## II.

NOTES ON SOME UNDESCRIBED CUP-MARKED ROCKS AT DUNTOCHER, dumbartonshire. By the Rrv. James harvey, M. A., Duntocher.

Hitherto in the lists of localities in Scotland where cup-marked stones are found Dumbartonshire has been omitted. Rich in relics of the historic past, this county has been remarkably destitute of those widely distributed traces of prehistoric sculpture known as "cup and ring markings."

In describing shortly the rock sculptures in Duntocher, I may mention that it was in the summer of 1885 that I discovered them. Their proximity to a public road not twenty yards distant, and their comparatively exposed position led me to believe that they were well known, and it was not till the year 1887 that I discovered that these markings, though familiar to the local shepherds and gamekeepers, had been previously unnoticed and undescribed by any archæologist. When informed of this, I examined the locality, and found three other exposed rock surfaces with similar markings. I also obtained the kind permission of the proprietor, Claud H. Hamilton, Esq. of Barns and Cochna, in whose estate the rocks were found, to remove as much of the turf as I wished, in case other markings might be concealed underneath. This I have now done on the rock most richly marked, and have been rewarded by finding some beautifully preserved specimens different in type from those previously exposed.

All the rocks which I now describe are situated in a tract of moor-
land covered with furze and bracken which stretches down the hillside, and spreads itself out at last into pasture ground sheltered by a thicket of beeches, and watered by a little mountain stream, The local name of the glen formed by the stream is Mosshollow or Moss-swallow, and the field in which the rocks occur goes by the name of Craigs Park. The situation, though only about 400 feet above sea-level, commands an extensive view on all sides but the north, from Bishop's Seat above Dunoon, in the west, to Tinto Hill, in Lanarkshire, on the east. The locality in which the rocks are found is about 8 miles north-west from Glasgow, and about one mile due north of the line of the Roman wall which passes close by the village of Duntocher.

The rock surfaces in some places show the marks of glaciation, and those on which the sculpturings are found have a dip westwards. The rock is sandstone, of a very compact and hard formation, but in the immediate vicinity there is a large amount of trap and conglomerate.

Of the four rock surfaces which I now describe, there are two that present features of special interest. The first, which I will speak of as Rock A, shows examples more or less perfect of almost all the various types which are given in the late Sir James Y. Simpson's monograph on the subject. Its sculpturings for the greater part are ring-markings. The second, which I will speak of as Rock B, may be more correctly described as a cup-marked rock, its principal feature being the very large cluster of cup marks.

The sculpturings on these two rocks I have carefully measured for the two sketches which accompany this paper. I have also taken rubbings of the principal markings in order to ensure accuracy in the drawings.

Rock A.-The markings on this rock (fig. 1) cover a space of 30 feet square, but this is only a small portion of the total rock surface which seems to extend under the ground on all sides. The exposed surface cannot be spoken of as flat, but yet it forms a tolerably smooth and suitable page for these sculpturings. Its dip towards the west is not at a greater angle than 30 degrees.

The principal feature of this rock is the group of four series of concentric circles, three of which lie in a straight line running east and west and are connected by radial grooves or ducts. The uppermost or most


Fig. 1. Cup and Ring Markings on Rock at Duntocher.
easterly series is the most perfect of all, and is the best preserved. It consists of seven perfect concentric circles drawn round a central cup, the radius of the outermost circle being 18 inches and the depth of the sculpture varying from $\frac{1}{2}$ inch to 1 inch. From the innermost circle there issue westwards two radial grooves, which deviate considerably from the straight line, and one of them is continued to the innermost circle of the series beneath, while the other breaks off at the second outermost. This second series is composed again of seven concentric circles, which are not perfectly circular, but present a somewhat rhomboidal appearance; the average radius of the outermost ring being 15 inches. From the innermost circle of this series, again, there issue westwards two radial grooves, which disappear, however, before reaching the third series of rings. This third series consists of five concentric circles very imperfectly preserved, the radius of the outermost circle being $8 \frac{1}{2}$ inches. Adjoining it on the north side is the fourth series of the group --one of three circles, the radius of the outermost being 6 inches.

There is no rule in the formation of the radial ducts. In some cases they seem to have been carved out first of all, the circles being produced up to, but not crossing them ; in other cases they seem to have been cut out after the circles which they cross had been carved. In some cases they are comparatively straight; in other cases they bend from one side to another.

Another interesting feature of this rock is the number of circles with spiral volutes, more or less complex, proceeding from them. One very beautiful specimen which I uncovered lies to the north-east of the group of circles already mentioned. It consists of a series of three concentric circles round a large central cup nearly 5 inches in diameter. A short radial duct cuts through the three circles, and from the outermost circle there is traced a spiral volute very accurately carved, with a diameter of 9 inches. The radius of the circle from which it springs is 9 inches. Another interesting example lies due north of the group of circles. It consists also of a series of three concentric circles round a central cup, and from the outermost circle, which has a radius of 6 inches, there is carved a simple curve-like a rat's tail-some 19 or 20 inches in length. A straight duct bisects this series of circles. There
are two other examples-one a series of three concentric circles, from the innermost circle of which two radial ducts are carved, which reach beyond the outermost ring, and then break off in irregular twists. The other, a series of two concentric circles, the inner one not being completed, but having its two ends branching straight out radially, according to Type 5 (Simpson). There are four other single circles enclosing central cups, and having short tails attached to them. Most of these latter examples are much weathered and badly preserved.

In addition to these, I have traced twenty-three or twenty-four ring markings, which are more or less distinctly preserved. One series of concentric circles, adjoining the principal group to the south, shows at least five circles round a central cup, the radius of the outermost being 11 inches. Another series, south-east of the central group, shows four concentric circles round a central cup, the radius of the outermost being 12 inches, and the diameter of the cup $3 \frac{1}{2}$ inches. Due east of the chief group, is a cup surrounded by three concentric circles, the radius of the outermost being 8 inches; and in the same neighbourhood there are other five series of double circles round large central cups, the radius of the outermost varying from 7 to 8 inches, and the diameter of the cups from 3 to 4 inches. In other parts of the rock there are five series, more or less distinct-two series consisting of three rings each, and the other three of two rings each, and the radius of the outermost circle in no case exceeding 6 inches. The remaining circular markings-ten in number-consist of single rings enclosing central cups (Type 2-Simpson).

Coming now to the cup marks found in this rock, I notice first, those specimens in which we have groups of cups enclosed within figures more or less approaching the circular form. Immediately adjoining the principal group, which I first described, and lying south of the chief series of rings in that group, is a group of four cups surrounded by two figures of a distinctly rhomboidal shape, and approaching in form the figure described as Deviation 5 in Simpson's work. In other parts of the rock there are five other specimens. One of these, due west of the chief group, is a circle 9 inches in diameter, having a short tail, and enclosing four small cup marks. Two specimens lie on the south-west border of the rock, and form part of a beautifully-preserved group of
markings which only recently have seen the light again. They consist of two triangular-shaped rings, each enclosing three deeply cut cup marks, and having in both cases, as their greatest diameter, 7 inches. Two similar examples, very imperfectly preserved, are found in the central portion of the rock.

In addition to the cup marks which form part of the ring markings already described, I have counted upwards of seventy-five single cups. Of this large number there are some in clusters of six, four, and three; and there are eight in pairs united to each other by a narrow duct. Some of the cups lie on the outermost rings of some of the ring markings, but the greater number of them are scattered over the rock in no exact order or position.

The cups for the most part are of the usual size, $1 \frac{1}{2}$ inches in diameter and 1 inch in depth, but some of them are 3 to 4 inches in diameter and 2 to $2 \frac{1}{2}$ inches in depth. There are two cavities, which may have been formed by cup marks weathering into each other, and which are each 6 inches in length and 2 inches in depth.

When we look at these rock-sculpturings as a whole, we find that for variety of form and largeness of number they approach more nearly to those at Auchnabreach, Argyleshire, than any other cup and ring markings in Scotland (plates xxi. and xxiii., Simpson). All the types drawn by Simpson are represented, with the exception of the very rare form-Type b-concentric circles enclosing no central cup.

The rock bears traces of other markings in addition to those described, which time and weather have gradually obliterated.

Rock B.-The second important rock (Rock B) lies at the foot of the slope, and fully 300 yards south of Rock $A$. It is much smaller in size, having a surface some 25 by 15 feet. It dips to the west at an angle of 30 degrees.

The sculpturings on this rock (fig, 2) are principally cup marks, of which there are upwards of ninety, most of them being of the uniform size, 1 to $1 \frac{1}{2}$ inches in diameter and $\frac{1}{2}$ inch to 1 inch in depth. In one case, five are joined together by a narrow and shallow duct, four being in a line, and the fifth being joined to the third of the series; in another case, three cups are joined similarly, and in another, two are connected


Fig. 2. Cup-Markings on Rocks at Duntocher, Dumbartonshire.
by a long narrow channel. Two cups only are surrounded by sets of concentric circles, and in both cases there are no more than two rings round each cup. There are four cavities similar to those on Rock A, each of them being 6 inches in length and 1 to 2 inches in depth. One of these intersects the duct connecting two cups, and forms with these a figure not unlike a cross or the hilt of an ancient sword. On the border of the stone towards the east there is one large depression or cavity of an oval form, measuring in its diameters 9 by 6 inches and in depth $4 \frac{1}{2}$ inches. Though the weather has undoubtedly helped to enlarge it, yet it seems to have been cut out when the other markings were formed, and it may have formed a receptacle for libations in blood or other liquids.

The greater number of the other cup marks are grouped together within a surface of 5 by 3 feet, but some are found in clusters on other parts of the rock.

Rocks C and D -(diagram 2). -In the immediate neighbourhood of Rock $B$, there are two other rocks similarly situated as regards dip, and bearing for the most part the same general appearance. On one of them (Rock C) there are seven isolated cup marks of exceptionally large diameter, varying from 3 to $4 \frac{1}{2}$ inches. On the other rock (Rock D) there are eight isolated cups, two of which have a diameter of $2 \frac{1}{2}$ inches.

In bringing this paper to a close, I may remark that, though large surfaces of these rocks have been lately uncovered revealing these cup and ring markings, I believe much still lies concealed from view. Evidently the district in which these sculpturings have been found, lying as it does on the pleasant slopes of the Kilpatrick hills, and commanding an extensive view of Clydesdale, had been a favourite resort of these ancient rock-engravers; and it is my hope that, in the course of time, with a little labour, more of these mysterious hieroglyphics may be brought again to the light of day, and perhaps the veil that shrouds from us their meaning may be withdrawn.

