

The Petroglyphs at Achnabreck, Argyll

by Ronald W. B. Morris

SITUATION AND HISTORY

About 5 kilometres (3 miles) NE of Lochgilphead in Argyll, on a hillside sloping rather steeply upwards from the Crinan Canal towards the N, and at a height of about 75 m (250 ft) OD, lies the great rock of Achnabreck, sometimes formerly called Auchnabreck. On its smooth surface of tremolite-chlorite-schist, partly bared of turf, lies what is almost certainly the biggest assemblage of early outcrop-rock carvings in the British Isles.

The great rock is situated in an area clear of trees, just within a Forestry Commission pine plantation, about 350 m (400 yds) to the N of Achnabreck farmhouse (NGR NR 855906, 1 in OS sheet no. 52). For many years the rock has been known to carry carvings – they were reported more than a hundred years ago by Mr Maclean, the tenant of the farm.¹

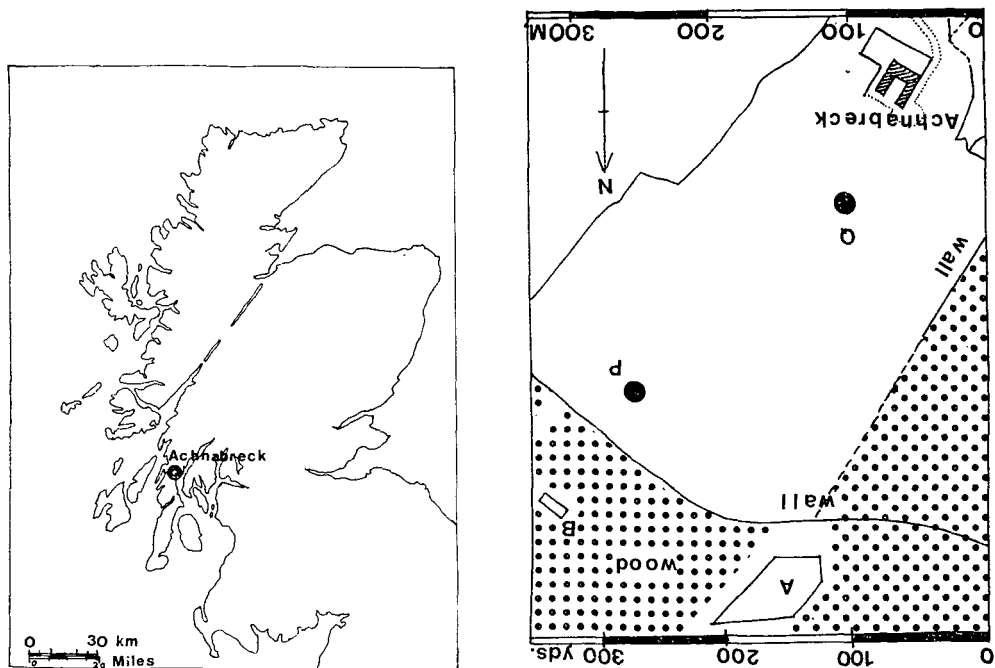


FIG 1 Sites of the carvings: A – main rock area; B – rock in the Wood; P – small rock in the field; Q – boulder

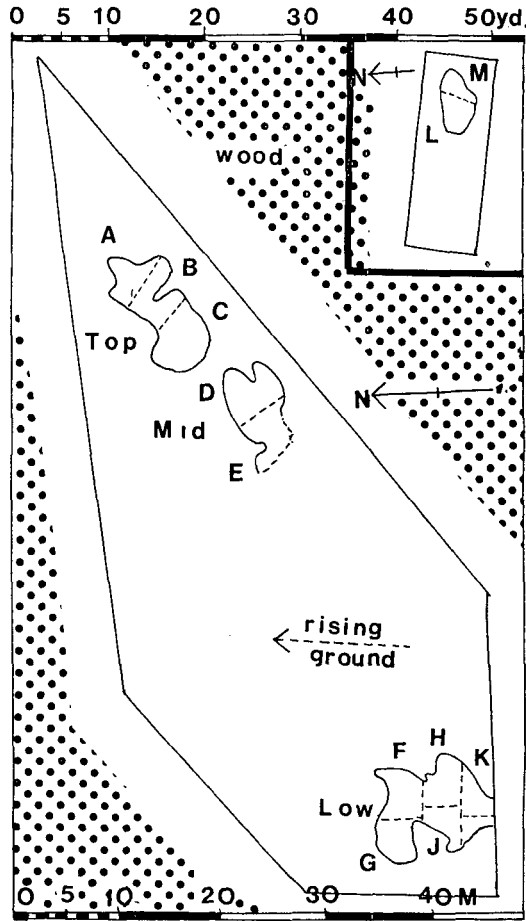


FIG 2 The two main carved areas, A-K and L-M; the letters refer to figs 3-16

Perhaps because of their very vastness, however, the carvings have never, until now, been fully recorded or described.

The great rock's carvings seem to have fascinated one or two of our early archaeologists. The site is referred to at least three times in these *Proceedings*,² and there are references to it in at least eight other archaeological books and papers.³ Sir James Simpson, the great early connoisseur of these carvings, devotes two, and parts of a third, of three dozen plates of his paper in these *Proceedings*, and also in his book *Archaic Sculptures*,⁴ to a few of the carvings at Achnabreck. The majority of the rubbings among the unpublished papers of the late Romilly Allen held by the British Museum are of some of the carvings.

The two main carved areas are fenced in and maintained by the Department of the Environment, and are respectively about 1,800 sq m (19,400 sq ft) and 130 sq m (1,450 sq ft) in extent.

GENERAL DESCRIPTION OF THE SITE

The larger enclosed area, site A in fig 1, is just inside the pine plantation in a well-cleared area. At its S part, it slopes up steeply northwards, but it is nearly level farther N. Much of its rock

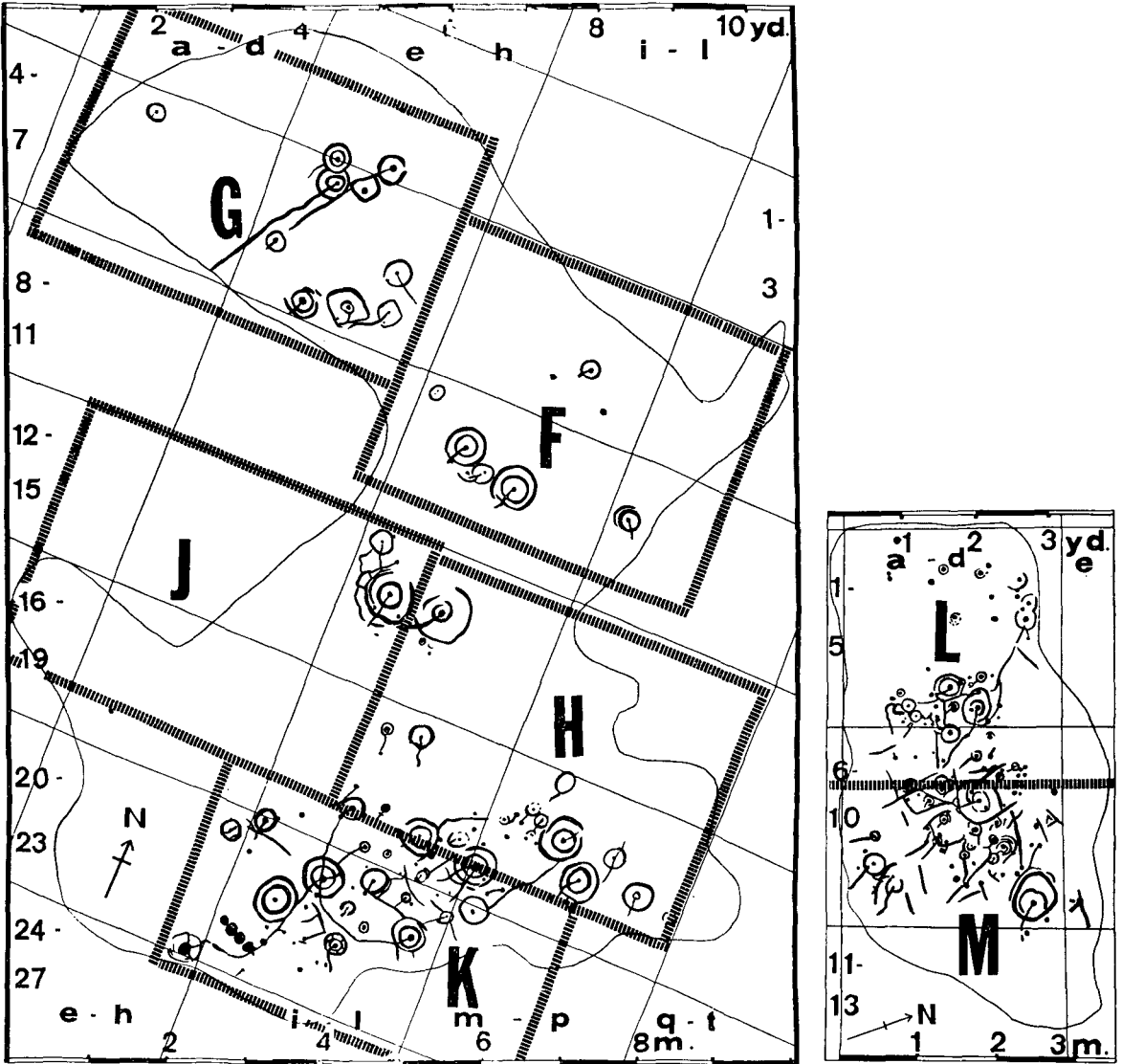


FIG 3 a, Low carved area
Carvings in diagrammatic form; large letters refer to figs 2, 10-14 and 15-16

b, Wood rock

is bared of turf, but there are still considerable areas which are covered with turf and earth. For the reasons explained below, it was necessary to restrict the present survey to the areas now uncovered. Within this enclosure there are three main areas, now uncovered, which bear carvings. These are shown in figs 2-4, and in detail in figs 5-14. For convenience they will be referred to as the Top area, the Mid area and the Low area, as shown on the figures.

Approaching the two enclosed sites from the farm, one comes first to the Low area, the southmost and by far the biggest carved uncovered surface. It is of irregular shape, and measures about 12 m (40 ft) each way. At its S part it slopes down to the S fairly steeply, at angles from 40° to 20°; at its N end, above a long, broken strip or fault, it is more nearly level, sloping about 15° southwards. Its area is about 70 sq m (750 sq ft).

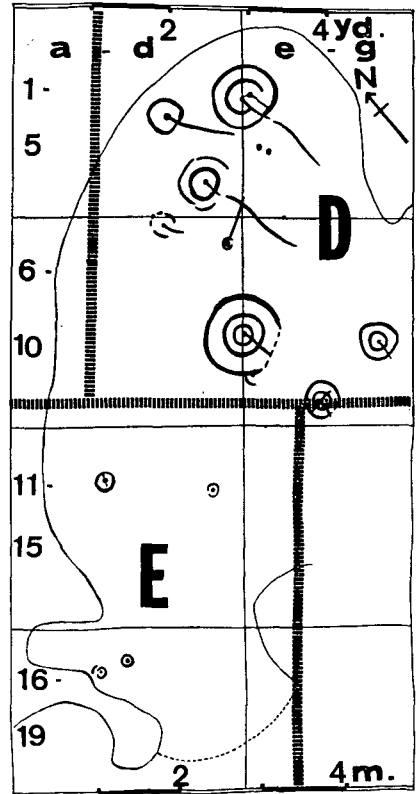
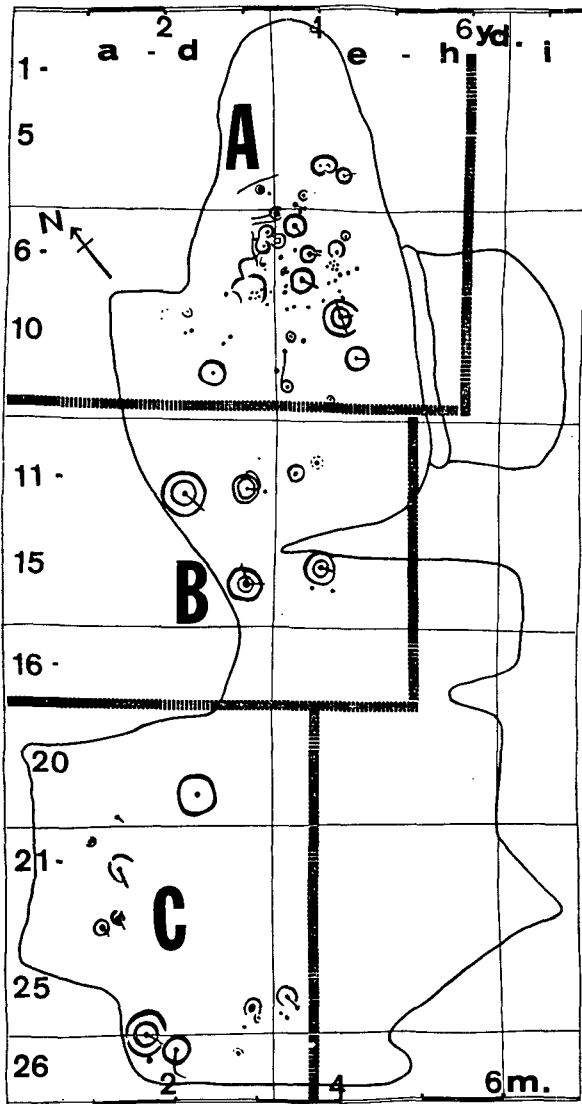


FIG 4 a, Top area
 Carvings in diagrammatic form; large letters refer to figs 2 and 5-9
 b, Mid area

The Top and Mid areas are only about 3 m (10 ft) apart, separated by very thin turf. From Sir James Simpson's description of the site⁵ when he studied it a hundred years ago, these were then one rock area, although, from his measurements, parts of the Low area must then still have been undiscovered. The Top area is about 13 m (42 ft) long and varies in width from 1 to 6.5 m (3-21 ft). It is slightly dome-shaped, but overall slopes gently (5° to 10°) to the S and SE, except for a small part near the middle which slopes about 10° to the N and a sharp drop at its E edge. Its area is about 30 sq m (300 sq ft).

The Mid area, the upper 9 m (30 ft) of a bigger uncovered area, is about 6 m (20 ft) wide and slopes in general about 20° to the SE, curving to the E at its E edge. Its area is about 50 sq m (550 sq ft).

Throughout this big enclosure there are also one or two isolated probable cup-marks, for example one near the top of the Low area, mentioned below. The total carved area, as now exposed, is about 150 sq m (1600 sq ft), apart from isolated cups. All these areas are smooth – probably ice-ground – but fissured. They are all at ground level, except that the Top and Mid areas slope almost precipitously at their E edges, where they drop, in places, about 3 m (10 ft).

The smaller enclosed area, site **B** in fig 1, and shown in the inset to fig 2, lies about 140 m (150 yds) to the E of the bigger enclosure and about 60 m (65 yd) N of the wall which encloses the plantation, in a small clearance amidst dense pinewoods. In 1970 the Inspectorate of Ancient Monuments had a passage cut through the thick undergrowth from the bigger enclosure, and put up a signpost to indicate the entrance to this passage. Within the smaller enclosure is a smooth fissured outcrop at ground level, covered with carvings, and sloping about 20° to the SE. It is about 6 m (20 ft) long and over 3 m (12 ft) wide. This outcrop will be referred to as the Wood rock.

Besides these main enclosed areas there are two other rocks in the vicinity which seem to have carvings. These are marked **P** and **Q** in fig 1. At **P** there is an outcrop of rock which measures about 3.5 m by 3.5 m (12 × 12 ft); it is about 0.5 m (1.5 ft) high near its N edge, but about 4 m (13 ft) high on the S. It is in the field behind the farm, about 35 m (38 yd) S of the wall along the plantation edge, and about 130 m (140 yd) E of the larger enclosure. At **Q** there is a big flat-topped boulder in high bracken in the same field; it measures about 2 × 1.5 m (6 × 5 ft) and is about 0.5 m (2 ft) high.

All the carvings on these sites, with very few exceptions, are cups-and-rings and cup-marks. There are two spirals and a few other designs, as noted below; all except the cup at site **Q** are clearly man-made. The cups-and-rings include examples with the biggest diameters and biggest number of rings so far found in Scotland.

OTHER PREHISTORIC REMAINS IN THE VICINITY

Nothing whatever has been recorded as having been found within about 400 m (450 yd) of the site. The following are within about 2 kilometres (a mile) of it:⁶

400 m SW	NR 852906	possible iron-age fort; Dun na Maraig
500 m S	NR 855901	fallen standing stone and human bones, <i>exactly</i> (within 1° of) due S; Ach nabreck
800 m S	NR 857899	standing stone; cemetery wall; <i>exactly</i> (within 1° of) due S
1300 m N	NR 850918	possible flint tool factory; and flint tools; Auchnashalloch
1400 m W	NR 841910	iron-age fort; Dun Chuain
1500 m NW	NR 845919	probable chambered cairn; Dunamuck
1600 m E	NR 870911	long cairn
1600 m N	NR 849923	2 short stone cists; Dunamuck
1600 m W	NR 838910	2 rock-carvings on outcrop; Cairnbaan
1700 m S	NR 858890	cist-slab, carved and grooved, also flint tools; Badden
1800 m S	NR 84 90	stone axes, flint tools; Creag Ghlas

WORK CARRIED OUT AT THE SITE

It was decided to make a full record during 1970–1 of all the carvings at Ach nabreck. The Inspector of Ancient Monuments for Scotland readily gave the necessary permission; but he made

it a condition that no further turf was to be removed from the rock meantime, except to reveal the whole of any carvings, part of which might already be uncovered – i.e. the survey has at present been restricted to those parts of the rock already bared of turf.

In the early Spring the Inspectorate gave great help by arranging to have all lichen and moss killed – three applications of a non-toxic killer were necessary.

Work began in the Spring, before the final moss-killing had been completed, when the writer made a full ‘mini-aerial-survey’ of the whole area bearing carvings. To achieve this, the site was first gridded and marked in rectangles of 70 × 50 cm. White cord was laid in lines, vertically and horizontally, across the centres of each of the rectangles. The gridded rows were numbered from N to S and lettered from E to W. Then, using a wide-angle lens, each rectangle was photographed from a height of three feet, vertically above it, showing its grid number and letter and a scale. The resulting photograph showed the rectangle, with a small overlap all around, at a scale of almost exactly one twenty-fifth, in the 35 × 25 mm film. Over 500 such photographs were taken to complete the ‘mini-aerial-survey’.

Using these photographs a ‘mosaic’ or plan was built up of each of the four main carved areas, showing their borders, main carvings and fissures. The building up of these plans was greatly helped by the grid numbers and white (cord) lines in each picture. Taken in wet weather at only 3 ft range, each picture gave slight distortion at its edges and only showed the deeper carvings and fissures; but the resulting ‘mosaics’ gave reasonably accurate plans on which to base further work.

Following this, in June 1970, a full record was made of all the carvings on the site as now exposed. As there are well over three hundred of them, the work of recording each and its exact position relative to the others had to be very carefully done and checked. It was done by a party of five, with occasional help from others. Besides the writer, the main party comprised Miss Elizabeth Shee, Miss Eilan Scott, Richard Haworth and Christopher Worsley. All these were University graduates in archaeology except Mr Worsley, who was a second-year archaeology student.

The recording was carried out by methods used by Dr Emmanuel Anati in Northern Italy and elsewhere.⁷ First of all the site was gridded – many of the grid-marks used for the ‘mini-aerial-survey’ were used again. Then all carvings found, on a careful inspection of the surface, were *roughly* chalked in, without great attention to detail, so that their presence would not be overlooked later. When a section of rock had been chalked in and checked, an accurate tracing of the carvings (not the chalk-marks) on it was made on a series of sheets of clear cellophane laid on the rock. The cellophane was fixed to the rock surface, to prevent its movement, with adhesive tape. In tracing, using broad felt-tipped pens, the tracer first of all marked, in red, all the grid lines and grid references, and indicated the main fissures and rock edges. Then, in black ink, the carvings were traced in. It was found that one can ‘feel’ the edges and widths of the grooves in a most satisfactory way with the soft fibre point, giving an excellent check to one’s visual impression of what is there.

When finished, the tracer initialled the sheet in red and it was checked, numbered and initialled by a senior member of the team before it was removed from its position. In a few cases of doubt, a rubbing was made as an extra check. As a second check, later in the week after all the chalk marks had been washed off by rain, all the surfaces were rechalked and each sheet was laid down again and checked to ensure that nothing had been missed. Malcolm Campbell, who has been concerned with the maintenance of the site, among others, for the Ministry for the past thirty five years, who once lived at Achnabreck and who probably has a fuller knowledge of all that is on the rock than anyone else, also went over the chalked-out site with the writer, so that we might be satisfied that every mark known to him had been included.

An accurate outline plan was also made of each carved area and its grid, at one-tenth scale, for use later.

The resulting mass of cellophane tracings, all about two feet wide, and varying in length from one to twelve feet, were accurately photographed at one-tenth scale through the good offices of the Royal Commission on Ancient Monuments. Using the same techniques as with the original 'mini-aerial-survey', and mounting these photographs on the new gridded one-tenth scale plans, the writer was able to build up accurate 'mosaics' of all the carvings, correctly sited with reference to the main fissures. The tracings which formed the basis of figs 3 to 16 were drafted from these 'mosaics'. While these show the edges where the rock-surface at present merges into turf, undoubtedly this turf-line will vary over the years. So in each figure the main fissures are also shown – by dots or broken lines. These will probably form more permanent 'reference points' for future workers than the turf-edges themselves.

Figs 3 to 16 are plans of the rock surfaces, measurements having been taken over these. No attempt has been made to reduce these to a flat geographical projection.

Before making the final drawings from which figs 3 to 16 were made, the drafts were checked against one-tenth-size photographs of the rubbings made by Romilly Allen and also against the actual carvings on the site and the photographs of them. Despite the interval of at least forty years since Allen made his rubbings, and although none of these showed any location beyond the label 'Achnabreck', it was interesting to find that all these rubbings could be identified and the carvings rubbed are still exactly the same and not further worn off. His rubbings, however, disclosed one example, the cup-and-rings at d1 in fig 5, which, although still extant, had become so shallow as to be missed in the June survey, although visible at the final check in the low sun of December. His rubbings covered most of the larger carvings on some parts of the rock, but it seems almost certain that more rock is bare than when he took his rubbings. For example, he made no rubbings of anything shown in fig 10.

DESCRIPTION OF THE CARVINGS FOUND

It is hoped that the general plans, figs 3 and 4, will help readers to turn at once to the correct detail plan showing any carving mentioned below. In them, each detail plan (figs 5 to 16) is shown by a letter of the alphabet. The detail plans themselves are gridded, and the corresponding letter of the alphabet is given.

In the description of any carving which follows, the letter mentioned above is given first, then the vertical grid reference, and lastly the horizontal grid reference. Thus the horned spiral near the top of the Top area is referred to as being at Ae4 – i.e. in section A of the rock (see fig 4), and at that section's vertical grid e and its horizontal grid 4 (see fig 5, which as stated in the caption to it, is a detail plan of section A of the rock).

The styles of carving on different parts of the rock seem to vary slightly. Thus:

Top area – (figs 5 to 7, pls 2, 3, 4a)

The man who carved here has carved more accurate circles than on most parts of the rock, and seems to have been more adventurous in design. Both the spiral designs are on this area – at Ae4 and Ad6. So are the three 'comet-like' designs – at Ad6, Cd20 and Cb21. Although many of the carvings here are still very clear, both spirals are very weathered. Indeed the spiral at Ad6 is so worn that it is invisible in most lights, and does not photograph well even in very low sun, although it still comes out quite clearly in a rubbing. While it conforms exactly to Allen's rubbing of it, the sketch of it by Simpson⁸ must only have been intended as an approximation. In the following

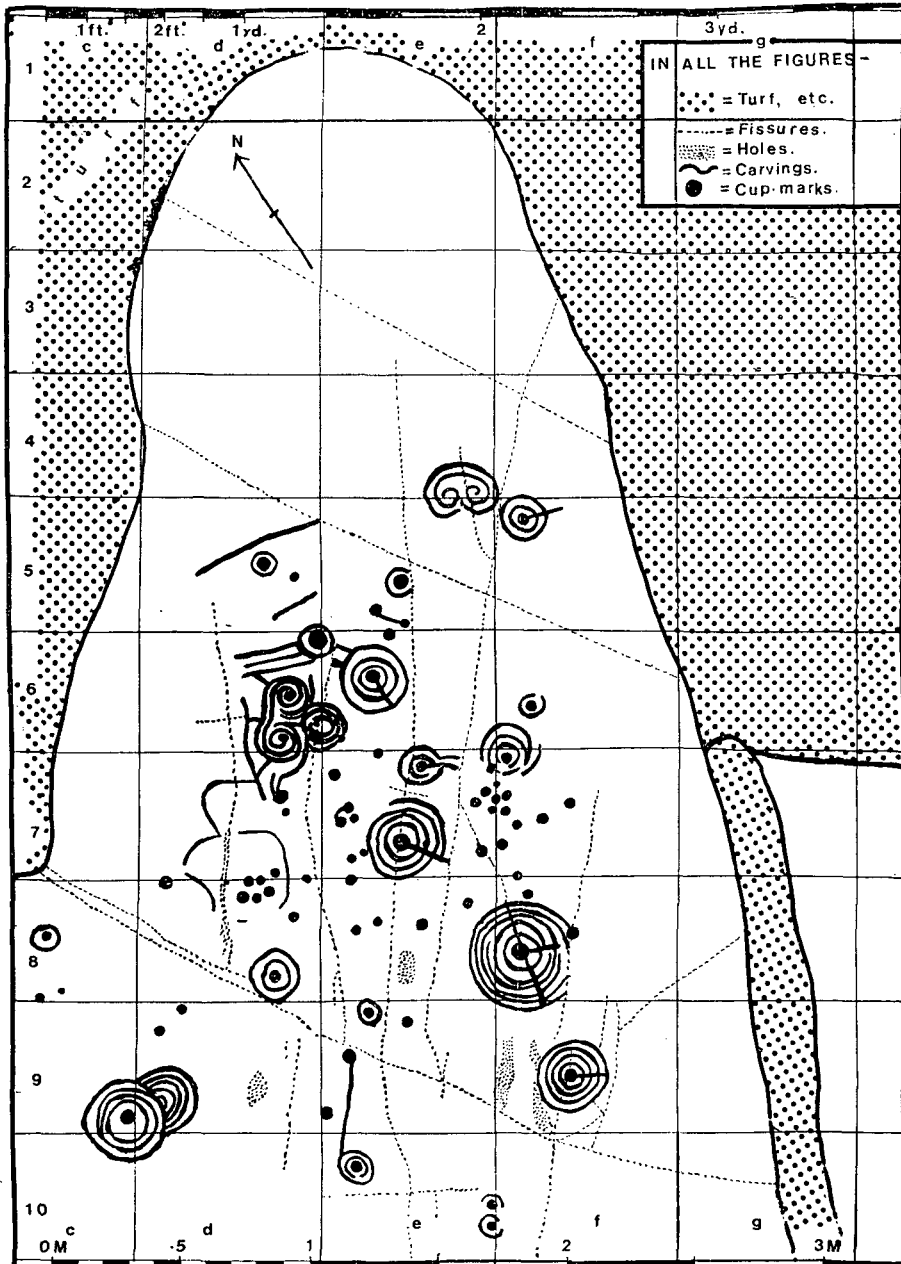


FIG 5 Northmost part of the Top area (A in figs 2 and 4)

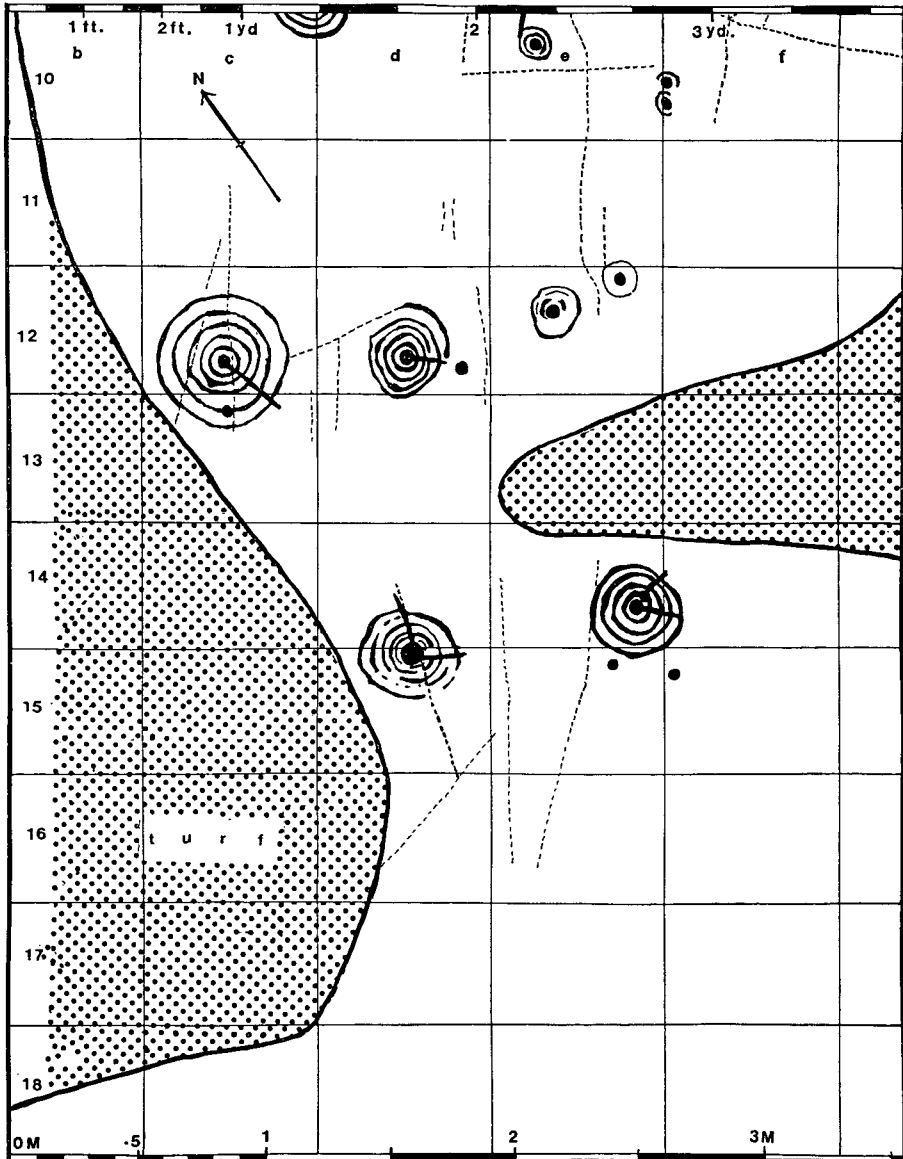


FIG 6 Centre part of the Top area (B in figs 2 and 4)

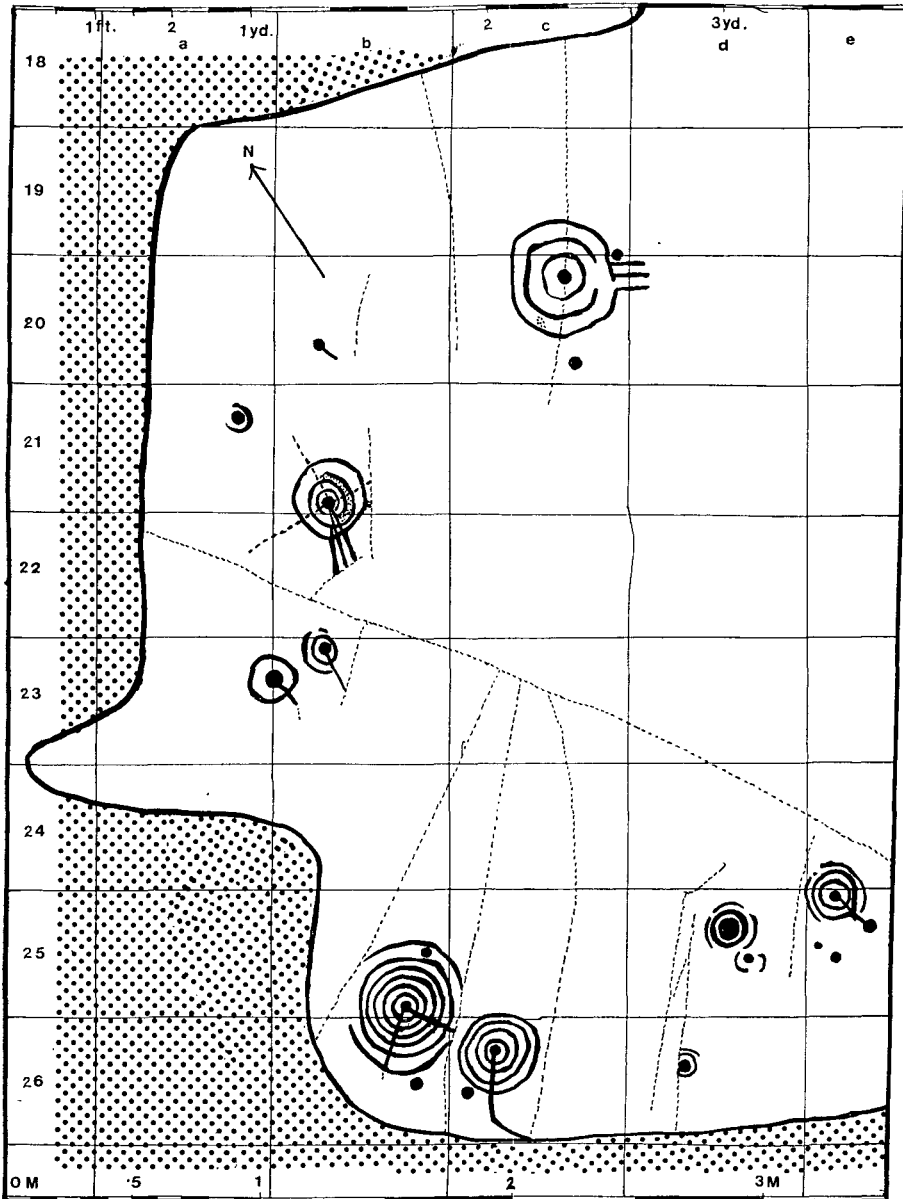
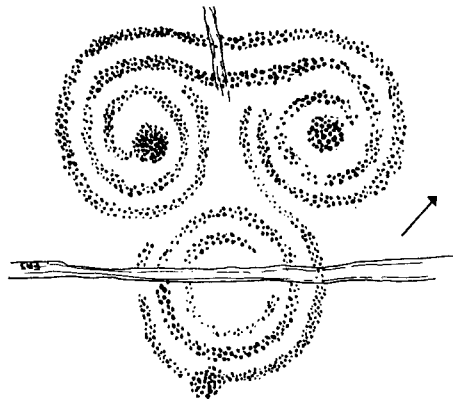


FIG 7 Southmost part of the Top area (C in figs 2 and 4)

sketch of it, the heavier shading indicates deeper carving, – but nowhere in this carving is a depth of more than about half a centimetre ($\frac{1}{2}$ in) reached.



The other spiral – only a little deeper, but showing up well in low sun – is also in a ‘horned’ form unique in Scotland, although very similar designs are known elsewhere, for example in the stele of the shaft grave 5 at Mycenae⁹ and at Kville in Bohuslan, Sweden.¹⁰ Although cups are shown in Simpson’s sketch of it,¹¹ there are, in fact, no cup-marks in this design.

Simpson also noted the first-mentioned ‘comet’ but his sketch of it is not now quite correct.¹²

There are at least 34 cups-and-rings, 2 spirals and 62 cup-marks which are not parts of another design in the Top area. At least 2 of the cups have ‘tails’, and perhaps these once had rings round them. There are also many long grooves – mostly radial, from the central cup or near it. Most of these run downhill and connect one design with another, or with a rock fissure. Several cups-and-rings have two radial grooves, and one of them has three – at Af8. Whereas most cups-and-rings have at least one radial groove at Ach nabreck, on this Top area *only*, all the cups-and-one ring – thirteen of them – with one exception, have none. The biggest number of concentric rings on this Top area is six (Ad8 and Ch25).¹³ Quite a number of the carvings here are incomplete, as elsewhere at Ach nabreck, probably owing to weathering.

Mid area – (figs 8 and 9, pls 4b–d)

Whoever carved here carved rather less well-formed circles than the man who carved the Top area, although he carved less irregular rings than those at the bottom of the Low area or in the Wood. He also carved here the biggest cup-and-ring carving so far found in Scotland (De8).¹⁴ It has a diameter of 96 cm (38 in). Part of a second cup-and-ring seems to ‘bud’ from its side. On this Mid area there are at least 12 cups-and-rings, these having up to seven concentric rings, and one of them (Dd2) having two central cups. Two have three radial grooves (Df10 and Eb12). There are also at least 8 cup-marks apart from those in other designs, one of these having a ‘tail’.

Low area – (figs 10 to 14, pls 5, 6a, b)

Styles seem to vary on this, much the biggest uncovered area. The upper westmost part (fig 10) is perhaps the most recent to be uncovered as neither Simpson nor Allen have recorded anything on it. On this part many carvings are fairly circular. But there is a marked irregularity lower down. The carvings here include what are probably 2 cups-and-nine-rings (Hi13 and Jj13).¹⁵ This is the biggest number of concentric rings so far found in Scotland.¹⁶ Near these two carvings

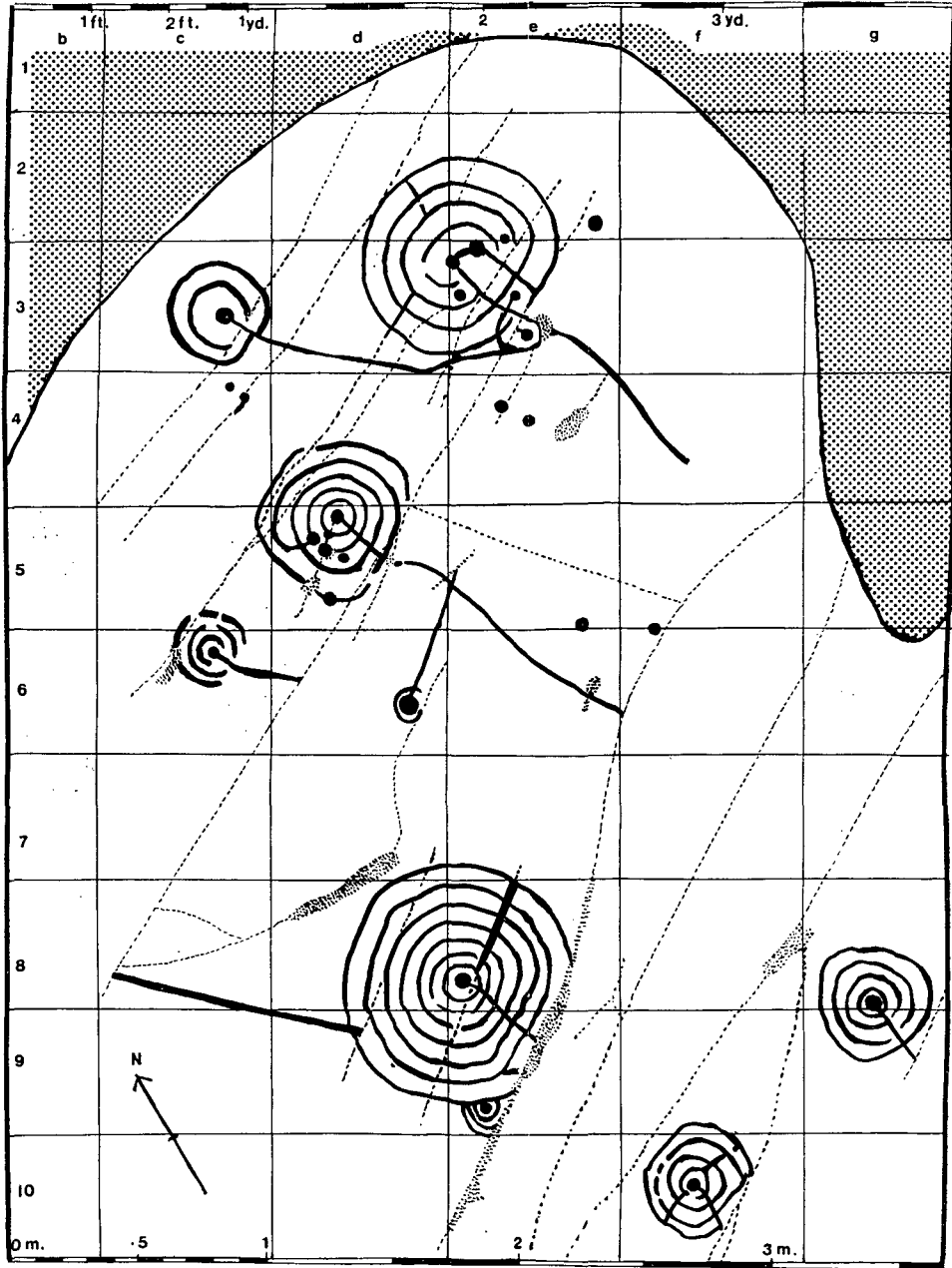


FIG 8 Northmost part of the Mid area (D in figs 2 and 4)

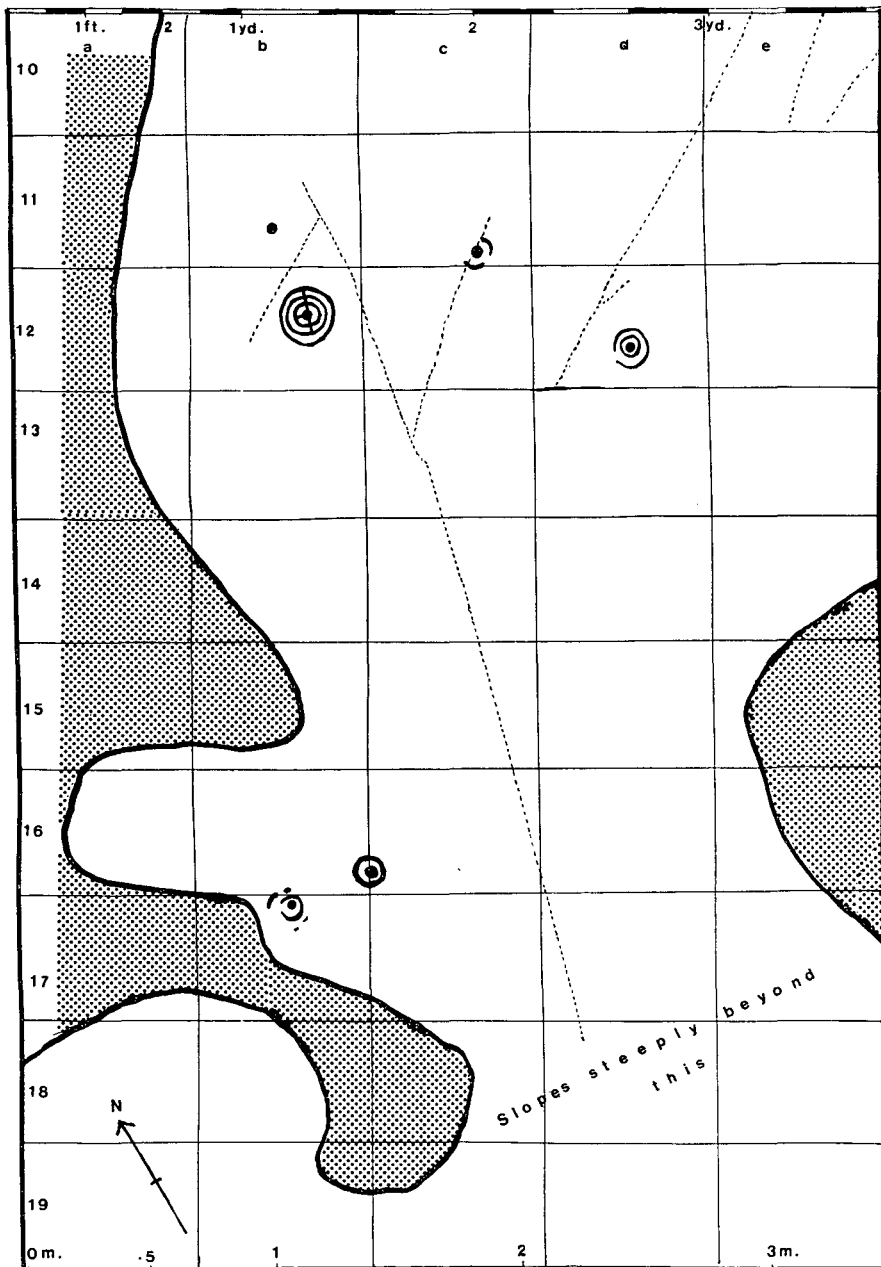


FIG 9 Southmost part of the Mid area (E in figs 2 and 4); the rock exposure continues to the S and E but without carvings

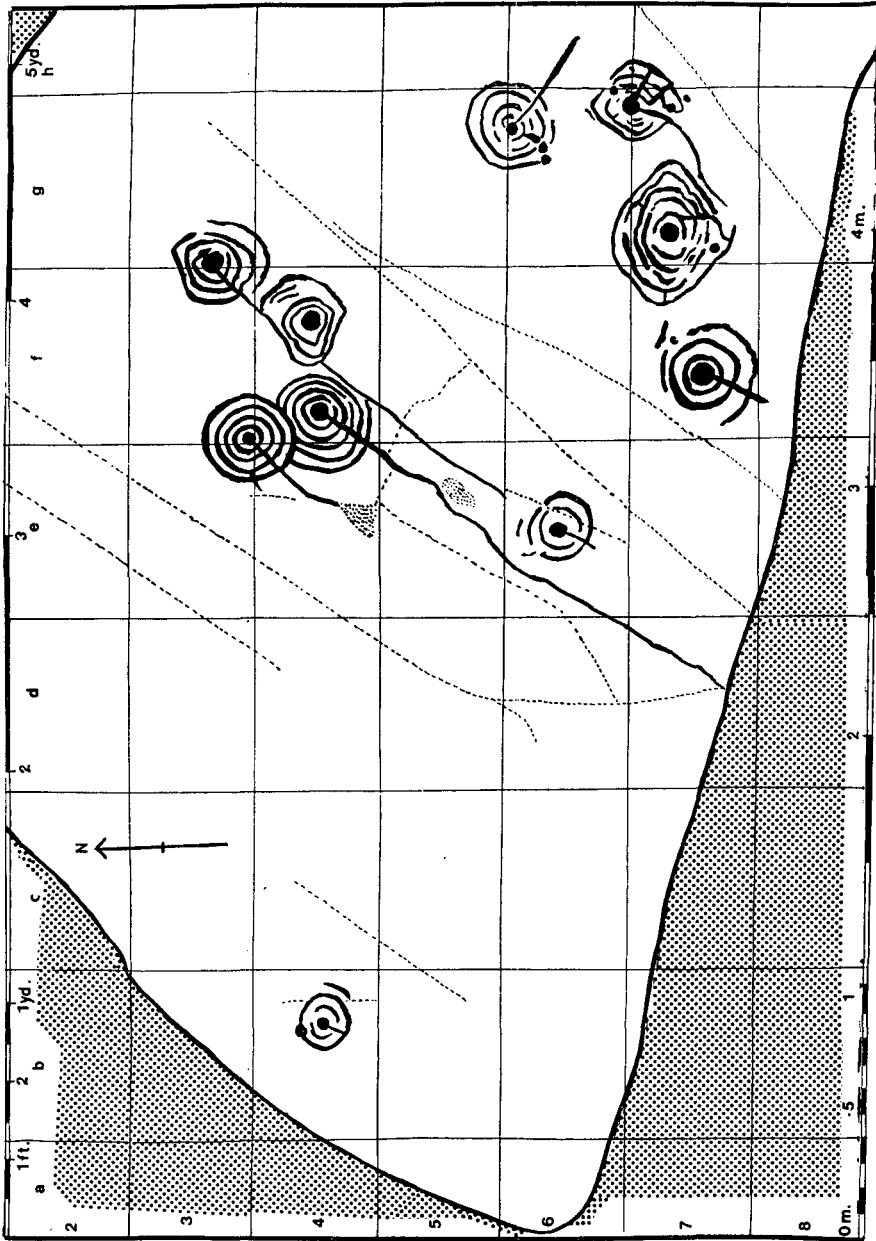


FIG 10 Westmost section of the highest part of the Low area (G in figs 2 and 3)

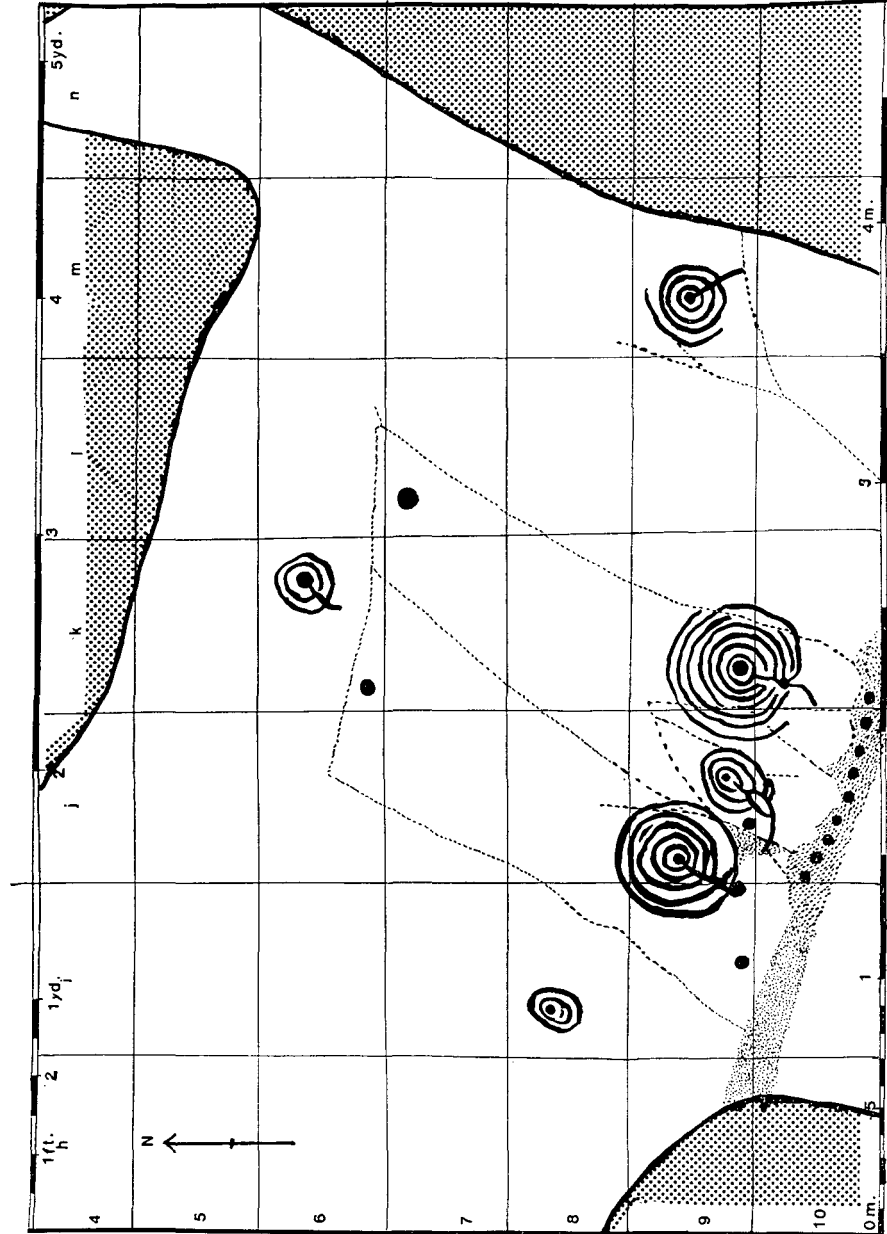


FIG 11 Eastmost section of the highest part of the Low area (F in figs 2 and 3)

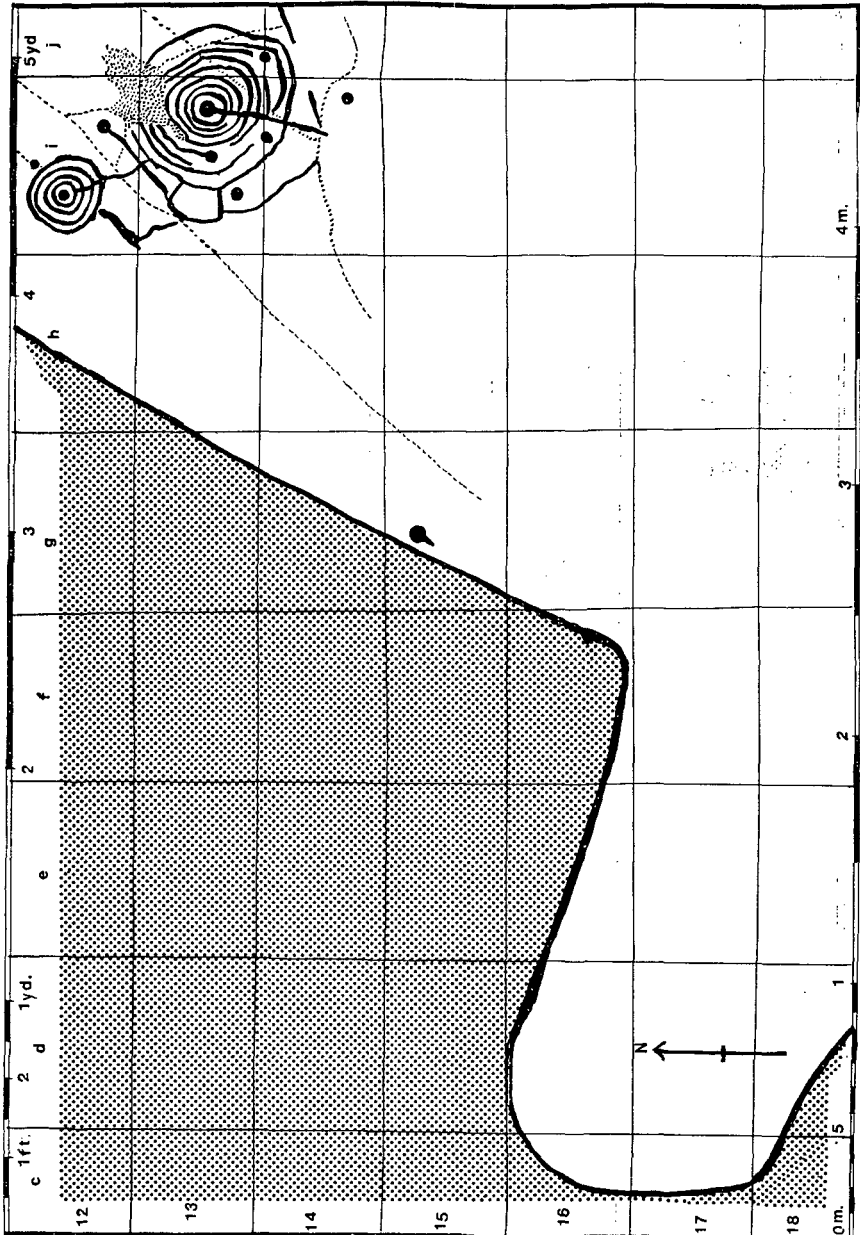


FIG 12 Westmost section of the centre part of the Low area (J in figs 2 and 3)

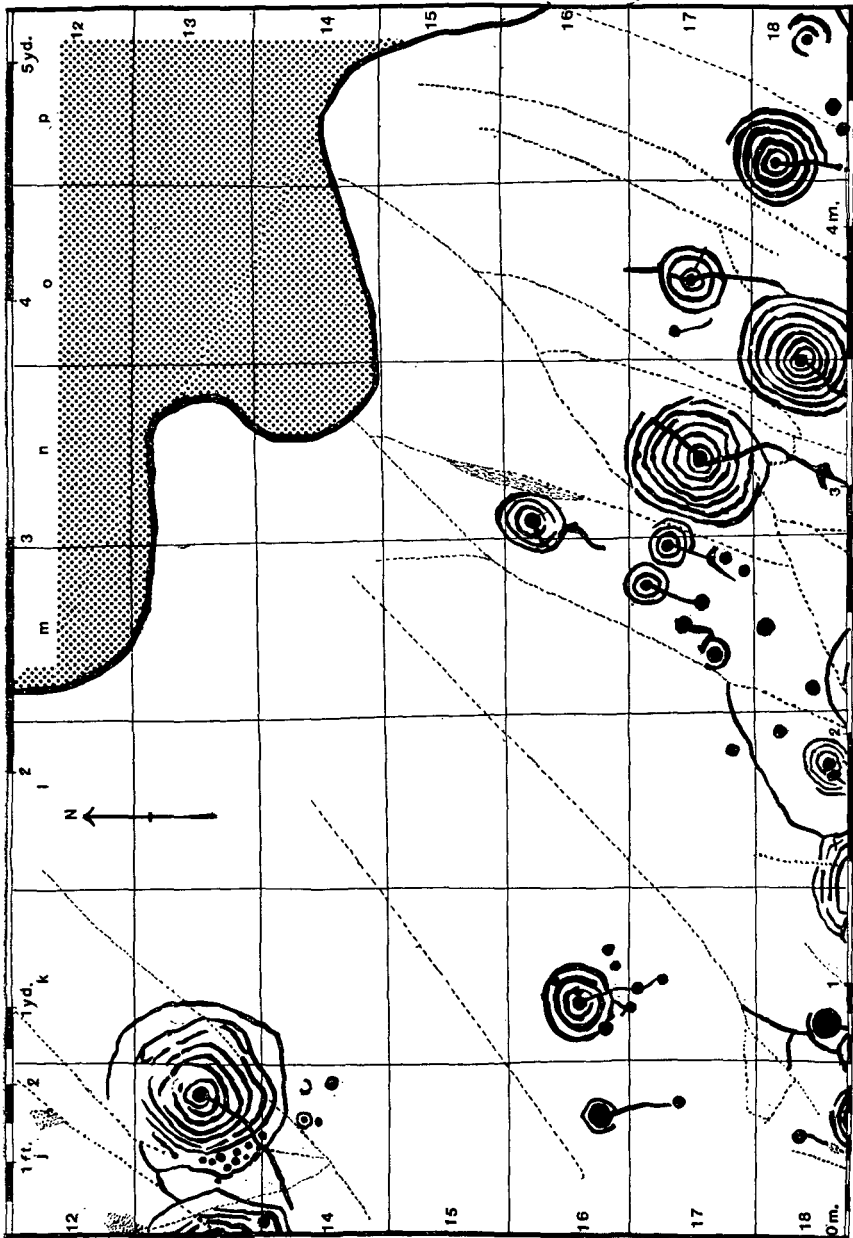


FIG 13 Eastmost section of the centre part of the Low area (H in figs 2 and 3)

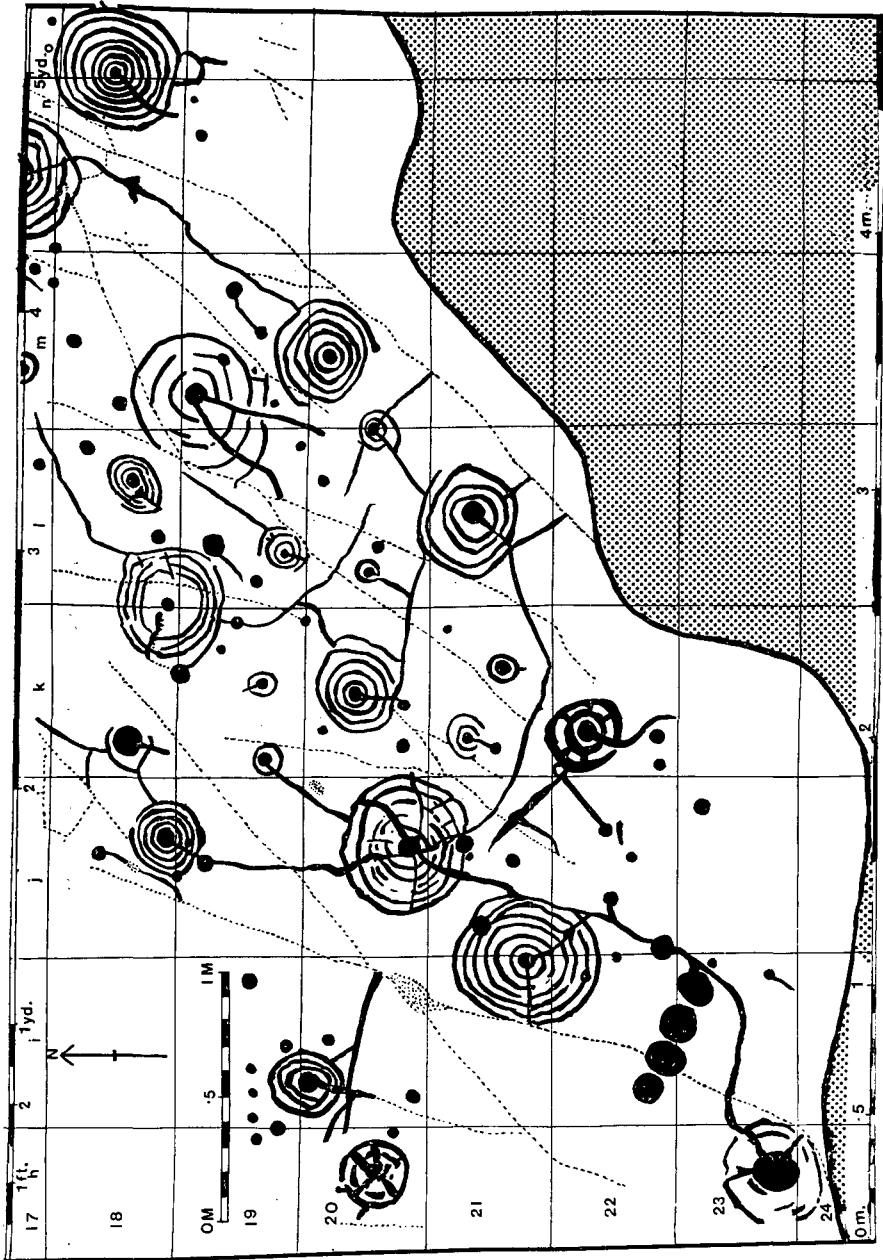
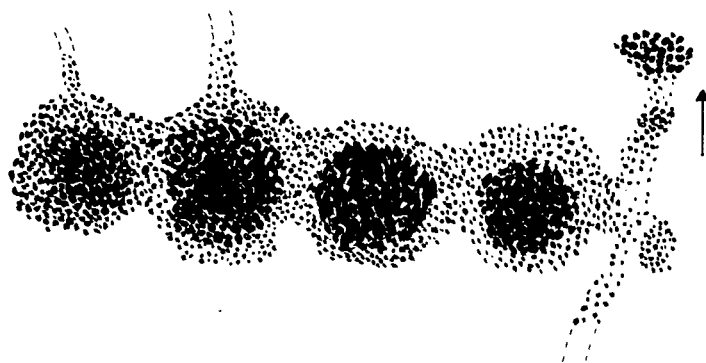


FIG 14 Lowest carved part of the Low area (K in figs 2 and 3); the rock exposure continues to the W but wit

the rock surface tends to flake away, and both are now somewhat incomplete. The carving at Kb20 has been interpreted by some archaeologists as a cross, but the rock had flaked badly and it is impossible to confirm this. Allen's rubbing shows that this was no clearer in his time. The carving at Ki22 is really more complex than the line of cups shown. It has been carved, quite deeply, at three different depths. Using different degrees of shading (darkest for deepest) it can be illustrated thus:



In the Low area there are at least 50 cups-and-rings and 55 cup-marks (apart from cups in other designs), of which cups at least 15 have 'tails'. Two examples have nine (probably), two have eight, and two have seven rings; and two examples probably have respectively six and five radial grooves (Kk22 and Kj20). The majority of the carvings on this Low area are now incomplete through weathering and flaking.

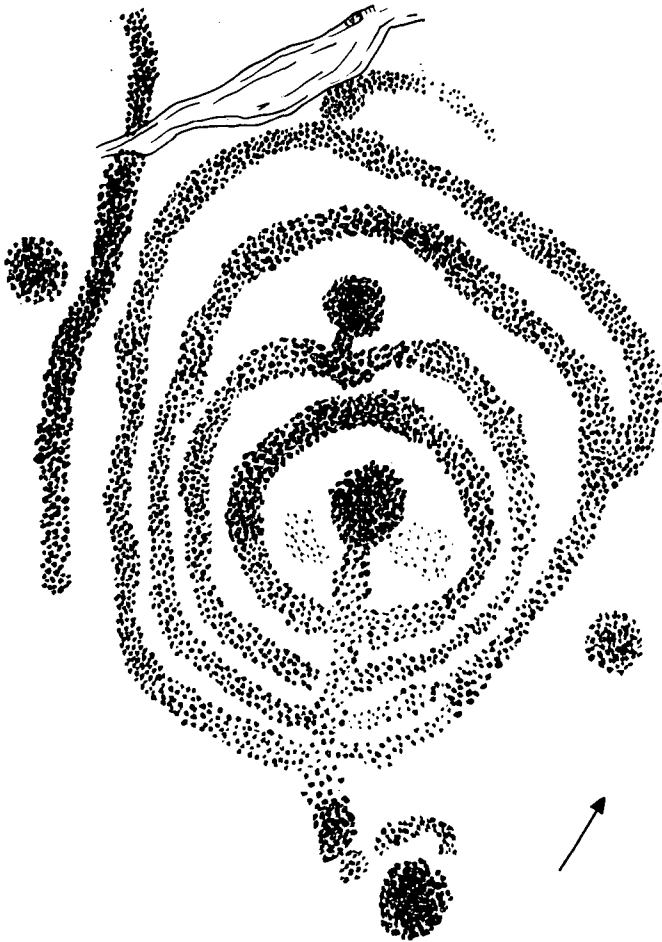
Single cup-marks

On a small bare rock patch (about Gn0 if one extended fig 11 northwards; i.e. about 1 m E of the present turf-edge and 1.5 m N of it) there is a single cup-mark, about 6 cm (2¼ in) in diameter and 3 cm (1 in) deep. There are one or two other single probable cup-marks on other isolated bared patches of rock within the fence enclosing site A.

Wood rock (figs 15 and 16, pls 6c, 7a-c).

This separate rock outcrop, within the enclosure forming site B in fig 1, has more design for its comparatively small area than the other areas. The man, or men, who carved it made very badly-shaped 'circles', but linked its designs together by grooves even more frequently than elsewhere. One might even imagine that here is a beginning of an attempt to link separate designs into one bigger 'pattern'. The carver of this rock, too, made designs which are rather more complicated in some cases than elsewhere, and sometimes seems to have used different depths of carving for added effect. He made five carvings following a rather unusual variation of the cup-and-ring design – it has an extra cup embodied within a space near the top (uphill) of its rings, as well as the usual radial groove running downhill (Lb4, Lc5, Lc7, Ma9 and Mc10). One of them, probably that at Mc10, is roughly sketched by Simpson,¹⁷ and although Simpson's sketch is not quite accurate it has obviously been copied by McWatt.¹⁸ This example is really as follows on p 52 (again, heavy shading denotes deeper carving).

In several other instances more than one cup is incorporated in the design. It is impossible for the writer to say if any of these represent superimposed designs.



There is another unusual design at Me10 which the writer has not seen elsewhere in Scotland, although its counterpart can be found, for example, in Galicia.

On this Wood rock there are in all at least 58 cup-marks, apart from those in other designs, at least 3 of them with 'tails', and 39 cups-and-rings. The latter have up to six concentric rings, and the majority of them have radial grooves from the central cup or near it.

Site P in fig 1

The nearly level top ridge of this rock outcrop, in the field behind the farm, has been worn to a shiny smoothness, probably by sheep. On it are the very worn remains of what seem to have been four cups-and-rings, and one or two other probable cup-marks. They are so worn that a rubbing of them shows little; and traces of them can only be seen in very low sun (about 5° above horizon).

Site Q in fig 1 (pl 7d)

There is a big hollow on the convex top of the big boulder here, measuring about 12 cm (5 in) in diameter and 7 cm (3 in) in depth, with a rounded bottom. It may be natural, but more probably is 'natural, improved by man'.

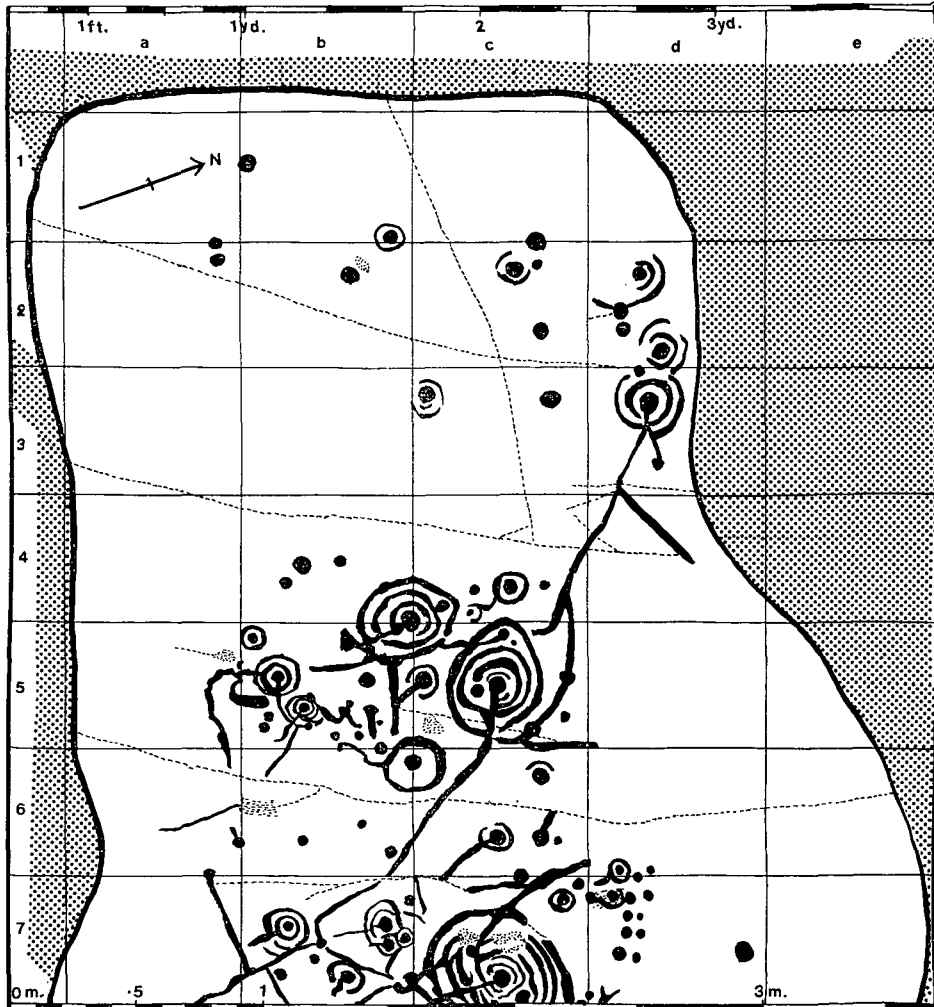


FIG 15 Westmost part of the Wood rock (L in figs 2 and 3)

General

In all, there are at least 323 carvings – 183 cup-marks unconnected with other designs, 135 cups-and-rings, 2 spirals, a few other designs and many radial and other long grooves. The writer has tried tabulating compass directions of radial grooves, numbers of rings, of annular and penannular rings, and studied the placing of carvings, cups-in-line, slope direction and otherwise, but can find nothing significant except perhaps the following:

1. All carvings with four or more concentric rings have at least one radial groove. So have most of the others, with the notable exception, mentioned above, of the cups-and-one-ring in the Top area.
2. As is normal in Scotland, the great majority of radial grooves run downhill. But, less usually, a great number of them are prolonged and connected with other carvings, grooves or fissures.

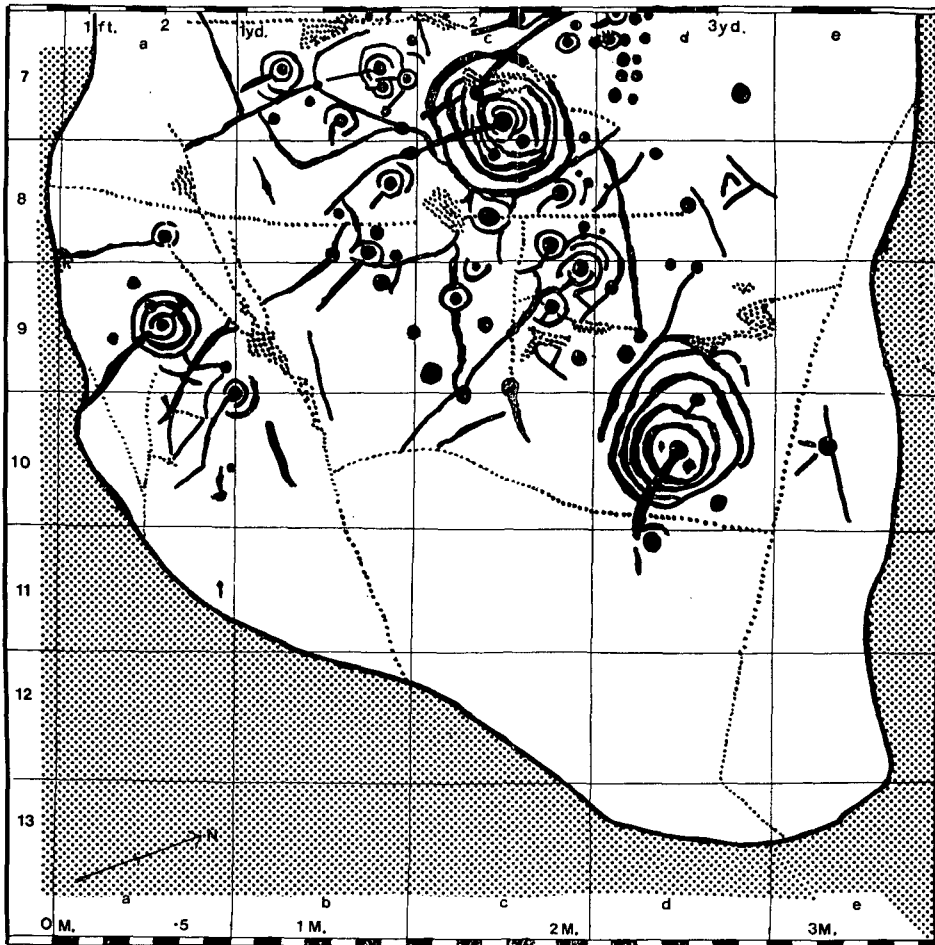


FIG 16 Eastmost part of the Wood rock (M in figs 2 and 3)

3. As is normal in Scotland, most of the carvings are so sited as to be practically invisible in midsummer noonday sun, but to show up very well indeed in a low midwinter sun.

4. A number of the carvings have been made to different depths, the cups or cup being deepest. Because some of the rings are carved at one depth in penannular form but are joined to the radial groove by much shallower cutting (pocking), one person might classify these as penannular while another might classify them as annular.

5. No carvings were found either on the site or among Allen's rubbings to correspond with Simpson's plate II(13) in *Archaic Sculptures* (gapped cup-and-ring without radial groove).

THE PROBLEM - WHY SO MANY CARVINGS ON ONE SITE?

In recent times there has been a tendency to generalise and call all these cup-and-ring carvings 'bronze-age', as indeed many of them may be. But in most cases there is no *proof* of this, and in some cases the evidence is very much in favour of some other date, earlier or later, so this must be regarded as an over-simplification. Many writers think it probable that they were made,

and used, in the British Isles and elsewhere, over a very long period of time.¹⁹ Perhaps this period covered about five thousand years – from at latest *c* 3240 BC²⁰ until as late as about AD 1000, when the design was incorporated, too often for mere chance, into the Cross, which just possibly superseded it.²¹ During most of this period, as one might expect, the cup-and-ring design, which occurs in every continent except perhaps Antarctica²² seems in the British Isles to have had a number of variations in form and use, all (or many) perhaps related to one central ‘meaning’. Just possibly, however, many of these instances of use of this simple design in different areas and periods were quite unrelated and a mere coincidence. Certainly this is so with cup-marks. It is worth noting, however, as a possible analogy with the cup-and-ring, what has happened in the last thousand years or so to the Cross; for example, the Red Cross now means ‘medical aid’, a white cross on red means ‘Swiss’, a Victoria Cross means ‘bravery’, and so on. So the cup-and-ring and the cup-mark may, just possibly, have been used, in Europe at any rate, at different times or simultaneously, for example, as a magical aid in finding copper and gold ores, in certain well-defined positions in stone circles,²³ on standing stones, where at least some of these seem to have formed part of a primitive agricultural calendar or astronomical alignment (some writers say this was far from primitive) and for the comfort of the dead – generally facing inwards in stone cists and the like, where, clearly, they could have been intended to comfort no one else. All this could be linked by a central magical meaning, but of this there is no proof.

In the case of the Achhabreck carvings, copper has been worked at two sites which are about 7 km (4 miles) away – at Kames to the E and Castleton to the S – and there are workings in other directions a little farther away. There are at least 47 other sites bearing cups or cups-and-rings within 6 miles of Achhabreck, mostly to the N. The purpose of a few of them is clearly sepulchral or astronomical, but most are inexplicable except in terms of copper proximity. If the purpose at Achhabreck was copper-searching magic, it is hard to understand why so many carvings should have been made on this one great chunk of rock, 4 miles from the nearest copper-workings known. A possible explanation, entirely without supporting evidence, might be that there was some kind of school for the local copper-prospectors or members of a sect, and that here the new art of carving on stone may have been taught to, and practised by, perhaps four to six apprentice priests or prospectors, before they set out on their work in the area. Even if one uses only a pointed piece of the abundant quartzite without any hammer (flint is scarce), it is easy to carve quite a good cup in half an hour, or a big cup-and-rings in two days. If one imagines a number of trainees here, each with his slightly different style, it might be interesting to try to trace these individual traits in the other carved outcrops in the area. One wonders what, if anything, the two standing stones *exactly* S of the main site had to do with all this.

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NOTES

1. *Archaic Sculptures*, Sir James Simpson, 1877, 60.
2. *PSAS*, vi (1872–3), Appendix, 9, pls ii, xxi, xxiii; *PSAS*, xxviii (1903–04), 142; *PSAS*, xcv (1961–2), 29.
3. *Archaic Sculptures*, *supra cit*, 3, 6, 10, 11, 12, 60, and pls ii, xxi, xxiii; *Ardrihaig and Vicinity*, C Leitch, 1904; *JRSAI*, lxxv (1946), 74; *D and E*, (1962), 3; *List of Monuments*, Argyll County Council, 1915, 15; *Ancient Monuments of Scotland*, HMSO, 1966, 10; *Illustrated Guide to Ancient Monuments*, vol 6, Scotland, V G Childe and W D Simpson, 1954, 28, 75; *Ancient Monuments and Historic Buildings open to the public*, HMSO, 1963, 16; *Incised Markings on Stone found in Northumberland and other places*, Duke of Northumberland, sketches by D Mossman, 1896, pls xxvi–xxix; *Bolletino del Centro Camuno di Studi Preistoriei*, x (1973), figs 45, 46 and 52.
4. *PSAS*, vi and *Archaic Sculptures*, pls *supra cit*.
5. *Archaic Sculptures*, *supra cit*, 60.
6. *PSAS*, xcv (1961–2), 1, nos 51, 139, 214, 271, 272, 276, 276a, 355, 356; maps in Ordnance Survey Archaeology Division, Edinburgh.
7. *Camonica Valley*, E Anati, 1960, 25.
8. *Archaic Sculptures* and *PSAS*, vi, *supra cit*, pls ii (10) and xxiii.
9. *AGO*, Aug 1970, 4.
10. *Hallristningar Kville*, A Fredsjö, 1967–8, ii, 81; iii, 77.
11. *Archaic Sculptures* and *PSAS*, vi, *supra cit*, pl xxiii.
12. *Archaic Sculptures* and *PSAS*, vi, *supra cit*, pl ii (12).
13. *Archaic Sculptures* and *PSAS*, vi, *supra cit*, pl xxiii, top left figure. When Simpson drew the design at Ae7, that carving seems to have had six rings, but only three, and parts of a fourth, can now be traced.
14. The only larger one known to the author in the British Isles is on Gled Law, Northumberland (c NGR NU 011307); it is said to have been about 48 in in diameter at one time, when it had more rings, but it is now weathered and about 100 cm (40 in) in diameter. There is a drawing of it, as it formerly existed, in *Incised Markings on Stone in Northumberland*, *supra cit*. Nearby on Chatton Law (c NGR NU 072293) are three others, each of which is about the same size as this at Achnabreck.
15. Probably these are the carvings roughly sketched by Simpson in pl xxii (lower part) in *Archaic Sculptures* and *PSAS*, vi, *supra cit*. See also *D and E* (1962), 3.
16. There are nine concentric rings also at Greenland Farm, Dunbartonshire, *PSAS*, xcviii (1964–6), 160.
17. *Archaic Sculptures* and *PSAS*, vi, *supra cit*, pl xxiii, bottom left.
18. *JRSAI*, *supra cit*.
19. *Archaic Sculptures*, *supra cit*, 136–8; *Valcamonica Symposium*, Centro Camuno di Studi, 1970, 251.
20. *Trans Anc Mon Soc*, 16 (1969), 49; *New Grange*, 2nd ed., C O’Kelly, 1971, 96. Prof. O’Kelly has subsequently, using bristlecone pine comparisons, corrected the actual date to c 3200 bc, *Current Archaeology*, 1972, 296. By letter to the author of 22.1.73, Prof. Piggott confirms that, from the position of the cup-marked stone found at Dalladies, Kincardineshire, it is ‘presumably to be dated by the radiocarbon date’, which, using bristlecone pine comparisons, he corrects to c 4000 bc.
21. *AGO*, Nov 1970, 7, fig 1(8) and fig 2. I am indebted to Mr R B K Stevenson for correcting my dating of the two Early Christian crosses (given there as AD 700) to ‘probably nearer AD 1100’.
22. E.g. Switzerland: *Valcamonica Symposium*, *supra cit*, 137; Africa: *The Prehistory of Africa*, H Almen, 1957, 379; America, Georgia: *Archaeology*, (New York), 17, 1 (1964), 54; Australia: *The Prehistory of Australia*, D J Mulvaney, 1969, pls 73, 76; Asia: *Journ Asiatic Soc Bengal*, 46 (1877), 8, pls iii, Vc, Vd.
23. Lecture by H A W Burl to our Society, Nov 1970, in which he pointed out that cup-marked stones in connection with stone circles usually seem to occupy one or more of three positions there, and are very seldom found anywhere else in the circles. While cups-and-rings are rarer among these circles, the same seems to be true of them where they do occur.

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a Top area looking S, general view of upper part (scale divided into 3 and 5 in sections)



b Top area at d5-8, triple spiral and other carvings



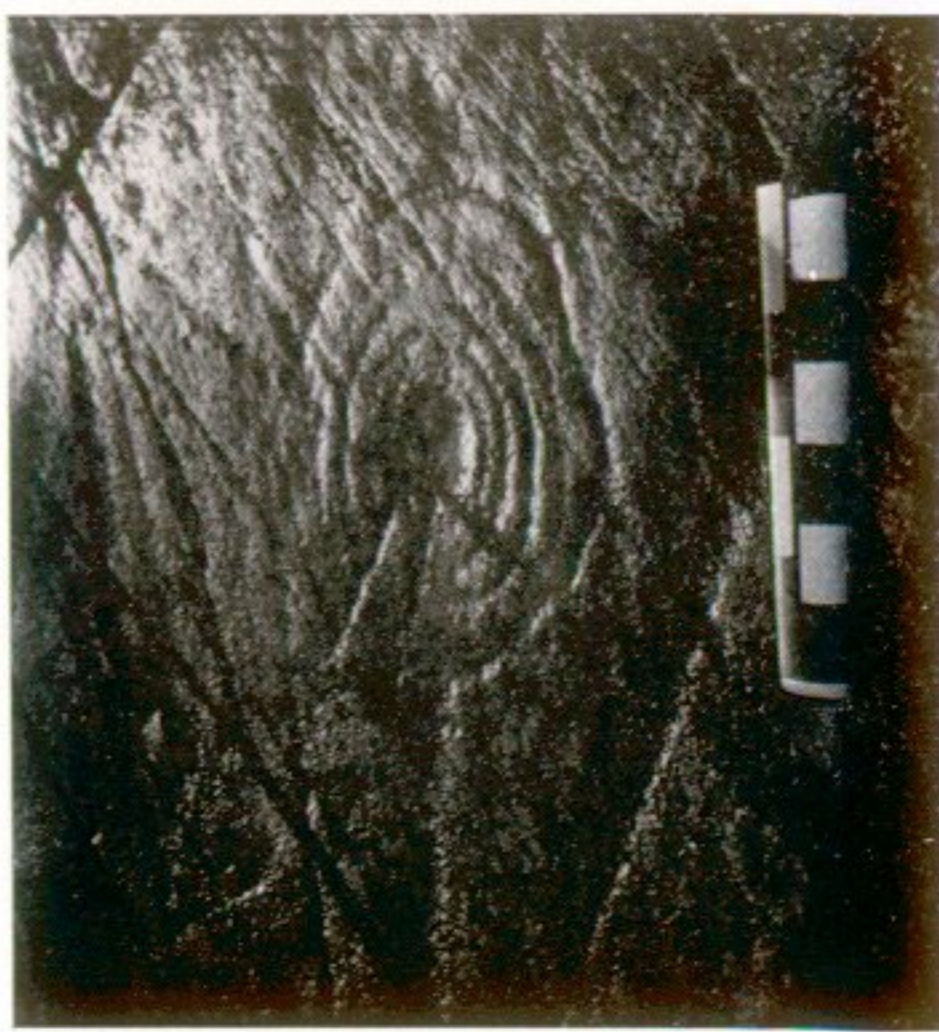
c Top area at c4, 'horned spiral' unique in Scotland but found elsewhere in Europe



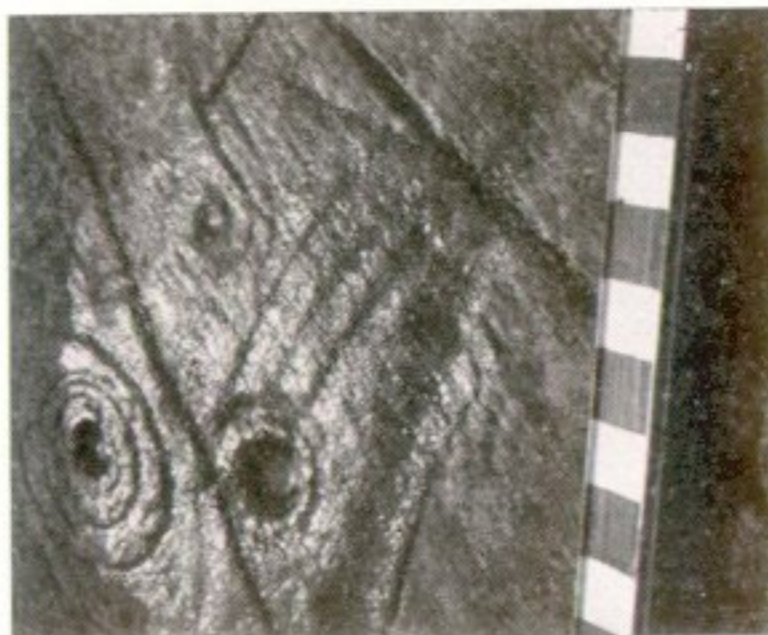
a Top area at c25, two radial grooves at right angles



b Top area at d8, cup-marks enclosed by groove



c Top area at b21, 'comet-like' cups and radial grooves



d Top area at d6, 3-tailed 'comet-like' figure (scale in 5 cm sections)



e Top area at d12, 'dumb-bell' where groove runs into a second cup



a Top area at e7, cup-and-ring with three radial grooves



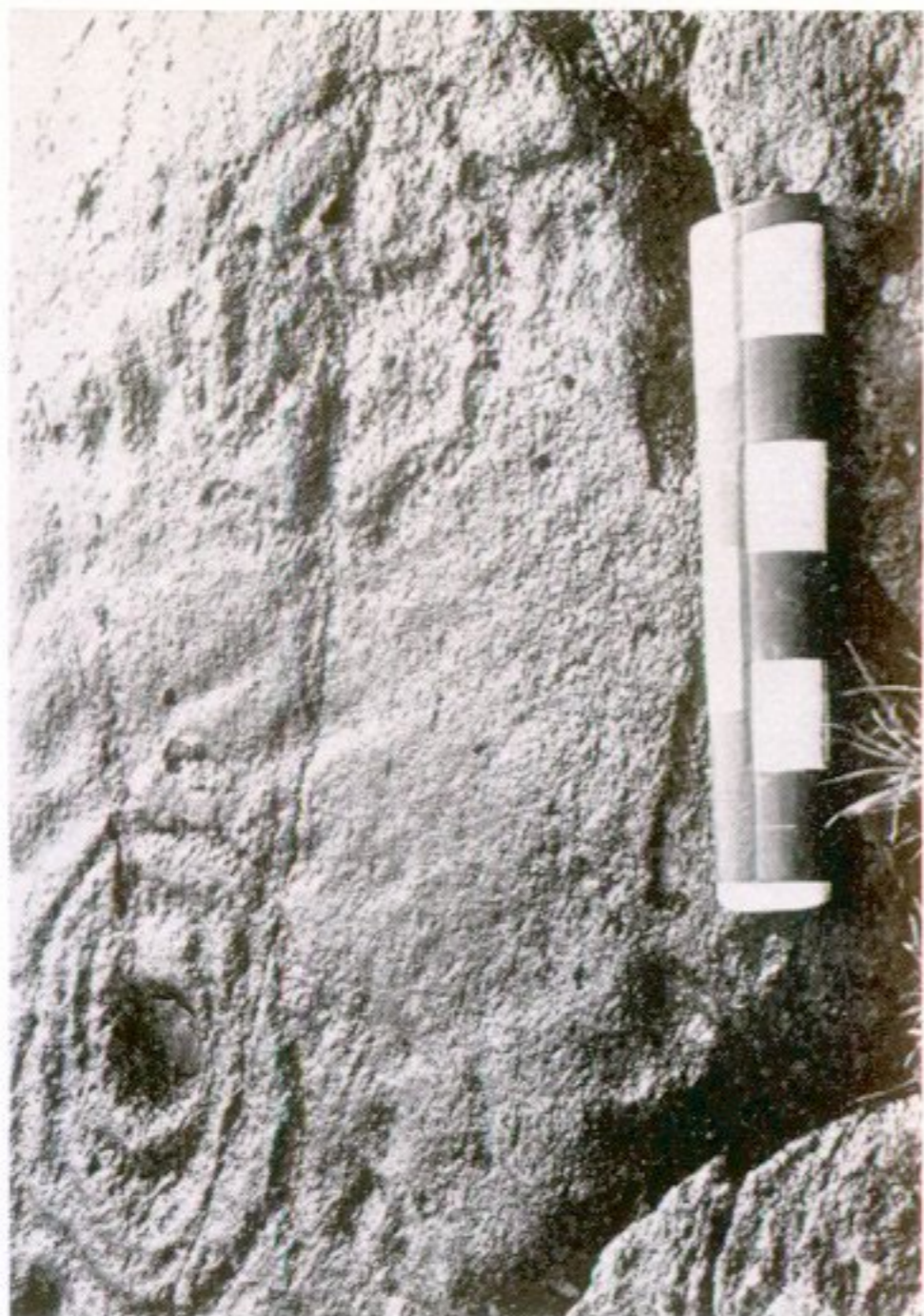
b Mid area, general view looking S over upper part



c Mid area at e8, biggest cup-and-ring in Scotland, about 1 m diam.



d Mid area at e2, unusual cup-and-ring with two radial grooves joining and additional cups



b Low area; 'cross' at h23, possibly a defaced cup-and-ring or originally a cross



d Low area at j18, 'dumb-bell'



a Low area, general view over top western part looking S; two overlapping carvings in foreground



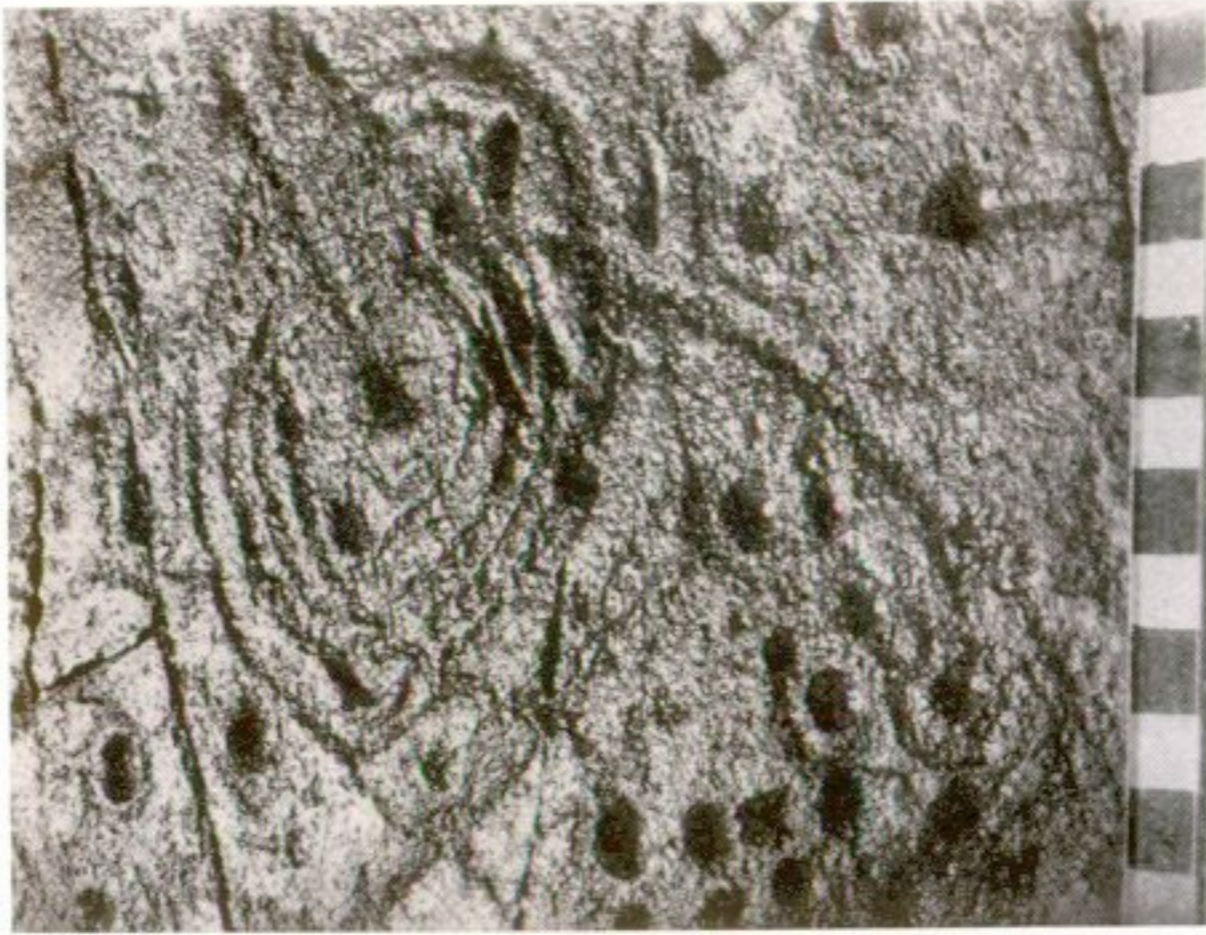
c Low area at j-k9



a Low area at i-j13, very worn figures which may have the remains of nine rings round the central cup



b Low area about m19, flaking has occurred and rings were probably shallower originally



c Wood rock at c7, looking downhill; cup-mark in upper part of design and additional runners



b Wood rock at c10, 'star' design very unusual in British rock art but found in Galicia



a Wood rock at d10, looking downhill; cup-mark in upper part of design



d The rock at Q; faint remains of carvings exist along the top ridge, here seen end on



c Wood rock at d3-4, example with two 'tails', long groove running downhill