II.

ON SOME PECULIAR CUPPED STONES FOUND IN THE PARISH OF COLMONELL, AYRSHIRE. By JOHN AITKEN, LL.D., F.R.S., F.S.A. Scot.

In the *Archæological and Historical Collections relating to the Counties of Ayr and Wigtown* there is a paper in vol. iii., p. 106, entitled "Early Christian Remains in Ayrshire." In this paper is described a stone found on the lands of Prieston, in the parish of Colmonell. This stone was found in a field at the foot of the Prieston Hill, near the river Stinchar, when ploughing rather deeper than usual. It was resting on blue till in from 3 feet to 3 feet 6 inches of loam. After lying exposed for some years it was removed in 1877 to Bargany, Girvan, where it now rests.

This stone is described as a compact porphyrite boulder, and is 3 feet 5 inches in length and breadth and 1 foot 9 inches deep. The cup in the stone is 14 inches diameter one way and 15 inches the other; its extreme depth is 8 inches. The peculiarity of this cup or bowl is that the edge of the bowl projects all round it above the surface of the rest of the rock, or, to use the words of the paper referred to above: "The necking, about an inch in thickness, rises externally 2 inches above the stone, which round the entire circumference of the bowl has been carefully hewn down with a curved section to a breadth of about 3 inches. . . . . Beyond these unmistakable traces of human workmanship the stone presents no indications whatever whether the object served was secular or sacred." The writer of the paper goes on to say: "Such cavities artificially ground for the preparation of grain are by no means infrequent either in boulders or the native rock; but if merely designed for daily use and so domestic a purpose, that the stone should have been hewn away so far below the lip or edge of the bowl it is difficult to believe." Besides the writer of the paper, other authorities have considered this stone cup to be an early sample of human work-

manship, and one of these authorities seemed inclined to the idea that it was a rude font. This Priest's Stone, as it is called, is evidently considered to be the work of man; but I think I will be able to give good reasons for doubting this conclusion, and for considering that it is a product of nature's workshop. I cannot help thinking that the something which we call chance may have had a hand in influencing the finders of this stone to look on it as man's workmanship. The fact that it was found on a bit of land called Prieston may have offered the subtle suggestion that it was connected in some way with priestcraft.

This cupped stone is represented in fig. 1, which, however, does not show the bowl so clearly as could be wished. The stone is lying under trees, and the light on the day it was photographed was too uniform, and as there was not time to put up a screen to cut the light off one side, it had to be taken in a dull, uniform light. However, the raised lip of the bowl is quite evident, and its appearance does give some support to the suggestion of human workmanship. But from the nature of the rock I very much question if any workman, even with modern chisels, could cut out such a lipped cup in that hard and brittle rock.

What caused me to doubt the human workmanship of this stone was, that during a walk to the top of Clachanton Hill to the north of Colmonell, when near the summit, I found another cupped stone having some of the same characteristics as the Priest's Stone, namely, the cup surrounded by the projecting lip. This stone is shown in the illustration (fig. 2), and for distinction we will call it the Clachanton Stone. It will be noticed that in this case the cup projects from one side of the stone, and the lip is the only part of the cup remaining on that side, all the rest of the boulder at that part being weathered away, so that the downward extension of the lip forms nearly one half of the cup.

When talking over these cupped stones with Mr Dougan, the present tenant of Garnaburn, whose father found the Priest's Stone, he told me of another cupped stone lying on his farm, and kindly pointed it out to me, otherwise I would never have found it, as it is all but

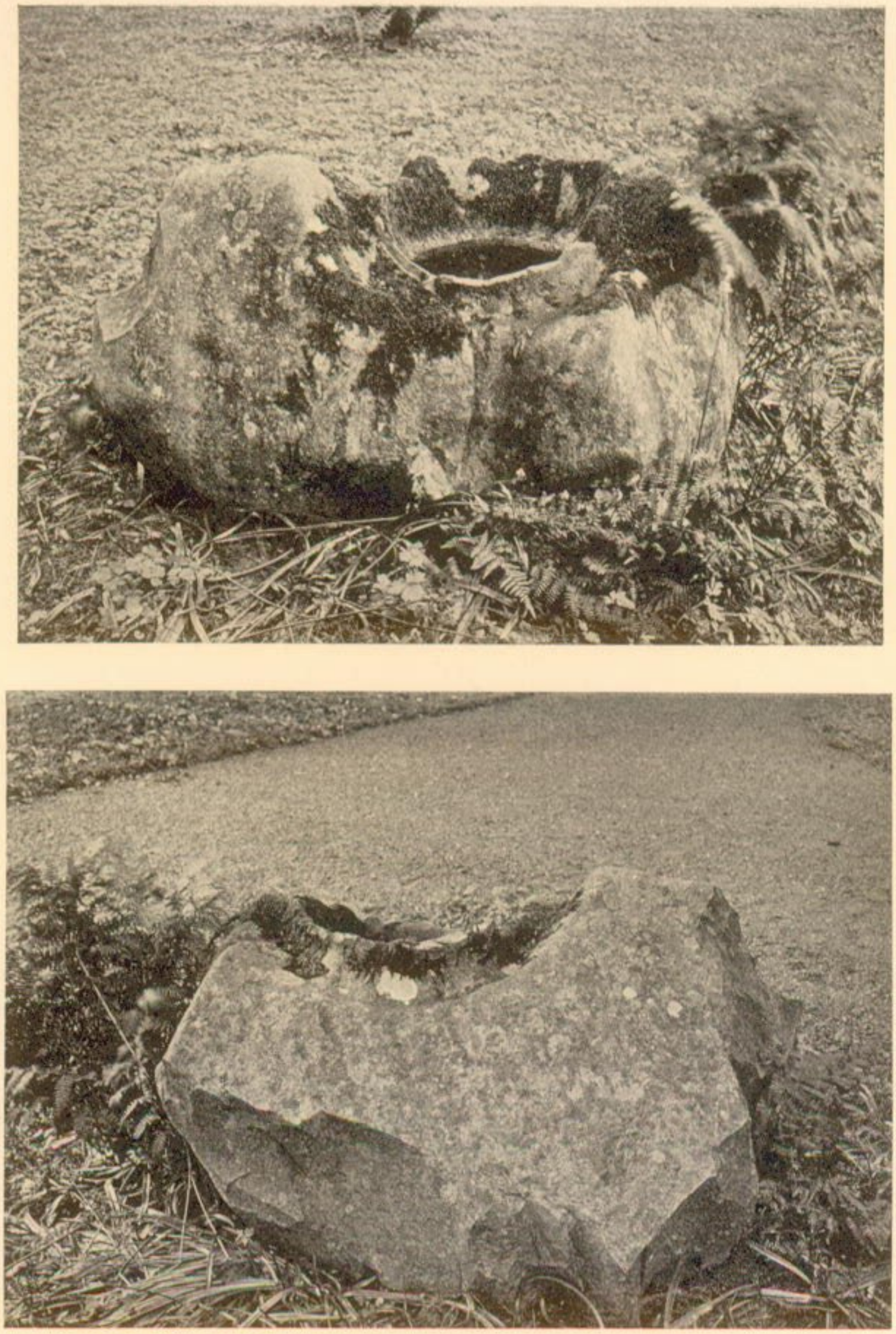

Fig. 1. The Priest's Stone. Two views.

covered over with soil, only a small piece of the top being visible. This stone lies on the west slope of the Prieston Hill, about one-third of the way up. This stone, which we will call the Garnaburn Stone, being found on the lands of that name, was uncovered and photographed, and the result is shown in the illustration (fig. 3). As will be seen, the cup in this stone bears a great resemblance, though on a smaller scale, to the Priest's Stone. The lip surrounding the cup is in marked evidence, and the hollowing in the stone surrounding the lip as in the Priest's Stone is also evident. This hollowing round the lip has, I expect, been one of the reasons for concluding that the Priest's Stone was the work of man.

All three stones were found within a mile of each other, nearly in a line lying east and west, but all at different elevations: the Priest's Stone being found at the foot of the southern slope of the Prieston Hill to the east of the others; the one found on the Clachanton Hill being to the west, and 500 feet above sea-level; while the third or Garnaburn Stone was found nearly midway between the two, and about midway between their elevations.

All of the stones have been photographed from the same distance and with the same lens, so they are all shown to the same scale, but I may as well give the dimensions of the cups by measurement. As already stated, the Priest's Stone (fig. 1) is 14 inches in diameter one way and 15 inches the other, by 8 inches deep. These measurements are from the paper on this stone already referred to, as I did not check them to see if the lip of the bowl had been broken since it was found. In the Clachanton Stone (fig. 2) the cup is 10 inches longest diameter and 9 inches the least, by $7\frac{1}{2}$ inches deep. The cup in the Garnaburn Stone (fig. 3), is $7\frac{7}{8}$ inches one way and $6\frac{1}{2}$ inches the other, by $4\frac{1}{2}$ inches deep.

With regard to the nature of these stones, they seem to be all erratic boulders, their composition being quite different from that of the rock of the district. I submitted a small piece of the Clachanton Stone to Dr Peach, and he tells me that the microscopic examination has shown

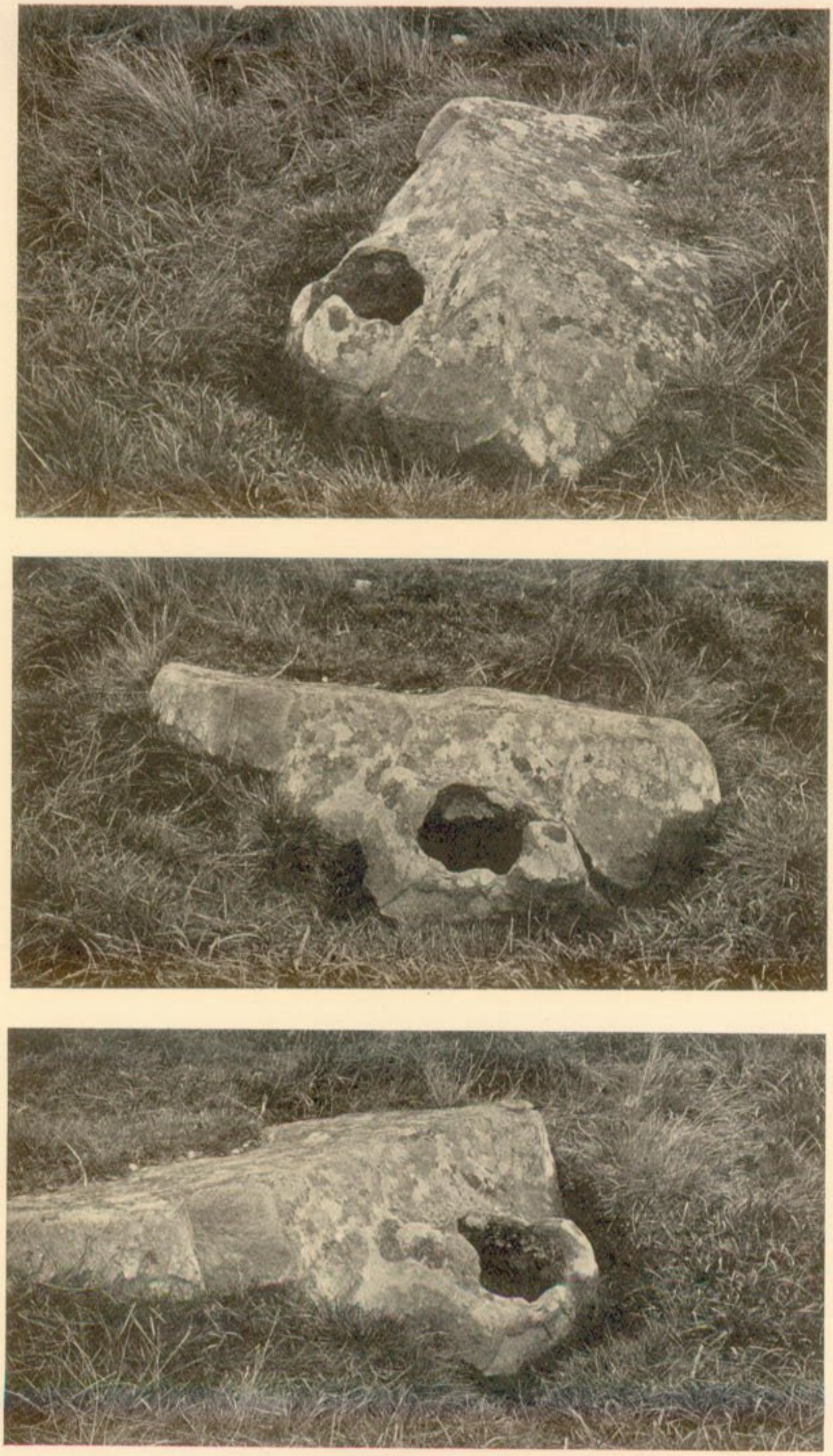

Fig. 2. The Clachanton Stone. Three views.

it to be a Silurian Graywacke which has been contact-altered. The Garnaburn Stone, Dr Horne tells me, is also Graywacke. As the nature of these erratic boulders is often extremely difficult to determine without thorough microscopic examination, it seems probable that the Priest's Stone is also of the same nature as the others. As I had not permission I did not chip a sample for examination. In the Garnaburn Stone there are indications of there having been another cup, but only slight fragments of the lip part remain, and can be seen in the illustration. The fracture of the hardened lip part of this stone is different from that of the rest of the boulder. It looks different to the unaided eye, and under a magnifying lens appears more crystalline.

As to how these peculiar lipped cups were produced by nature is rather obscure. It is evident they cannot be the result of strains such as the cups in basalt and other igneous rocks; nor can they have been dug out as pot holes by the action of water and stones, nor by the action of wind and sand, as none of these processes would explain the projecting lip. If I might hazard an explanation I would suggest that they may have been formed in the following way:—The Graywacke of which these boulders is composed being a sedimentary rock, may have had encased in it water-worn stones of some size. These water-worn stones would naturally be of a different composition from the surrounding sedimentary matter; and while the mass of rock was undergoing alteration by heat, some chemical exchanges would take place between the enclosed stones and the surrounding rock. In this way we could imagine the rock immediately surrounding the enclosed stones might become so changed as to be able afterwards better to resist the weathering action than the rest of the boulder. When the boulders with the enclosed stones were afterwards exposed to the weather we could imagine the enclosed stones being more susceptible to change than the rest of the rock, and if exposed would soon weather away and leave a hollow, and we could even imagine these enclosed stones to be sources of weakness, and the exchanges of air and water might cause them to burst the boulders. It is interesting to notice in this connection that in all three cups there is just about half a complete

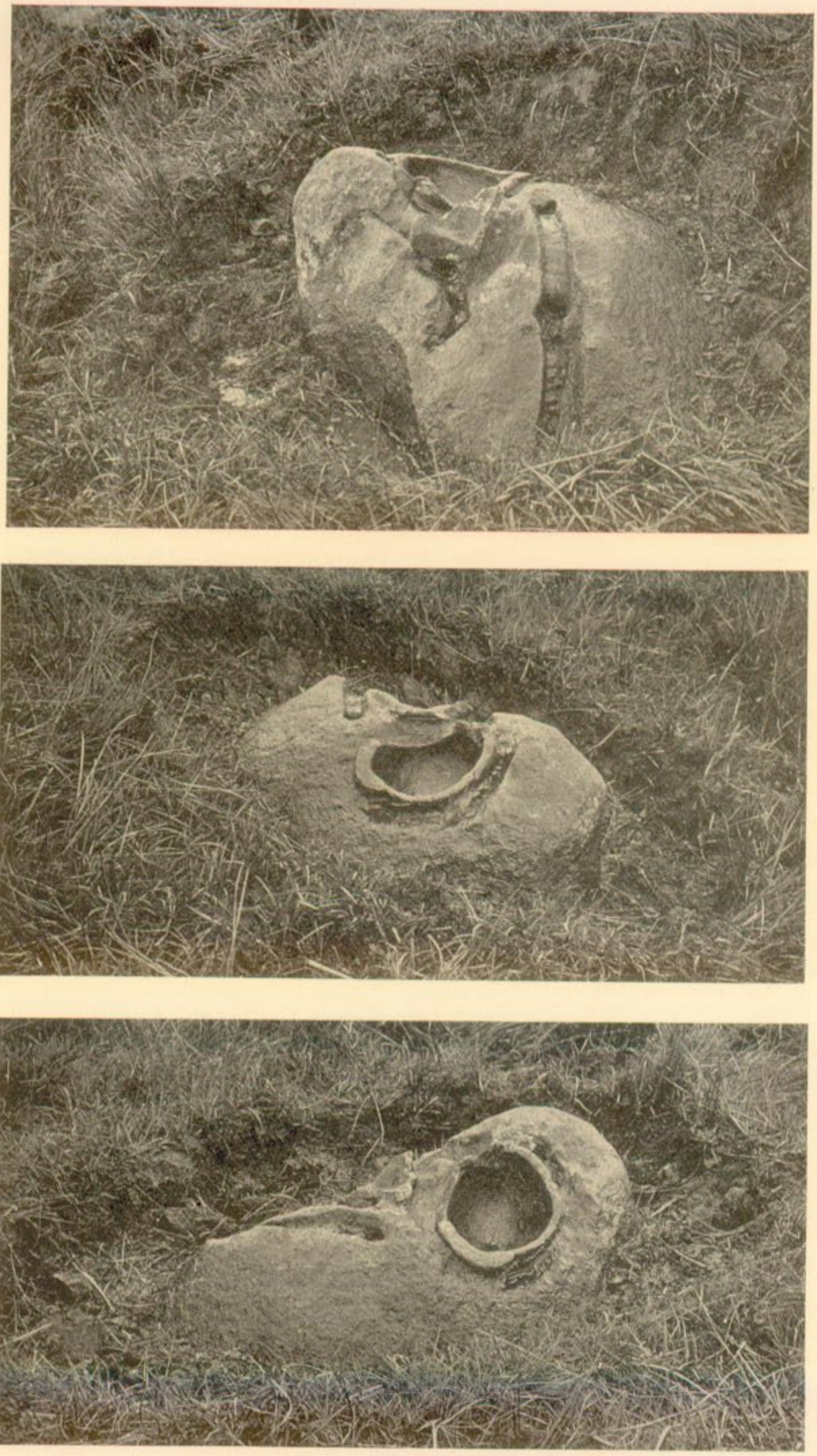

Fig. 3. The Garnaburn Stone. Three views.

sphere, which is what one would expect if the boulder had been burst by the expansion by weathering of the enclosed stones, if the boulders were of uniform texture and of about equal thickness all round them. In the Clachanton and Garnaburn stones the depth is rather more than half the diameter, but this might result from the resistance upwards to bursting being less than downwards—that is, to the enclosed stone being nearer the top than bottom of the boulder, or to the enclosed stones not being quite spherical.

This theory of the formation of these peculiar lipped cups is put forward for lack of a better. But whatever explanation be adopted, we must remember it has to explain the different appearance of the fracture of the part of the rock forming the lip from the fracture of the rest of the boulder, and the better weather-resisting quality of this part of the rock which has enabled the outside lining of the cup to remain while the inside and outside have weathered away. If this changed condition of the lip part of the cup is not due to some chemical exchanges with enclosed foreign matter, then some other theory will require to be devised.

However, this paper is not geological, and I fear its very nature bars it being archæological, as the point to which attention is directed is, that there is no reason for supposing that the cup in the Priest's Stone now at Bargany has been the work of man, as other stones similarly worked by nature have been found in the neighbourhood of the site from which it was taken.