

Geological Notes on Arbor Low.

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THE monoliths, or slabs, are composed of a white-coloured variety of mountain limestone, which contains few fossils and slight traces of iron oxide.

The faces of the slabs are parallel to the bedding planes of the rock. The edges, which in some cases are very true, are defined by the joint planes.

There is no doubt that these slabs were at one time placed vertically, with one end in the ground and arranged in pairs in a rough ellipse. Embedded in the ground and projecting above the surface are the stumps of several slabs, shewing where the latter have been broken off. In some of these stumps the bedding planes are evidently vertical.*

Such slabs might have been found almost ready to hand within the neighbourhood. The mountain limestone is traversed by divisional planes called joints. They often run in sets at right angles to each other, and to the bedding planes. The mass of limestone is thus divided naturally into a number of slabs or blocks, the size and shape of which vary with the thickness of the beds, and the distances between the joints. In quarrying, advantage is taken of these joints. The upper surfaces of some of the slabs on Arbor Low are very irregular,

* In his address to the Society—given at Arbor Low on June 29th, 1901—Mr. H. A. Hubbersty, whilst endorsing the vertical theory of these slabs, suggested the probability that they were purposely thrown down at the Roman conquest of Britain.—ED.

and have the pot-hole weathering, which is not only a characteristic of the upper surface of a bed of limestone which has been covered by soil, or exposed to the air, but also of beds in the mass of the rocks, through which small pipes have been made by the action of water. We may safely conclude that the majority of the Arbor Low slabs once formed part of a bed in the limestone, and that they have been taken from some place where the rock formed part of the ground surface. Near Henmoor, about two miles N.W. of Arbor Low, we found a large slab of limestone very similar to that at Arbor Low, apparently lying on the road side. It measured about 10 feet 6 inches by 5 feet. The rock projects above the surface of the ground in several places within a distance of a few yards. The beds are horizontal. The slab, which is probably *in situ*, could without much difficulty be separated and raised from the bed beneath, on which it rests.

The parent rock at Arbelow is very different in colour, texture, and composition from that of which the slabs are formed. The site for the stone circle was therefore not selected because the rocks were *in situ*, but for some other reason.

A short distance south-east of the circle a dark-coloured dolomitized limestone is seen cropping out above the surface of the ground. The walls of the ditch, and also many blocks of stone in the tumulus, are composed of a similar dark dolomitized limestone which is rough to the touch. The rock is evidently *in situ*, and the ditch has been excavated in it.

Scattered about the ground and under some of the slabs are what might be taken for chips of flint. They are chert fragments. Such fragments are very common in the surface soil of the limestone district. On the ground we found several blocks of limestone with nodules of chert embedded in them, and in a small quarry, N.E. of the low, the limestone contains similar nodules of chert.