in the Yorkshire Pennines an illustrated history*. Amberley, Stroud

Linton D L 1964. The origin of the Pennine tors – an essay in analysis. *Zietschrift fur Geomorphologie* **8** 5-24

McEwan C 2008. *Jaggermans bridges on packhorse trails*. Sledgehammer Engineering Press

Meirion-Jones G I 1984. Orthostat walling in Brittany. *Antiquity* **58** issue 222 pp39-44

Priestley J B 1934. *English Journey*. Heinemann, London

Raistrick A 1946. *Pennine Walls*. Dalesman, Clapham

Ramm H G 1988. Wycoller Walls. *Yorkshire Philosophical Society Annual Report* 1988 pp77- 89

Taylor R F 1982. Letter to the editor 'Vaccary walling' *Antiquity* **57** p131

Tufnel L 1969. The range of periglacial phenomena in northern England. *Biuletyn Peryglacjalny* **19** 291-323

Tufnel L 1976. Ploughing blocks with special reference to northwest England. *Biuletyn Peryglacjalny* **21** 237-70

Winchester A J L 2016. *Dry stone walls history and heritage*. Amberley, Stroud

Figure captions:

Figure 1: A typical Wycoller slab wall in the foreground looking northwest towards Pendle Hill. The town of Colne is in the middle distance.

Figure 2: A view of a typical slab of poorly sorted coarse grained Millstone Grit slab. Two fragments of *Lepidodendron* sp. are preserved as casts towards the top of the slab. A further slab wall can be seen in the background.

Figure 3: The two slabs either side of the central slab are a pair split from the same block. This pairing is a typical feature of the Wycoller slab walls.

Figure 4: Another pair of slabs in a wall with the scarp edge tor of Fosters Leap and associated blockfield visible in the background.