THE ORIGIN OF SOME LINES OF SMALL PITS ON ALLERSTON AND EBBERSTON MOORS, NEAR SCAMBIDGE DYKES, IN THE NEIGHBOURHOOD OF SCARBOROUGH.¹

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Various suggestions have been made by different persons, as to the origin of these pits—some from an antiquarian, others from a geological point of view.

Thus, Dr. Young, in his History of Whitby (published in 1817), page 676, after describing an extensive collection of pits, called "stone hags," on Blakey Moor, on the road between Castleton and Kirby Moorside, adds; referring especially to the Ebberston Common group, the subject of my paper:—

"Another cluster, similar to this, remains to be described. It is within the rabbit warren of Mr. M. Herbert at Scamridge, near Ebberston, where it occupies a space of about 500 yards, but not more than 50 broad, on a dry bank facing the east. The pits are generally smaller than those at Stone Hags, but, like them, are of various forms, chiefly oblong." He continues: "This remarkable cluster is surrounded by trenches that will afterwards be noticed; and it is observable that some of the trenches on Scamridge moor, and on the moors between that and Danby, have pits at regular distances on the sides of the trench." He then adds: "By this time the reader must be prepared for admitting the opinion that these excavations are the remains of human abodes of a very ancient date."

In the Gentleman's Magazine for 1865, Canon Atkinson also expresses this opinion; and Canon Greenwell in the Archæological Journal, 1865, vol. xxii. p. 99, thus writes.—

"We find in both districts the same mode of constructing the habitations; for, though in the North Riding the foundation of the hut is generally a circular hollow, sunk in the surface of the ground, yet I have found near Ebberston, in connection with an entrance through the well-known Scamridge Dykes a number of hut-circles constructed in exactly the same manner as those so common in Northumberland."

Read at the Scarborough Meeting of the Institute, July 18th, 1895.

This then, was the opinion entertained by antiquaries.

On the other hand, geologists, to whose views Canon Atkinson has since reverted, held that the pits were sunk in searching for ironstone. Mr. C. Fox Strangways, of the Geological Survey, supports this view in his Geological Memoir of this district; but, in a letter to me, July 8th, 1893, he thinks the pits in this particular neighbourhood of "Red Dyke" may be natural sinkings of the surface.

In June, 1891, I first visited a short length of these pits nearest to Allerston: and again, in July, 1892, in company with Mr. Chadwick of Malton, without coming to any decision as to the purpose for which they had been made. I, therefore (June 14th, 1893), revisited the pits, and with the assistance of a labourer, removed from two of medium size (5 to 6 feet in diameter) the turf and soily

matter which had accumulated in them.

At a depth of $3\frac{1}{2}$ feet, we reached the original bottoms, which were roughly dish-shaped in form, and somewhat uneven. This time I walked the whole length of all the lines in the neighbourhood, examining most carefully each pit, and noticed that between those nearest to Allerston there was an undisturbed piece of ground, measuring 2 to 3 feet in width. I also observed that along this line the distance, measured from centre to centre of two adjacent pits, was from 9 feet to $10\frac{1}{2}$ feet; whilst in the adjoining branch line to the west, the distance was from 12 to 13\frac{1}{3} feet from centre to centre, very regular, where no after enlargement had been made. At some comparatively recent time, a few of the original pits appeared to have been deepened and lengthened in one direction. These enlarged pits were for a time perplexing, until I noticed that in some of them there stood a little water, and that in others rushes and tufts of water-grass were growing, indicating that they had recently contained water. I also observed that each of the largest and deepest of them had one long sloping side. These facts suggested to me that some of the original pits into which probably water had often filtered and remained for a time had, during dry periods, been enlarged and deepened by the farmers, as the readiest means of obtaining water for their cattle on these high grounds; and that the sloping side was to admit of the cattle reaching the water. I believe this

is now almost the only way of collecting such an important requisite for their live stock. This series of pits runs with its northern end into a somewhat shallow trench called "Wetmoor Dyke," so named most probably from the water which stands there in hollows on the surface more frequently than in other parts of the moor.

The next series of pits consists of two lines running northwards from "Ebberston common house," commencing a little over a mile N.E. of those just described. These I also carefully examined. In the southern end of the largest of these two excavated lines, the pits are very similar in appearance to those on Allerston Warren to the south; but in proceeding northwards along the line, they were observed to increase in length and to run somewhat into one another. This tendency continued to increase till they finally formed a continuous trench before reaching the north end of a double entrenchment, which met them at right angles, and the two seem to end in one of the southern branches of "Deep Dale."

In venturing to comment on the two theories above referred to, I do not hesitate to remark that the pits on Allerston and Ebberston moors are mostly too small, and would have been very unsuitable for human habitations, as many of them in this immediate neighbourhood must have been, during the greater part of the year, half filled with water. The habitation hypothesis of the antiquary

I cannot therefore indorse.

In regard to the speculations of the geologist, I have the presumption to say that there is no ironstone to be found on this moor near the surface, and, therefore, it is hardly likely that these numerous shallow excavations would have been made in searching for this material.

Equally unsatisfactory is the suggestion that they might be natural sinkings of the surface, for such would not have been so regular in line and distance from each other, moreover, such a cause would not account for the more or less raised bank which is visible on one, and sometimes slightly on both sides of the lines of pits.

Some other explanation must be given.

After my first visit in 1891, I mentioned these pits to Mr. Matthew Slater of Malton, who had seen them and the extensive "Dykes" (entrenchments) in the same

neighbourhood, during his botanical rambles on these moors, and he shrewdly suggested to me that they might be unfinished entrenchments.

Not until after my last and very careful inspection of the whole of the lines of pits, in June, 1894, was I fully convinced that Mr. Slater's suggestion was the right one. They are almost certainly the beginnings of lines of dykes, or entrenchments, which from some cause or other, were never completed. The rows of pits I have coloured red on the map, and the lines of completed trenches I have coloured blue, from which distinction will be seen the connection between the two. Their unfinished condition is a fortunate accident, as it gives us a key to the mode of proceeding in forming the extensive and puzzling entrenchments which traverse the moors and the Yorkshire wolds in every direction.

It would seem that, on planning the directions which the dykes were to take, a line of workmen was placed at regular distances with orders to commence work, and that after having so far penetrated the ground as to form the pits, the workmen in those particular sections, from some cause or other (probably, along one line, the wet nature of the ground, as previously stated) received orders to discontinue their work; hence the production of these rows of regularly placed pits and slightly raised banks which have so long perplexed alike the antiquary and the geologist. Certainly, the long prevailing opinion that these lines of hollows on Allerston and Ebberston moors at least mark the sites of pit-dwellings, or the shafts left in mining, must now be entirely given up.

In addition to these lines of pits, there are also on the moors, and in numerous places on the chalk wolds, very similar pits, but mostly in clusters. These also have often been erroneously named pit dwellings; but, when carefully examined, they are in almost every instance found to have been formed by quarrying for ironstone, chalk, clay, or gravel, for building and other purposes during mediæval times, and up to the last century. Perhaps a few on the chalk wolds were made even as early as ancient British times, for the purpose of obtaining flints, which were used for making sling-stones, axes, and other rough tools and weapons.

While I reject, in the main, the village theory of these groups of pits, it must not be supposed that I entirely ignore the existence of the remains of pit-dwellings in Yorkshire, as, in several instances, I have discovered their undoubted remains in connection with some British barrows which I have opened. In my rambles on the moors, I have also observed pits which I thought were very probably the sites of scattered dwellings.

Surface appearances, however, are very unreliable proofs, as pits made for whatever purpose, after a few centuries, acquire from atmospheric and other causes a very similar outline; and, therefore, the pick and the shovel in the hands of trained workmen, under experienced supervision, are the most reliable tests in solving such

problems.