

X.

THE EXCAVATION OF THREE NEOLITHIC CHAMBERED TOMBS
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INTRODUCTION.

Thanks to the work of Childe¹ and Daniel,² it has been possible within the last ten years to make certain basic divisions within the great group of Western European collective chambered tombs, spread from Iberia to the Orkneys and beyond, and in general the products of Neolithic or early metal-using cultures round about the beginning of the second millennium B.C. These divisions are based on recurrent peculiarities of tomb-plan and architectural techniques, which can be seen to be consistent within certain geographical areas, and can often be correlated with distinctive forms of pottery and other grave-goods.

Two major groups can be recognised, represented by local derivatives and variants in many areas of Iberia, France and Britain, and though typologically degenerate tombs can be confusingly similar in ground-

¹ *Prehist. Comms. of British Isles* (1940), pp. 46 ff., summarising earlier papers.

² *Proc. Prehist. Soc.*, vol. vii. (1941), pp. 1-49.

plans, the primary types seem distinct and recognisable. One such type is that of a more or less rectangular burial vault set at one end of a long cairn—the *Gallery-Grave*, and the other a round or polygonal burial chamber approached by a narrow passage and set in a round cairn—the *Passage-Grave*.

One of the most notable regions of colonisation by builders of Gallery-Graves in Britain is that around the head of the Irish Sea, including Ulster, West Scotland and the Isle of Man. In these areas occur a large number of chambered tombs (probably between 150 and 200) with certain features in common, and, from their concentration around Carlingford Lough in Northern Ireland and the mouth of the Clyde in Scotland, they have been classified as the *Clyde-Carlingford* group of tombs.

The pioneer work of Bryce in the Clyde mouth area,¹ and the later extensive excavations of Estyn Evans and Davies in Ulster,² have given us a fair knowledge of the material culture of the builders of these tombs as represented by grave-goods, and in Ireland at least some information on the burial ritual and sequence of funerary deposits. One site has also been excavated in the Isle of Man. But although at least eight long cairns in Galloway could be seen from surface indications to represent tombs of the Clyde-Carlingford class, no excavations had taken place in this area.

In view of this gap in our knowledge of the Clyde-Carlingford culture, the Research Committee of the Society of Antiquaries of Scotland, when considering post-war plans for excavations in Scotland, gave a high priority to the selected excavation of one or more chambered tombs of this type in Galloway. The two closely adjacent tombs on the farm of Cairnholy, between Gatehouse of Fleet and Creetown, Kirkcudbrightshire, were chosen not only for their accessibility but because, although much ruined and plundered, certain features (notably the forecourt area described below) appeared to be intact and likely to provide important information on ritual and the burial sequence. Furthermore, the presence of two sites within 500 yards of one another meant that they could be excavated conveniently under centralised supervision, and it was hoped that some evidence of the relative date of one to the other might be obtained.

Excavation under the direction of the writers was accordingly carried out between 20th June and 2nd July 1949 by students working under the auspices of the Scottish Field School of Archæology. Owing to the remarkably fine weather, which permitted an uninterrupted run of eight-hour working days on the two sites, work was completed ahead of schedule,

¹ *Proc. Soc. Ant. Scot.*, vols. xxxvi. (1902), pp. 74-181; xxxvii. (1903), pp. 36-67; xxxviii. (1904), pp. 17-81; xliii. (1909), pp. 337-70.

² Mainly published in *Ulster Journ. Arch.*, N.S., vols. i-v. (1938-42). Consolidated list with bibliographical references in *ibid.*, vol. vi. (1943), p. 4.

and a small supplementary excavation was therefore undertaken on a third site described below.¹

In addition to the chambered cairns of the Gallery-Grave class in Galloway, it was known that there was one isolated example of a small (and typologically late) Passage-Grave within 15 miles of Cairnholy, the

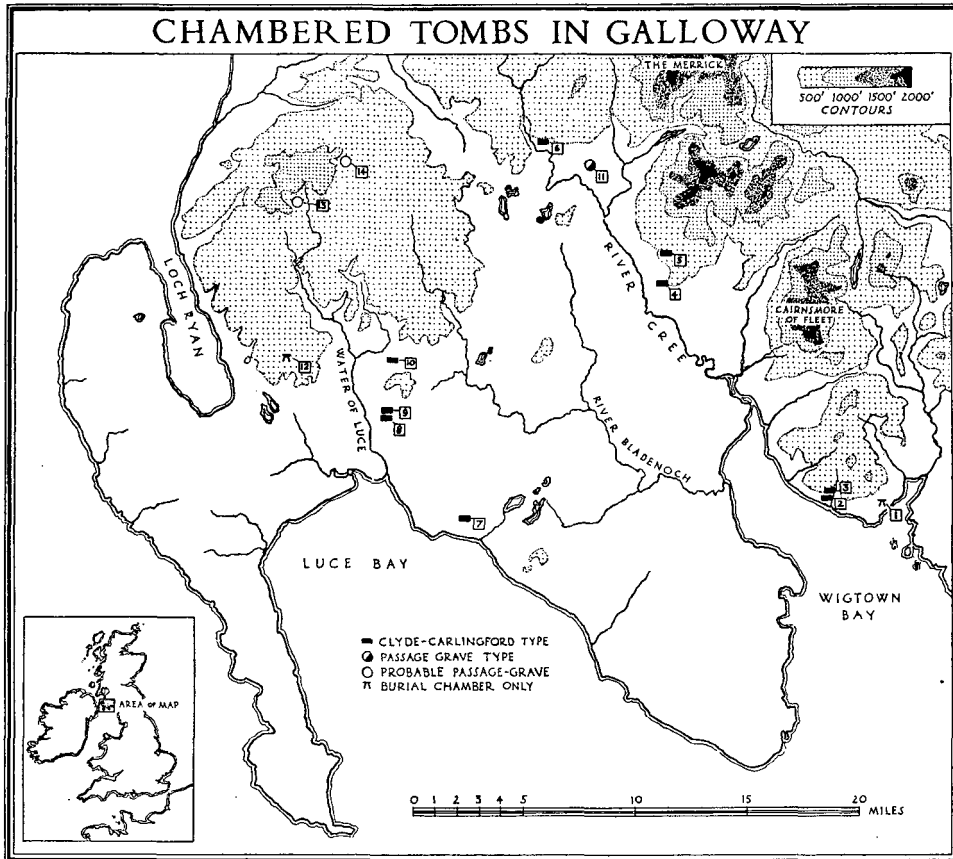


Fig. 1. (The Cairnholy tombs are Nos. 2 and 3; Bargrennan No. 11.)

eastern of the two White Cairns of Bargrennan.² It seemed desirable to

¹ Our thanks are due to Mr Walter McCulloch, the owner of Cairnholy, to Sir Andrew and Lady McCulloch of Ardwall, and to Mr Macmillan, the tenant of Cairnholy, for permission to excavate, and for every help and encouragement during the work. Financial grants were made by the Society of Antiquaries of Scotland and by the Education Committee of the Kirkcudbright County Council. The County Council further co-operated by the loan of a hut, wheelbarrows and other tackle, for which we were most grateful. Six students worked on the excavations, from the Universities of Edinburgh, Glasgow and London, as well as Mr Allard Johnson of the West Highland Agricultural College. To all these strenuous and cheerful workers the success of the excavation is ultimately due.

² Thanks are due to the Forestry Commission, on whose land the White Cairn lies, for permission to excavate. This cairn, and those at Cairnholy, are scheduled under the Ancient Monuments Act,

investigate this very ruined site in the hope of obtaining some evidence of its relationship, or lack of relationship, to the dominant Gallery-Graves of the district. Two days' work were accordingly spent on the un plundered part of the chamber and passage, with interesting results.

The following report is divided into three main sections, dealing with the two cairns at Cairnholy and that at Bargrennan respectively. Following these excavation reports, we have added a short discussion of the Clyde-Carlingford tombs in Galloway as a group, based on field-work carried out in the summer of 1949 taken in conjunction with the results of the excavations.

PART I.—DESCRIPTION OF THE CAIRNHOLY EXCAVATIONS.

CAIRNHOLY CHAMBERED CAIRN NO. I.

The Site and its Setting (figs. 1 and 2).

This cairn¹ and its companion, Cairnholy II, both lie on high ground above the valley of the Kirkdale Burn, which runs into the sea at Wigtown

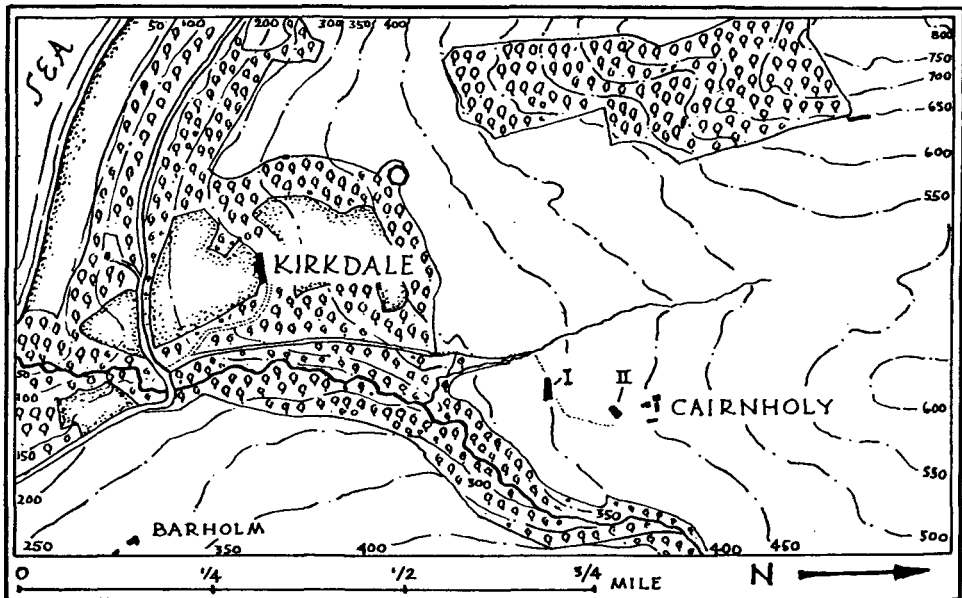


Fig. 2. Site plan of Cairnholy Chambered Cairns I and II.

Bay a little over half a mile to the south. The 400-foot contour actually and the excavations were carried out with the permission of the Ancient Monuments Department of the Ministry of Works, through the Inspector of Ancient Monuments for Scotland, Mr Stewart Cruden.

¹ Nat. Grid Ref. 517538; O.S. 6-inch sheet Kirkcudbrightshire XLVII S.W., Royal Comm. Anc. Mons. (Scot.), *Kirkcudbrightshire Inventory* (1914), No. 288.

passes through the site of Cairnholy I: it lies on gently sloping land rising to 625 feet on Craigmule half a mile to the north, with its long axis along the contour. To the south, the gentle slope continues for 500 feet before the steep cleft of the Kirkdale Glen begins. To the north, one looks up the valley of the Kirkdale Burn between Cairnholy Hill (850 feet) and Cairnharrow (1497 feet), which dominates the northern skyline. Southwards there is a wide view over Wigtown Bay, the peninsula of Wigtown being terminated by the Isle of Whithorn 11 miles away across the entrance of the Bay, and beyond and to the south-east the mountains of the Isle of Man, 35 miles away, are conspicuous on clear days.

The solid geology is that of the Llandovery subdivision of the Silurian, with flags, shales, grits and greywackes, overlaid almost entirely by glacial deposits. Along the eastern side of Wigtown Bay the Early Post-Glacial Raised Beach is merged in the spread of estuarine deposits brought down by the River Cree.¹

Visible Structures before Excavation (fig. 3 and Pl. XVIII, 1).

The site had been considerably mutilated, probably mainly within the last century or so when the present fields are likely to have been enclosed by the massive stone dykes that now bound them. For these dykes the cairn offered an obvious quarry, and indeed one such dyke cut diagonally across the site from south-west to north-east. It could be seen, however, that the cairn had originally been approximately 140 feet long by 33 feet wide, that part lying to the north-west of the dyke and its accompanying cart-track being extremely denuded and visible only as a slight swelling in the pasture.

To the south-east of the dyke, however, the cairn, though in places robbed to ground-level, still retained many features, and was present up to a height of 2 feet 6 inches and more in places. Along the southern edge, stones of a revetment could be traced intermittently projecting from the rough turf for a distance of over 100 feet in an approximately straight line, and at the eastern end there were standing the conspicuous stones of a shallow crescentic façade or forecourt, 23 feet wide and with a depth of a little over 5 feet. It was asymmetrically planned and consisted of eight stones, the two at the centre of the arc forming a pair of impressive portal stones standing 6 feet high above the cairn surface. In front of these was a stone leaning obliquely forward. Cairn material was piled in the forecourt area to a height later ascertained to be 3 feet above the original ground-level.

Behind the portal stones lay the chamber, with an overall length,

¹ J. Pringle, *British Regional Geology, South of Scotland* (1948); A. D. Lacaille, *Proc. Geol. Assoc.*, vol. lix. (1948), pp. 151-71.

portals included, of 16 feet. It could be seen that the chamber was divided into two parts by a high upright slab, and that the rear compartment, or chamber proper, had been dug out to a great extent. The front compartment, or antechamber, was, however, full of debris up to the level of the top of the denuded cairn. There were no roofing slabs *in situ*, though large tabular stones lay in confusion to the south of the chamber on the cairn surface.

Method of Excavation.

The problems presented by the site resolved themselves into three: to examine what remained of the cairn itself, and to trace its revetment; to examine the forecourt area in relation to probable ritual performances in connection with the burials; and to recover what evidence of burials, sequence of deposit, and grave-goods that the half-ruined chamber might provide.

The site was planned to a scale of 5 feet to 1 inch (1 : 60) from a baseline running parallel with the axis of the cairn to the south, and the area comprising the chamber and forecourt were separately planned in detail to a scale of 2 feet to 1 inch (1 : 24). Sections were drawn to the rather large scale of 1 foot to 1 inch (1 : 12) in view of the shallowness of the deposits and the complexity of their make-up.

The revetment was examined in two cuttings, exposing a total length of 40 feet and showing its relation to the cairn material outside its line. A section was cut through what remained of the cairn to the side wall of the burial chamber, and two further areas within the cairn were stripped down to the old ground surface.

The forecourt area was excavated in two halves, a medial baulk being left until a late stage of the excavation to enable the blocking material in that area to be studied and recorded in section. The whole area within the arc of the façade, and for a distance 15 feet beyond the portals, was stripped down to undisturbed ground-level.

The cramped area within the narrow chamber precluded the leaving of standing sections during excavation, but these were built up on paper as the excavation proceeded, and the position of all finds were plotted on to these sections and the plans as they were discovered.

Summary of Results.

A chambered tomb for collective burial, architecturally a member of the Clyde-Carlingford group distributed over south-west Scotland, Ulster and the Isle of Man, had been built at the beginning of the second millennium B.C. in wooded country on a gentle slope overlooking the sea. Its builders used pottery akin to that found in Ulster and the Isle of Man,

though not in the Clyde mouth area, and leaf-shaped flint arrow-heads. Pitchstone was, however, imported from Arran, and further trade is shown by a large jet bead and a piece of a highly polished ceremonial jadeite axe. Burial was by cremation, and the forecourt area was the focus of elaborate funerary rites, including the making of fires and the deposition of offerings of pottery and edible molluscs, followed by a massive ritual blocking of the entrance to the tomb after its effective use was ended.

Before the deposition of this blocking however, at the beginning of the Bronze Age, the antechamber of the tomb was used for further burials by cremation, accompanied by Late Neolithic pottery of the type known from the habitation sites on Glenluce Sands, and also beakers of Type B, and a large flint knife. Finally, in the Middle Bronze Age the rear chamber was reused for a burial by the side of which a cup-and-ring-marked stone had been set up.

DESCRIPTION.

The Cairn.

The lower part of the cairn which alone remained was of homogeneous construction wherever examined, and consisted of a simple pile of large rounded boulders with a minimum admixture of earth. At its lower edge at least there was a rough attempt at containing the mass immediately behind the revetment by obliquely set slabs leaning inwards towards the axial line of the cairn.

The old land-surface under the cairn did not appear to have been artificially prepared, but patches of burnt soil and amorphous carbonised wood suggested the lighting of fires, either ritual or more likely as a part of the preliminary clearance of a wooded site. The glacial deposits of the region would everywhere support woodland, almost certainly oakwood of a modified *Q. sessiliflora* type similar to that still surviving in patches in Highland Scotland,¹ and such land clearance would be necessary. Identifiable carbonised wood from the site represented oak (*Quercus* sp.) and hazel (*Corylus Avellana* Linn.). (See Mr Orr's report in Appendix D.)

Owing to the slope of the site there had been some lateral shifting of the loose cairn material downhill, to the detriment of the revetment, which had been pushed forward and allowed the cairn to slip outwards beyond its line.

The Lateral Revetment (figs. 3 and 4; Pls. XVIII, 2: XIX).

For over 100 feet on the south side of the cairn, and for a short stretch at the north-east corner, remains of a revetment of slabs originally set

¹ Cf. A. G. Tansley, *Brit. Islands and their Vegetation* (1939), pp. 343-9, and the soil analyses in Appendix F.

upright, and running in an approximately straight line, could be traced before excavation. At the western end of the southern line, against the modern stone dyke cutting across the cairn, a large stone still stood upright, but elsewhere the relatively thin slabs had been tilted outwards by the downhill shift of the cairn, and projected obliquely near the crest of the rough slope forming the cairn edge. A single upright still remained visible near the north-east corner of the cairn.

This revetment was examined by running two cuttings in towards its line from the bottom of the visible cairn slope, and then extending laterally to expose its outer face. The cairn material outside the revetment was studied with particular care to determine whether it represented an accidental tumble of stones, or a deliberately built structure of the "extra-revetment" type¹ known from the Cotswold long cairns and elsewhere. There seemed no doubt to us that it was no more than an accidental spill of cairn material, and indeed the revetment could hardly have collapsed so consistently had it been buttressed by built material outside it. Scattered along the front of the revetment on the old ground-surface were numerous lumps of white quartz of varying sizes.

The slabs forming the revetment had been set up with singularly shallow stone-holes or none at all, and their subsequent collapse is not surprising. It is probable that they were linked by intermediate dry-walling, but this had suffered to such an extent in the collapse that only ambiguous traces of it could be seen here and there. On the north side of the cairn, at the top of the slope, the collapse had taken place inwards as the cairn shifted downhill.

In view of the absence of any surviving stones, and the extreme shallowness of stone-holes, it was not considered worth while attempting to trace the course of the revetment round the western end of the cairn, beyond the stone dyke. What can be seen suggests the likelihood of a square-ended cairn, with approximately parallel sides, and that would conform in general terms to the known Clyde-Carlingford plans, especially the Scottish tombs. In Arran, Carn Ban and Dunan Beag² appear to have more or less parallel-sided cairns, while Monyquil,³ with remains of its revetment stones visible, seems certainly to have such a plan. The Irish tombs tend to have a more rounded cairn outline, or to approximate to the trapezoid form of Scotland and the Isle of Man.

The eastern end of the cairn was examined with care in order to determine the structures between the lateral revetment and the ends of the crescentic façade. But no evidence could be recovered for any form of revetment or walling joining the eastern ends of the two lateral revet-

¹ *Arch.*, vol. lxxxvi. (1937), p. 136; *Proc. Prehist. Soc.*, vol. v. (1939), p. 125.

² *Proc. Soc. Ant. Scot.*, vol. xxxvii. (1903), p. 36; *ibid.*, vol. xliii. (1909), p. 343.

³ *Ibid.*, vol. xxxvii. p. 58.

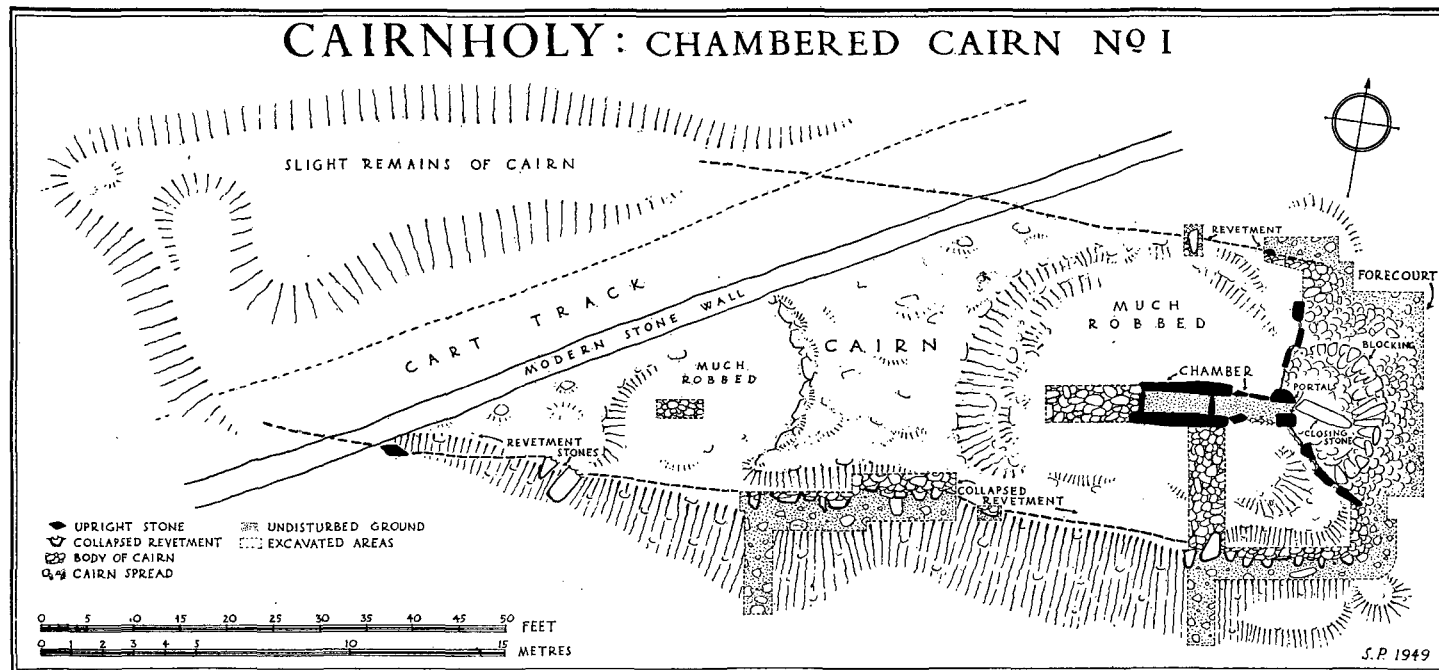


Fig. 3.

ments to the north and south tips of the façade setting. In the south, the collapse of the revetment and the slip of cairn material might be thought to have destroyed such structure, but at the north-east corner, where the cairn was on nearly level ground and no slip had taken place, the revetment could be traced in progressively diminishing stones as it ran eastwards, to die out altogether before reaching the end of the cairn material which spread out beyond the façade. At both the "horns," in fact, it was exceedingly difficult to make any distinction between the body of the cairn and the upper and outer layers of the forecourt blocking with which it merged imperceptibly.

The Façade and Forecourt (figs. 4, 5, 6; Pls. XX-XXIV).

The most conspicuous feature of the site before excavation was the arc of standing-stones at its eastern end. The two central members of this setting of eight stones formed the monumental portals of the burial

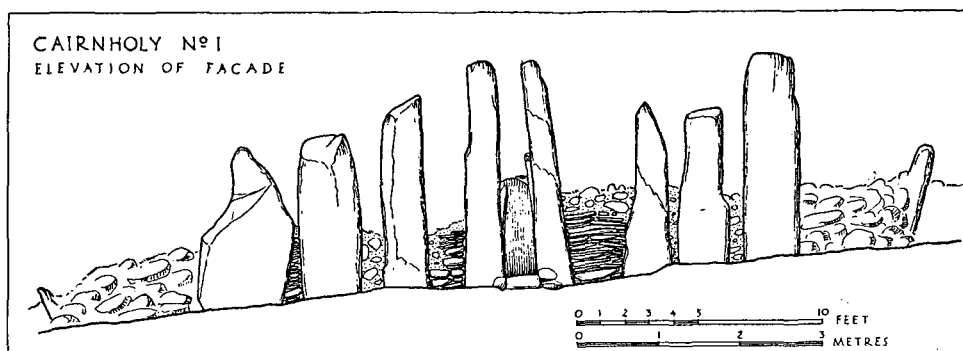
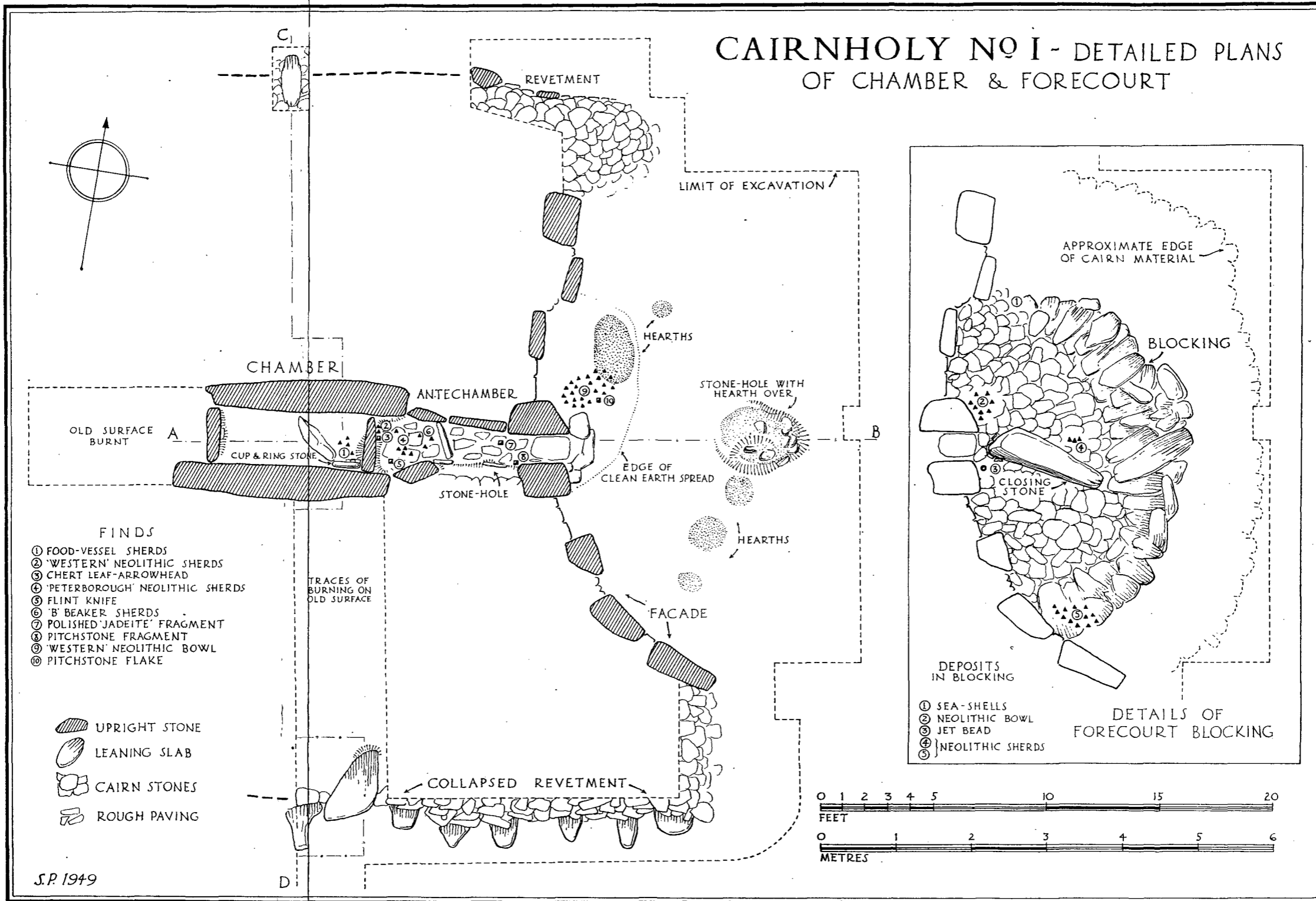


Fig. 5.

chamber, flanked to north and south by two groups each of three stones, forming an irregular crescent. Within the area enclosed by this crescent, and extending beyond it, was a filling of cairn material, from which in fact the façade stones protruded.

On excavation it was found that the façade presented a curious mixture of symmetry and asymmetry, both in plan and in elevation (figs. 4 and 5). The southern half was laid out in a shallow but more or less regular curve, and the stones comprising it were graded in height from the southern portal-stone (9 feet above the old ground-level) to the end stone of the arc (6 feet 6 inches). Fragments of dry-stone walling remained between the portal and its neighbour on the south, and between the end two stones, and had originally linked all the orthostats. The northern half of the façade consisted of an almost straight line of stones (one now leaning forward to a considerable degree) which were not graded in height in the manner of



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Fig. 4.

[To face p. 112.]

the southern stones, the northernmost being very nearly the height of the pair of portals, and the two intermediate stones lower. Dry walling survived between the northern portal stone and its neighbour to the north.

The stones had evidently been set up in stone-holes from behind the forecourt, as they butted close against the forward edge of their holes with practically no room for packing-blocks, and any ramps, such as would be expected with stone-holes for stones of this height, must have been behind and covered by the cairn. All these stones, as those of the cairn revetment, are local "whinstone" masses from the glacial drift.

Almost centrally in the forecourt, before excavation, an additional stone could be seen leaning outwards and with its butt embedded in cairn material opposite the entrance between the portals. On excavation this was found to be a large pillar-like stone originally standing upright in a socket made for it in the blocking material, and serving as a closing stone to the entrance to the tomb. It is described in greater detail below.

As described above, the excavation of the forecourt area was undertaken in two halves, the southern first. In both halves the sequence of deposits was the same, and it was clear that the forecourt had been filled deliberately and as a unit. Beneath the turf small cairn stones mixed with earth were found, extending in a roughly semicircular spread to a maximum distance of some 13 feet from the portal stones, and merging almost imperceptibly with the rest of the cairn material at the "horns" between the outermost stones of the façade setting and the beginnings of the lateral revetment on north and south. As this material was removed it was found that it covered a massive arrangement of deliberately built stone slabs, leaning inwards to form a semicircular mass of blocking in front of the entrance between the portal stones, extending for 10 feet beyond them and with a roughly semicircular outline; its edge returning to meet the façade setting 10 feet from the entrance on the south and 7 feet on the north.

In the earthy cairn material covering this blocking on the south was found a small disc of thin stone roughly chipped round the edges, about 3.2 inches in diameter. Another similar disc was found in the blocking on the north (fig. 9, Nos. 7 and 8). Near the entrance on the south was a worked point of white flint (fig. 9, No. 6), and spread over the edge of the blocking near its junction with the façade setting on the south was a scatter of small gritty sherds probably of Western Neolithic pottery. They were all abraded, and suggest that they had been lying exposed to the weather for some time before being covered by the cairn material.

The blocking was carefully removed and its structure studied. Its inner core, immediately in front of the entrance to the chamber, was composed of small stones and earth, and this was covered by a series of large blocks, many of them flat slabs of a size that one man could just conveniently lift, piled in overlapping, inclined layers to a total surviving

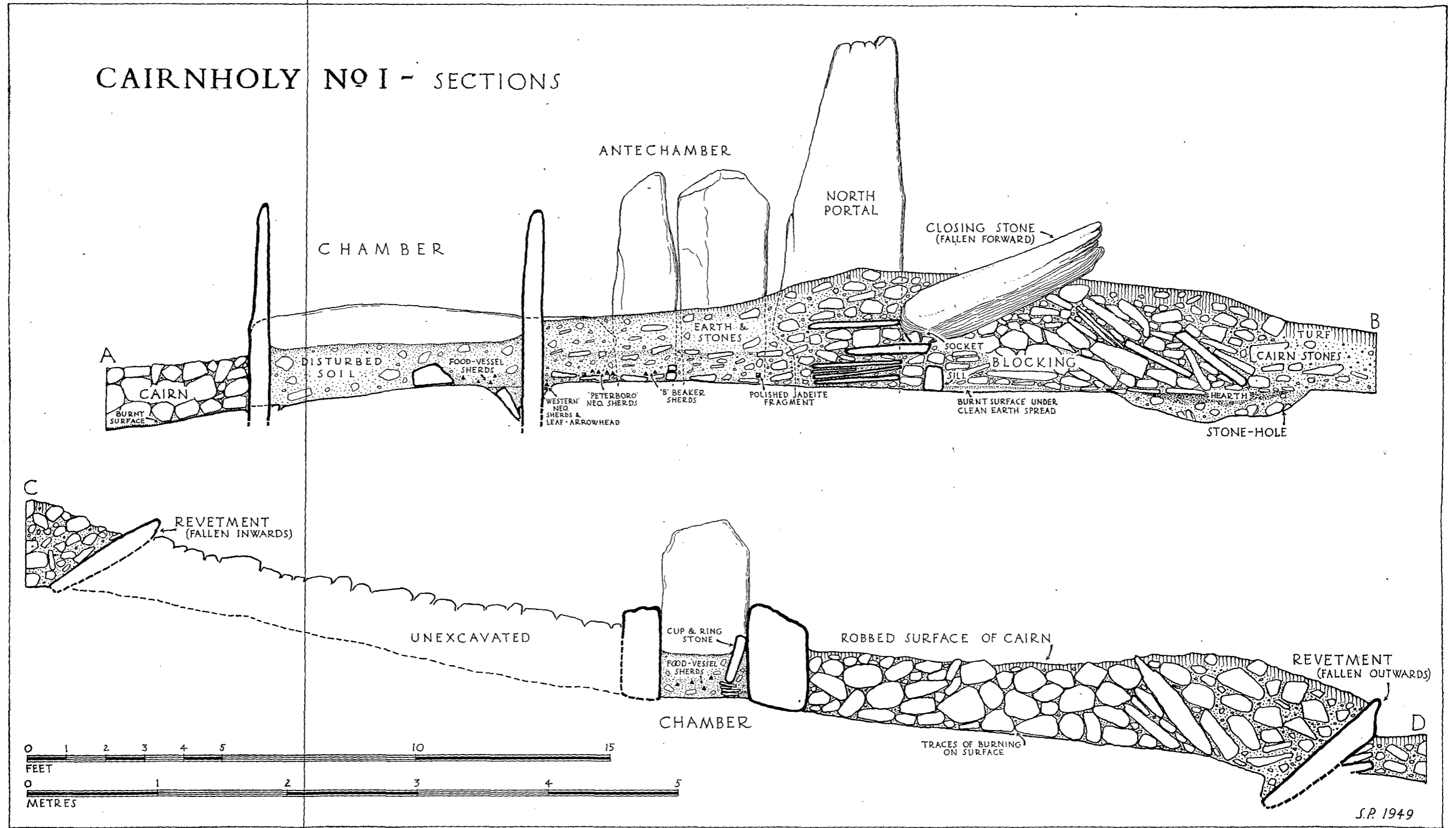
height of 3 feet above the undisturbed ground surface of the forecourt. The outer edge was formed of a fairly regular series of long inclined slabs, within which the uppermost part of the inner area of the blocking was made up of tumbled boulders (figs. 4 and 6).

The narrow space between the portals (only 1 foot 6 inches wide) was carefully blocked by a series of thin slabs filling the space, with intervening smaller stones in places. In front of the portals three stones were set on the old ground-level in such a way as to make a sill, and above this sill one of the slabs blocking the actual entrance-way projected forward beyond the front edges of the portals and into the material of the forecourt blocking. Immediately above this projecting slab there had been contrived a seating for the leaning stone observed before excavations began, and it was clear that this stone, 6 feet in length, had originally stood upright in this socket, its base a little over a foot above the old ground-level in the blocking material, and had acted as a closing stone to the narrow space between the portals, which it approximately fitted. The socket was formed by small slabs diagonally wedged in round the base of the closing stone, its main weight being taken by the stone slab already mentioned as projecting from the remainder of the entrance blocking between the portal stones.

In and under the blocking was a series of deposits of pottery and other objects, evidently placed in position as the blocking was being built, or before its deposition. Near the northern edge was a mass of sea-shells, closely compacted, and representing two or three handfuls of the shells of winkles, limpets, mussels, and whelks.¹ Near the north portal were sherds of a carinated round-based bowl of Neolithic ware (fig. 7, No. 2) and a flake of Arran pitchstone, and near the south portal a single globular bead of jet or lignite (fig. 9, No. 2). Both these finds were in the blocking, and not on the old ground-level. Almost on the central line and at the base of the blocking, 4 feet from the entrance, were a few sherds of Peterborough Neolithic pottery (fig. 8, Nos. 3 and 4).

When the blocking material was removed it was found that at five places on the old surface fires had been lit and had burnt fiercely into the soil: where charcoal could be identified it was of oak and hazel. There was no apparent arrangement of these hearths, though one was on the central line 9 feet from the portals and three in a line south-west of this, and the fifth away to the north. Near this last hearth it was found that a thin layer of clean earth had been laid down over a sixth hearth, a large

¹ See Dr Stephen's report in Appendix C. Not far to the east of this deposit, and under a large slab of the outer edge of the blocking, was found a deposit of vegetable remains comprising the husks of oat (*Avena* sp.), seeds of *Polygonum Persicaria* Linn. and probably achenes of *Ranunculus* sp. Dr Nelson of the Royal Botanic Garden, Edinburgh, who has kindly examined this material, assures us that it is modern, and must represent food-stuff brought down to this position by a mouse or similar animal. It is a salutary warning against accepting apparently ancient deposits without careful checking!



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Fig. 6.

oval burnt area north-east of the north portal, completely masking it. Under this same clean earth spread, and partly in the hearth area, were numerous sherds of a simple Western Neolithic round-based pot (fig. 7, No. 1) and a pitchstone flake.

The large hearth already described as on the central axis of the forecourt was found to lie over, and to penetrate into, the filling of an irregular hole dug in the old ground-level, approximately 4 by 3 feet and having a maximum depth of a little under 1 foot. The filling beneath the burnt hearth layer consisted of earth and rather large stones, several of which were partly embedded in the walls of the hole, as if forced there by pressure. The circumstances were entirely suggestive of the socket for a standing-stone, similar to those known in England from such sites as Avebury, and nearer to Cairnholy, in the Henge Monument of Cairnpapple Hill, West Lothian.¹

The features revealed by the excavation of the forecourt of Cairnholy I suggest the following sequence of construction and ritual. In front of the crescentic façade setting was a cleared space upon which five ritual fires were lit: a sixth fire, large and immediately opposite the entrance to the chamber, was made after a standing-stone, which had occupied this position at an early phase of the forecourt's use, had been bodily removed. By the hearth nearest to the north portal an offering was made involving the deposition of broken fragments of a pot (not all sherds of the pot are present, and the edges are slightly abraded) and a small flake of Arran pitchstone. After an interval, suggested by the abraded potsherds, this area was carefully covered by a thin layer of clean earth, rendering the surface indistinguishable from that of the remainder of the forecourt.

With the assumed completion of the burial rituals within the chamber, the area between the two portal stones was built up with slabs and small stones, and the massive blocking in the forecourt area begun, to the accompaniment of ritual deposits of seafood, potsherds, and a jet bead. During the construction of the blocking a seating was made for a closing stone that should shut the space between the portals—it is conceivable, though unproven, that this stone was originally standing in the stone-hole on the axial line. With the blocking completely built, and the closing stone standing vertically in place, cairn material was heaped over the whole forecourt. The very abraded sherds from the surface of the blocking to the south suggest that there was some considerable interval before this was in fact carried out.

This evidence of an elaborate set of ceremonies, culminating in the building of a massive and deliberate blocking of the tomb entrance, is in accordance with what is known of the forecourt area of other chambered tombs in the relatively few instances where this has been examined by

¹ *Proc. Soc. Ant. Scot.*, vol. lxxxii. (1947-48), pp. 68-123.

careful excavation. The pioneer work of W. J. Hemp in the Bryn Celli Ddu Passage-Grave in Anglesey has been followed up, in the Gallery-Grave group, by Mrs Clifford and W. F. Grimes in the Cotswolds and Wales, and by Estyn Evans and O. Davies in Ulster.¹ For the Scottish Gallery-Graves we had no evidence until the Cairnholy excavations, which shows that not only does it conform in general terms with the evidence from Ulster and elsewhere, but that in many respects it produces an even greater bulk of material and evidence on ritual than many previously excavated sites. This aspect will be discussed at length in a later section of this paper.

The Burial Chambers (figs. 4 and 6; Pls. XXV, XXVI).

The construction of the burial chamber behind the portals was curious and unusual. For a length of 6 feet westwards from the rear of the portal stones ran a parallel-sided, roughly rectangular gallery, about 2 feet 6 inches in width and formed by two orthostatic stones on the north, and one, and the stone-hole of a second, on the south. All roofing had been removed, but the height of the side-stones shows that it cannot have been less than 6 feet above the floor.

The western end of this gallery or antechamber was formed by a tall thin slab, rising to a height of 4 feet 6 inches above the floor, set between two very massive but lower parallel stones extending westwards, and with another high thin transverse slab forming a rectangular cist-like chamber 6 feet 3 inches long and of the same width (2 feet 6 inches) as the antechamber. There was thus no possibility of communication between the antechamber and the chamber, and the latter can only have been entered from the top, before the capstone had been placed in position, or from the side, over one of the low side-stones, after this had been done. The side-stones were singularly large, the southern being 10 feet in length, 1 foot 6 inches thick and 2 feet 6 inches high, and the northern scarcely smaller.

No trace of roofing remained, except for one long narrow slab which had been tipped into the half-filled chamber and which, from the evidence available from the less badly destroyed chamber at Cairnholy II, where the roofing is partly intact, can be interpreted as part of the corbelling intermediate between the low side-stones and the capstones, which must have rested on the end slabs at a height of not less than 4 feet 6 inches to 5 feet above the floor of the chamber.

While approximating in plan to a "segmented" Gallery-Grave plan, the remarkable height of the stone between the two elements of the chamber precludes it from being regarded as anything in the nature of a septal stone. We have to regard the two elements, antechamber and chamber,

¹ Detailed references to these excavations are given on p. 132, where the evidence is more fully discussed.

as separate entities. The problems raised by this abnormal plan are discussed at a later stage, and it is sufficient here to note that the only real parallel to the chamber-antechamber plan of Cairnholy I is in Cairnholy II.

The antechamber was found to be filled with earth and stones to a height of from nearly 3 feet between the portals to 1 foot 6 inches at the western end. The upper part of this filling was sterile of finds or of structure, but at a point later found to be about 9 inches above the floor, a rough paving or layer of flat slabs could be traced. On the floor was another such rough-paved area stretching over the whole of the antechamber, and between the two pavings, in dark earth and stones, were scattered fragments of cremated bones and (principally lying upon the lower paving) sherds and other artefacts.

At a point 3 feet from the western end of the antechamber, two small bars of stone lay one on top of the other across the width of the paved floor, as if to partition off the western end. Within this low partition, which only rose to a height of about 6 inches and can hardly be dignified with the title of a septal slab, was a scatter of sherds which included Peterborough Neolithic and B beaker fragments (fig. 8, Nos. 1 and 2), and a large plano-convex knife of opaque white flint lying flake-surface uppermost (fig. 9, No. 5). Cremated bone fragments also occurred in this area.

In the filling of the stone-hole which held the tall slab that divided the antechamber from the chamber were found a few sherds of Western Neolithic pottery and a chert leaf-shaped arrow-head (fig. 9, Nos. 3 and 4). These were found below the pavement-level, and may therefore be regarded as representing deposits earlier than those on the antechamber floor.

In the area between the low partition and the portals finds were comparatively scarce. In and behind the portal blocking were several small sherds of reddish pottery, as well as a piece of pitchstone immediately behind the southern portal stone, and a flake of beach-pebble flint. But the most remarkable find in this area was a fragment, with its edges much abraded, of a highly polished ceremonial axe of pyroxene jadeite, found on the paved floor just inside the portals (fig. 9, No. 1). Such axes are well known as stray finds in Britain, but this is the first instance of one being found in any archæological context. Its position is, unfortunately, rather ambiguous, for its abraded edges suggest that the axe to which it belonged had been broken long before its deposition on the antechamber floor; but at all events it must have arrived there before the final blocking of the tomb was constructed. On the whole, it is likely to belong to the earlier phase of the tomb's use.

The rear compartment, or chamber proper, had been severely plundered: its cist-like structure must have attracted immediate attention once it was brought to light during the robbing of the cairn, while the less obviously sepulchral antechamber was fortunately ignored. The western two-thirds

were entirely disturbed, though occasional scraps of cremated bone occurred in the mixed filling.

A large stone was found lying on the floor of the chamber diagonally across its width, roughly partitioning off an irregular area between itself and the eastern end-slab of the chamber. Within this area the lower foot or so of earth seemed less disturbed than elsewhere, and in addition to further scraps of cremated bones were a few sherds of unornamented pottery of Middle Bronze Age Food-vessel fabric. Most unexpected, however, was the discovery that a small stone slab against the south-east corner of the chamber, the top of which had in fact been visible above the surface of the chamber filling before excavation, was not only deliberately propped into its vertical position by small stones at its base, but that it was carved with a large "cup-and-ring" symbol, with a central cup surrounded by six concentric rings, all in firm pocked technique, and two radial lines more lightly incised. The stone itself was lozenge-shaped, and was set in position standing on one of its corners (pl. XXVI).

It seems, therefore, that there had been a secondary burial, presumably by inhumation, the bones having been removed by soil acids, and with a Food-vessel pot, inserted into the eastern end of the chamber in Middle Bronze Age times, and that this burial had the unique accompaniment of a cup-and-ring *stele* set up by its side. While such designs are well known on living rock surfaces and on the capstones of cists of Food-vessel date, we do not know of another example of such a carving set up on a small individual slab.

After this discovery, search was made for further cup-and-ring carvings on stones of the monument, and we were rewarded by the discovery of a very weathered example with four or perhaps five concentric rings on the under-surface of a slab lying near the south side of the antechamber, and perhaps one of the missing orthostats, or part of the roofing (Pl. XXV, 1). The example recorded from the chambered cairn, Mid-Gleniron No. 1, by MacWhite, should be mentioned in this connection.¹

LIST OF FINDS.²

1. Pottery.

(a) From Forecourt.

1. (EO. 810.) *Bowl of Western Neolithic pottery*, represented by about 100 sherds from under clean earth spread in forecourt. The sherds are on the whole unabraded, though a few have worn surfaces and edges.

¹ *Journ. Roy. Soc. Ant. Ireland*, vol. lxxvi. p. 70.

² The finds have been deposited in the National Museum of Antiquities, Edinburgh, and the registration number is given in brackets in each instance.

The ware is very good, with fine micaceous grit, and the outer surface is burnished, varying from pale buff to greyish. (fig. 7, No. 1).

The vessel appears to have been a shallow round-based bowl 9 inches in diameter and $4\frac{1}{2}$ inches deep, with an everted and very slightly thickened rim and weak rounded carination. It is an undifferentiated type not infrequent in the Western Neolithic cultures, though not known before in Scotland. The type is, however, represented in Yorkshire¹ and in Dorset.²

2. (EO. 811.) *Carinated bowl of Western Neolithic pottery*, represented by about 70 sherds from the material of the forecourt blocking in front of the north portal stone. Some of the sherds, especially from the base,

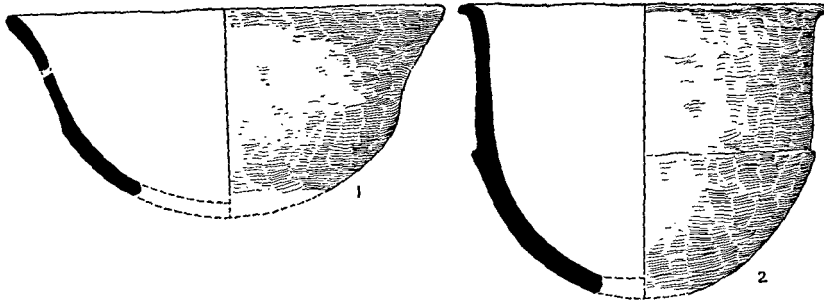


Fig. 7. Western Neolithic pottery, Cairnholy I. 1. Bowl from primary deposit in Forecourt; 2. Bowl from Forecourt blocking. (Both $\frac{1}{2}$)

have lost their surface, and the interior has a carbonaceous deposit suggesting use for cooking or holding food. Where present, the outer surface is black and smoothed. The grit is fine and micaceous (fig. 7, No. 2).

The pot has an out-turned rim, straight neck, marked carination and hemispherical base; $7\frac{1}{2}$ inches diameter at the rim and 6 inches high. It is a representative of a well-known type known from Glenluce Sands and other Scottish sites, but particularly characteristic of the Clyde-Carlingford tombs of Ulster.³

3. (EO. 812.) *Abraded sherds of gritty ware* from upper part of blocking, south-east corner (Deposit No. 5). About 40 sherds, mostly very abraded and small, none larger than 1.6 inches by 1.0 inch. One sherd, 0.5 inch thick, retains an unweathered outer surface of pale reddish buff and a grey-black interior, and there are two fragments of a simple rounded rim, 0.4 inch thick. Probably Western Neolithic ware.
4. (EO. 813.) *Sherds of Peterborough Neolithic ware* from below blocking on central axis (Deposit No. 4). About 6 small sherds all less than 1.0 inch across, including fragments probably of rim and shoulder. Grey surface, flaky texture, and ornamented with whipped cord "maggot" impressions and blurred lines probably of bird-bone impressions (fig. 8, Nos. 3 and 4).

¹ *Proc. Prehist. Soc.* (1937), p. 190 (Kemp Howe).

² *Ibid.* (1936), p. 229.

³ *Proc. Soc. Ant. Scot.*, vol. lxiii. (1928-9), p. 67.

(b) *From Chamber and Antechamber.*

5. (EO. 814-15.) *Sherds of unornamental ware* from chamber in front of cup-and-ring stone (Deposit No. 1). About 20 small sherds all less than 1.0 inch across. The three largest retain smooth pinkish-buff outer surfaces and black interior, and are of softish fabric without much grit, and appear to be of Middle Bronze Age Food-vessel or Cinerary Urn type. Other more gritty sherds, including a probably simple rounded rim fragment comparable with No. 3 above, may be Neolithic.
6. (EO. 816.) *Rim fragment of Western Neolithic pottery*, greyish-black with fine micaceous grit. From top of stone-hole filling, west end of antechamber (Deposit No. 2). The rim is flattened, and below it the pot appears to have had a globular form (fig. 9, No. 3).

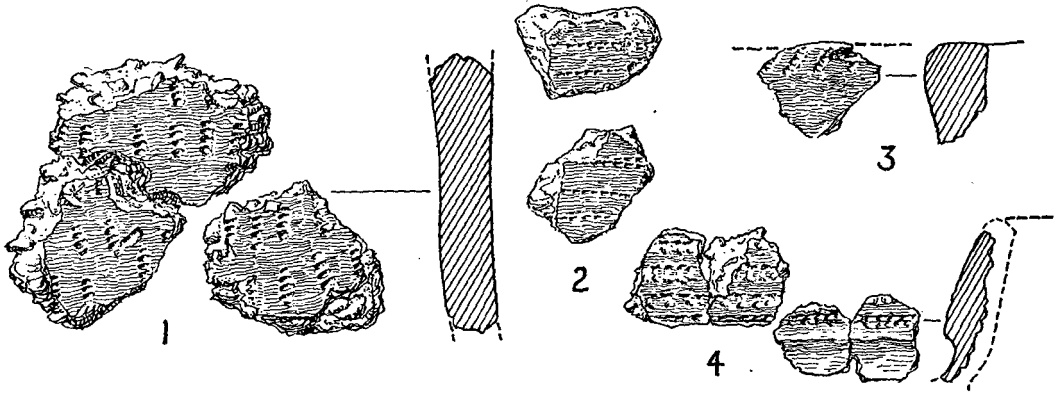


Fig. 8. Cairnholy I: 1. Peterborough neolithic sherds from chamber; 2. B. beaker sherds from chamber; 3 and 4. Peterborough neolithic sherds from base of Forecourt blocking. (All $\frac{1}{2}$)

7. (EO. 817-18.) *Neolithic sherds on paving in antechamber.* About 16-18 sherds, one of which has smooth grey-black surfaces with fine micaceous grit and is probably Western Neolithic. The remainder are of coarse flaky ware up to 0.6 inch thick, with large grits. The smoothed outer surface is grey to buff, with "maggot" impressions in twisted cord, and the sherds are typical Peterborough Neolithic ware (fig. 8, No. 1).
8. (EO. 819.) *B Beaker sherds on paving in antechamber.* Eight sherds probably all from one vessel, of pale red surfaced ware with fine micaceous grit. Where the outer surface remains it shows parallel horizontal lines in hyphenated technique (fig. 8, No. 2).
9. (EO. 820.) *Sherds from blocking between portal stones.* A miscellaneous collection of about 30 small unornamented sherds, one or two gritty fragments being probably Western Neolithic, others of flaky Peterborough texture, and two red scraps, possibly Beaker.

2. *Stone.*

1. (EO. 821.) *Leaf arrow-head* of black chert, 1.45 inches long by 0.95 inch maximum width; 0.2 inch maximum thickness, with rounded base meeting the straight sides at an obtuse angle and flaked on both faces.

From stone-hole filling at west end of antechamber, with sherds of Western Neolithic pottery (fig. 9, No. 4).

This arrow-head is unusual on account of its substance, and the angular form, with its straight edges, recalls examples from the Ulster chambered tombs rather than those from Arran, but in neither region are there very close parallels.

2. (EO. 822.) *Worked point* of greyish-white translucent flint, broken at one corner. Maximum dimensions 1.6 inches by 0.9 inch, 0.15 inch thick. This is a simple flake, the under-surface being unworked, with marked rippling, and the upper retouched along all unbroken edges to form a blunt-ended, sub-triangular point. From cairn material overlying blocking on south side of forecourt (fig. 9, No. 6).
3. (EO. 823.) *Plano-convex knife* of opaque matt-surface greyish-white flint, 3.6 inches long by 1.3 inches wide, and 0.3 inch thick. The flat under-surface is that of the unworked flake except that the bulb of percussion has been reduced by flaking. The tip shows incipient hinge-fracture, and the convex upper face has rather rough shallow scale-flaking. Traces of a very narrow band of lustre on both edges suggest it has been slightly used.¹ From floor of antechamber on paving, associated with Peterborough Neolithic and B class Beaker sherds (fig. 9, No. 5).

This knife falls into the same general class as those from six Clyde-Carlingford tombs in Arran, and those in Ireland from Dunloy, Carnanbane, Tamnyrankin West and Creevykeel (the latter bifacially flaked), as well as that from Cairnholy No. II. They seem to represent a native Late Neolithic tradition that found full expression in Food-vessel times.²

4. (EO. 824.) *Stone disc*, broken, but originally c. 3.2 inches diameter and 0.7 inches maximum thickness, with roughly chipped and rubbed edges. From surface of forecourt blocking on south (fig. 9, No. 8).
5. (EO. 825.) *Stone disc*, 2.95 inches by 2.6 inches, and 0.25 inch thick, carefully chipped at the edges and with a "pecked" hollow 0.2 inch diameter on one face only. From forecourt blocking on north (fig. 9, No. 7).

Similar stone discs, of unknown purpose, have been recorded from chambered tombs in Brittany, Southern England, Wales, Ireland and Scotland.³

6. (EO. 826.) *Fragment of ceremonial axe*, of pyroxene jadeite, maximum dimensions 1.7 inches by 1.2 inches and 0.7 inch thick, with abraded edges but remains of high glassy polish on both faces. From floor of antechamber on paving, between main deposit and the portals (fig. 9, No. 1).

The problems raised by this class of axe are discussed in detail in a separate section (p. 137).

7. (EO. 827.) *Flint flake* from a beach-pebble, 1.0 inch by 0.5 inch. From floor of antechamber on paving.

¹ The very narrow band of lustre, quite distinct from that produced by cutting grass or straw, suggests that the knife has been used on wood (*Cf. Curwen, Antiquity*, vol. iv. (1930), pp. 184-6).

² *Cf. Clark in Ant. Journ.*, vol. xii. (1932), p. 158.

³ *Proc. Prehist. Soc.*, vol. v. (1939), p. 133; *Journ. Roy. Soc. Ant. Ireland*, vol. lxxviii. (1938), p. 269.

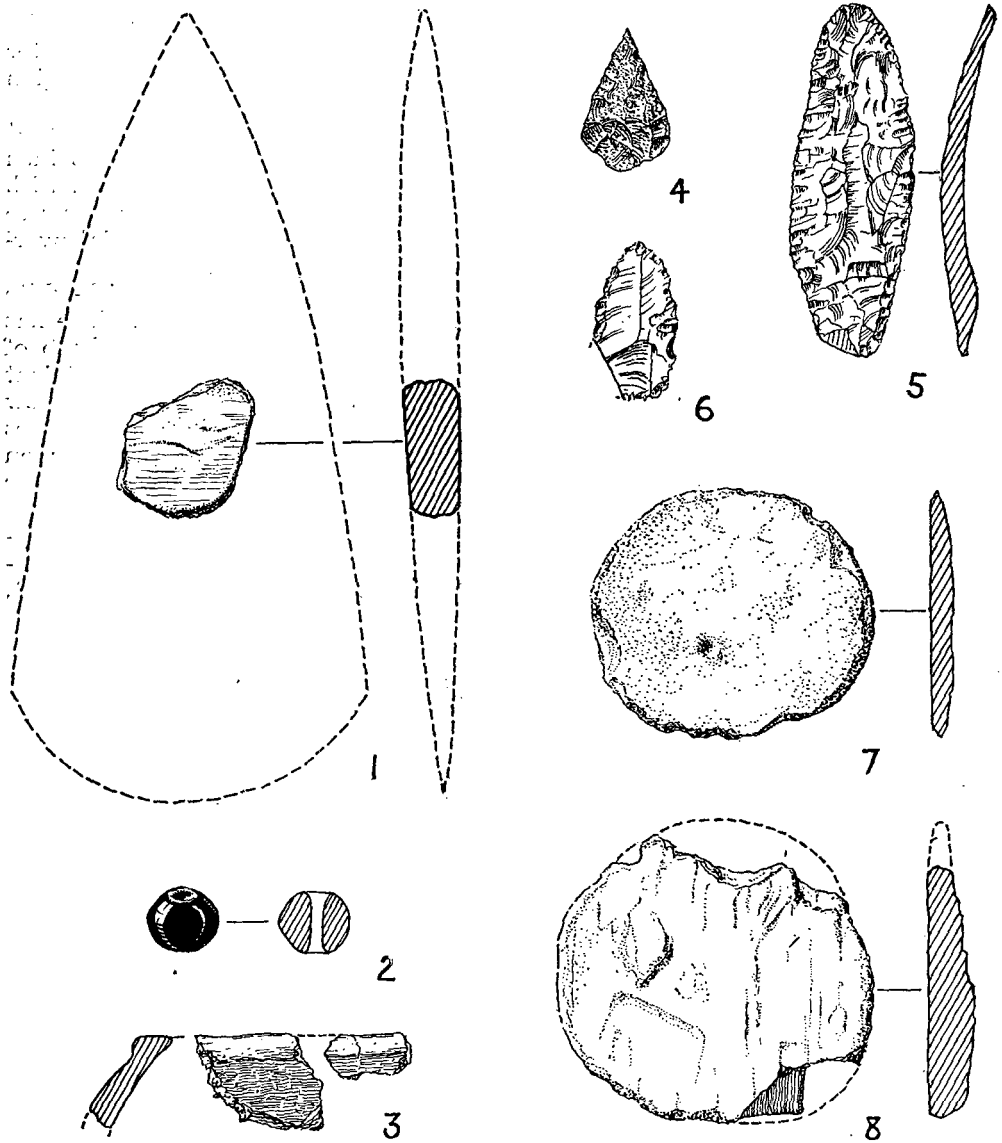


Fig. 9. Cairnholy I: 1. Fragment of jadeite axe from chamber; 2. Jet bead from Forecourt blocking; 3. Western neolithic sherd from chamber; 4. Chert arrow-head from chamber; 5. Plano-convex flint knife from chamber; 6. Flint point from Forecourt blocking; 7-8. Stone discs from Forecourt blocking. (All $\frac{1}{2}$)

8-10. (EO. 828.) *Pitchstone flakes and chips* from three locations: (a) Behind south portal stone in antechamber; (b) from the blocking, associated with carinated Neolithic pot No. 1; (c) from the clean earth spread in front of the north portal.

These all appear to be of Arran pitchstone and indicate contacts with that region (see Appendix B).

11. (EO. 829.) *Bead*, of jet or lignite, from blocking of forecourt immediately in front of south portal. This is a rounded form of the Truncated Convex Bicone of Beck's classification, intermediate between his I.C.-1a and I.C.-1f.¹ The maximum diameter is 0.8 inch and it is 0.65 inch long. The perforation is hour-glass shaped, the central diameter being about 0.1 inch and the outer dimensions 0.25 by 0.3 inch, the difference being due to wear from a string (fig. 9, No. 2).

The bead is not of similar type to those from Neolithic contexts in Southern England (Notgrove, Hembury, Windmill Hill), which are flattened ellipsoid forms. Its analogues seem to lie with Bronze Age types, and this point is further discussed below (p. 134).

12. (EO. 830.) *Cup-and-ring-marked stone* from chamber. A roughly diamond-shaped stone, overall dimensions 20 by 15 inches, and 5.5 inches thick. On the front face is a central cup-mark surrounded by six concentric circles, the outermost 10.5 inches in diameter, all in "pocked" technique. One lightly tooled radial line, and a pair rather more deeply worked, 0.75 inch apart, run from the centre to the edge at an angle of approximately 50° to one another. A single cup-mark 1 inch diameter lies outside the circles, 1 inch from the outer edge (Pl. XXXI, 2).

CAIRNHOLY CHAMBERED CAIRN NO. II.

The Site and its Setting (fig. 2).

The chambered cairn next to be described² lies 500 feet north of Cairnholy I, and the general description of the setting given on p. 106 naturally applies to this site as well. The cairn itself, however, is in a rather peculiar position, as it crowns the top of a small rocky knoll within the 425-foot contour, and on the edge of the present farmyard of Cairnholy Farm. The cairn occupies practically the whole of the flattish top of the knoll, which breaks away in outcrops on the north-west, and the now denuded chamber with its one surviving capstone forms a conspicuous landmark. It is traditionally the tomb of Galdus, the mythical Scottish king, but this honour is also claimed by the Torhousekie stone circle in Wigtownshire.³

Visible Structures before Excavation.

The cairn had been very extensively robbed, and was nowhere more than 2 feet high, and usually less. Its outline was irregular, but roughly

¹ *Arch.*, vol. lxxvii. (1928), pp. 1-76.

² Nat. Grid Ref. 517540; 6-inch sheet as for Cairnholy I. Royal Comm. Anc. Mons. (Scot.), *Kirkcudbrightshire Inventory*, No. 287.

³ *Ibid.*, *Wigtown Inventory*, No. 531.

oblong, with overall measurements of about 70 by 40 feet, with its long axis north-east and south-west. At the north-east end were the exposed remains of a burial chamber divided into two in precisely the manner of Cairnholy I, 18 feet in overall length with two large, though disparate, portal stones, but no façade or forecourt setting.

Method of Excavation.

The very denuded cairn, set partly on solid rock, offered little hope for the identification of a revetment, if such existed, and a single cutting at the south-west end was made to see the nature of its make-up. The area in front of the portal stones, on a decided natural slope, was stripped in two unequal halves to a distance of 10 feet beyond the entrance to the chamber, and an attempt made to trace the cairn edge on both sides. The site was planned from an axial base to the same scales as Cairnholy I.

Summary of Results.

A small chambered cairn for collective burial, with distinctive features of plan and architecture paralleled only in Cairnholy I, had been built on the top of a small rocky knoll within a short distance of the larger monument. Evidence of the material culture of its builders comprised fragments of ornamented pottery, a flint knife and a leaf arrow-head, but evidence of burial by users of B Beaker pottery was also obtained. There was no evidence of forecourt ritual, but the entrance had been roughly blocked and a closing stone set up against the portals in the manner of that at Cairnholy I.

DESCRIPTION.

The Cairn (fig. 10).

Very little can be said about the vestiges of the cairn. The cutting at the south-west end showed it to have been built of large stones, mainly flattish slabs, but it was impossible to determine its edge with any certainty. On each side of the entrance to the chamber similar cairn construction was found, merging almost imperceptibly into the rough blocking except at one or two points where stones appeared to be set to form some break between the two. There was, however, no definite revetment.

The Forecourt Area (figs. 11 and 12).

In front of the portal stones the natural ground surface sloped gradually for a distance of some 5 feet, and then dropped suddenly. There was

therefore little space for blocking or for forecourt ritual. Rough slab-built blocking had, however, been constructed in more or less the same manner as at Cairnholy I, spreading with a roughly semicircular outline 8 feet beyond the entrance, but to a depth of only 1 foot 6 inches at most, and it was very difficult to discover the line of junction between this blocking and the body of the cairn at each side of the portals. It did appear possible, however, to trace a line of change in build, indicating that the cairn spread

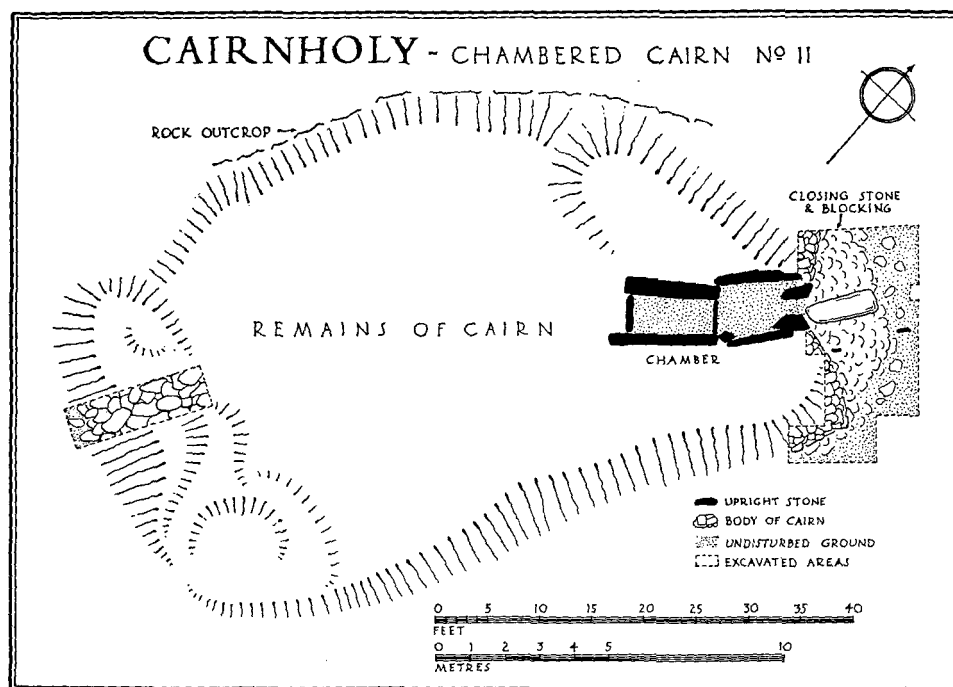


Fig. 10.

out at each side of the entrance to form a very shallow V-shaped forecourt.

Centrally on the blocking lay a large stone 6 feet long, in such a position to show it to have been a closing stone originally performing the same function as that in Cairnholy I, now wholly recumbent. An irregular hollow between the portals, and extending beyond them, may have functioned partly as a seating for the base of this stone when upright.

Two small stones set on edge were found to the south-east of the axial line, covered by the blocking but serving no obvious purpose. There were no traces of burning on the surface beneath the blocking, and no finds.

The Burial Chambers (figs. 11 and 12).

While the plan of the two-part burial chamber at Cairnholy II duplicates the arrangement at Cairnholy I, the architectural problem is solved differently. The two portal stones, now leaning inwards towards one another,

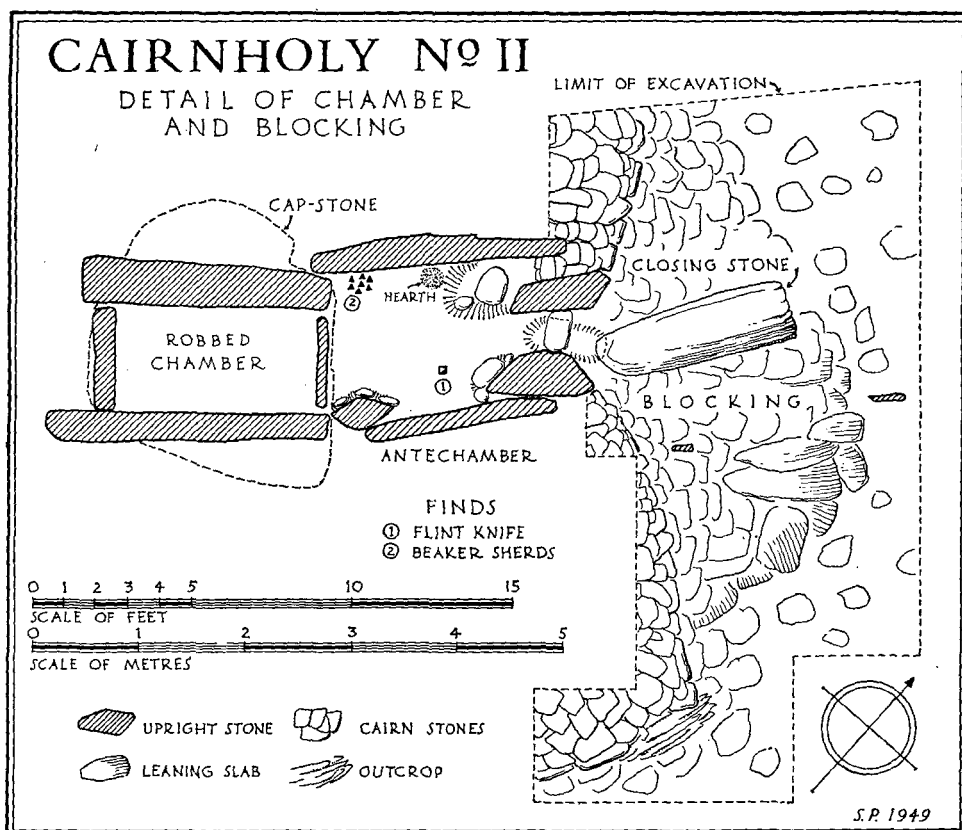
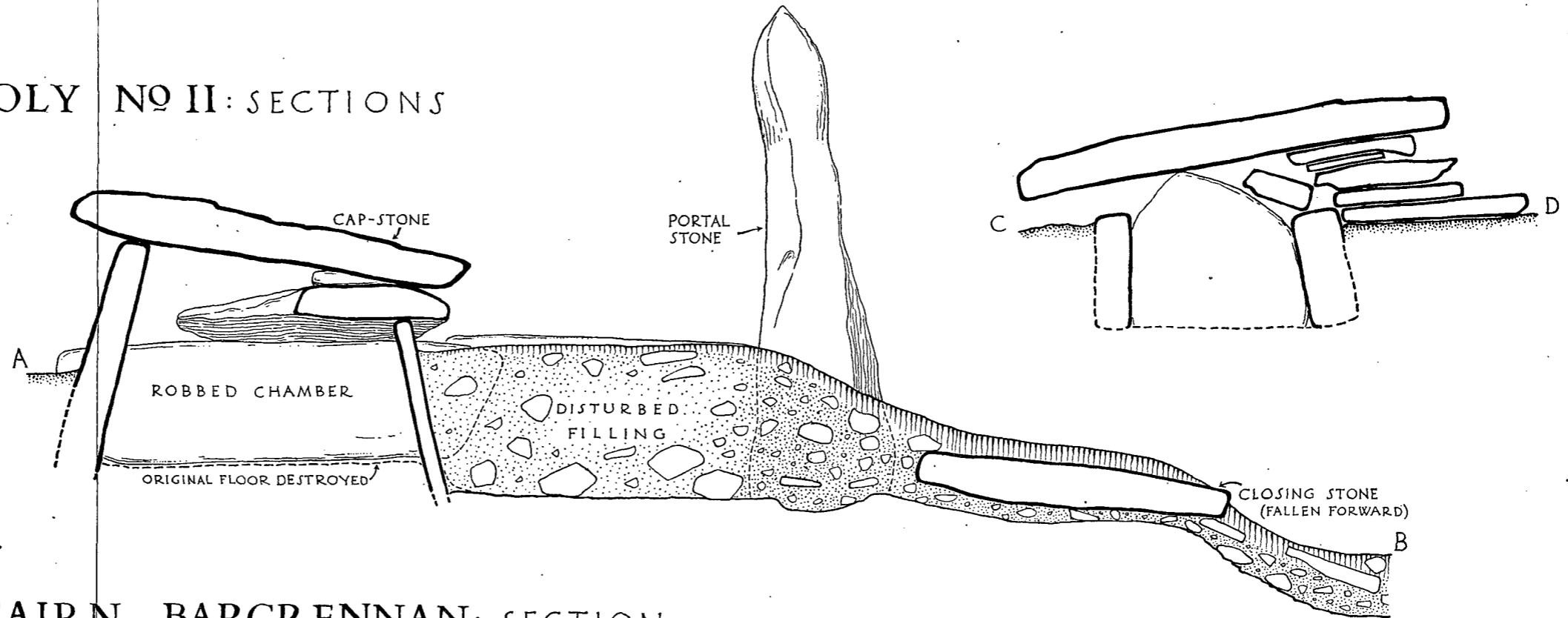


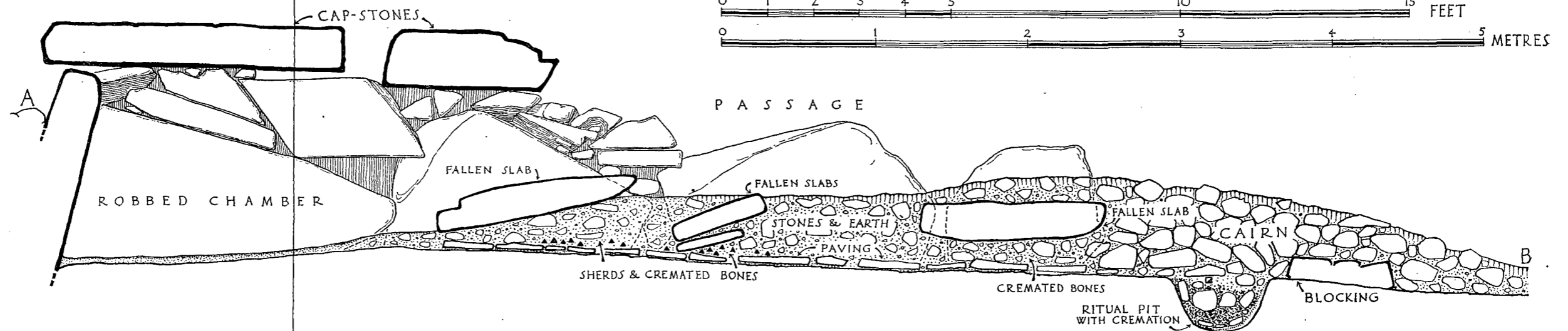
Fig. 11.

are of disparate heights, that to the north-west being 9 feet 6 inches in height and the other being only 5 feet high. The outer element, or antechamber, is formed by two slabs 5 feet apart forming the sides, with the portals set within the outer ends. These slabs do not rise to a greater height than 3 feet, but in the southern corner of the chamber is a single tall orthostat 5 feet 8 inches high, implying a roof of at least this elevation above the floor. The inner end of the antechamber is formed, as at Cairnholy I, by the slab dividing it from the chamber proper, but here only

CAIRNHOLY NO II: SECTIONS



WHITE CAIRN, BARGRENNAN: SECTION



STUART PIGGOTT AND T. G. E. POWELL.

Fig. 12.

[To face p. 126.]

a little over 3 feet high. The effective floor-space within the antechamber, excluding the portal stones, is about 5 feet square.

The chamber beyond still retained its capstone, partly supported by massive corbelling on the north-western side but otherwise resting on the end slabs. As at Cairnholy I, the side slabs were rather massive and not more than 3 feet high, but the terminal slab rose to a height of 4 feet above the original floor-level. The interior of this chamber had been completely gutted, and digging had continued into the solid subsoil well below the level of the lower edges of the side slabs.

Even in the antechamber the soil had been much disturbed. A leaf-shaped flint arrow-head and sherds of incised pottery were found in this mixed filling, and on a large stone lying on the floor, and possibly in undisturbed soil, was found a plano-convex knife of translucent beach-pebble flint.

A small area in the western corner of the antechamber alone seemed undisturbed, partly protected by the overhang of the side stone of the chamber which projected at this point. On a piece of rough paving lay sherds of at least three B class beakers, and a short distance away to the north-east was a patch of burnt material, apparently a hearth.

LIST OF FINDS.

1. Pottery.

1. (EO. 831-32.) *Sherds from disturbed filling of antechamber.* About 12 small sherds all less than 1.0 inch across, including a simple rim with diagonal dragged lines in shallow incisions below a single horizontal cord-impressed line. Three other fragments also have shallow incisions. The ware is flaky or vesicular, without much grit, with pale buff surface (fig. 13, No. 1).

The decorated sherds at least are likely to be Neolithic, with affinities with the Hebridean or Unstan group of ornamented pots.

2. (EO. 833-38.) *B Beaker sherds from antechamber.* About 110 small sherds of Beaker pottery were found in a relatively compact mass on rough paving in the south-west corner of the antechamber and were almost certainly undisturbed. Three additional sherds ((f) below) were found nearer the entrance, away from the main group. At least 6 vessels are represented, as follows:—(Pl. XXXI, 1).

(a) Numerous sherds of good red ware with fine sparse micaceous grit, of a beaker of Class B. Rim, neck, body and base fragments are present, but no complete profile can be made. There is a low cordon below the rim, and the ornament consists of horizontal lines made with a sharp-toothed comb probably of 8 teeth, widely spaced and extending from rim to base. Inside the rim is a row of slightly oblique lines made with the same tool.

(b) Sherds, including rim of red ware with fine micaceous grit, of a corded beaker of Class B. The ornament is of horizontal lines

of fine cord impressions, and there are three rows of similar cord ornament inside the rim.

- (c) Five sherds, including two of base and one of rim, of a coarse beaker (presumably Class B) with much grit and red-brown surface. The rim has impressed cord ornament and remains of a heavy cordon.
- (d) Sherd of body of beaker of Class B, pale buff-red with fine micaceous grit. The ornament consists of firmly impressed hyphenated ornament in horizontal lines and one zone of zigzags.
- (e) Sherds of red ware with practically no grit and ornamented in the style of (a), but presumably representing a different vessel from (a)-(d).
- (f) One large and two small sherds of fine reddish ware with no grit and hard smooth exterior. The ornament consists of rows of vertical shallow stab-marks. Probably B beaker or some related ware.

2. Stone.

1. (EO. 839.) *Leaf arrow-head* of opaque greyish-white flint, 1.7 inches long by 0.9 inch wide, and 0.1 inch thick. The form is the true pointed oval "leaf" form and both faces are delicately flaked. From disturbed soil in antechamber filling (fig. 13, No. 3).

This form compares well with the arrow-heads from the Clyde-Carlingford tombs in Arran.

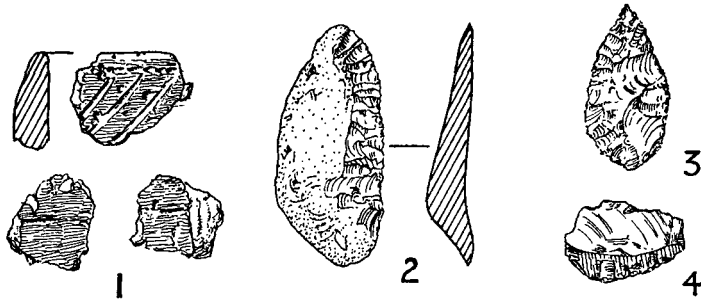


Fig. 13. Cairnholy II: 1. Neolithic sherds; 2. Plano-convex flint knife; 3. Flint arrow-head; 4. Flint scraper. (All from chamber: $\frac{1}{2}$)

2. (EO. 840.) *Plano-convex knife* of lustrous and translucent greyish-white flint from a beach-pebble, 2.5 inches long by 1.2 inches wide, and 0.4 inch maximum thickness. The flat under-surface is that of the unworked flake, and the convex upper surface has very fine shallow scale-flaking along one edge, the remainder of the surface retaining the original white cortex of the pebble. Traces of a narrow band of lustre near the tip suggest slight use in a manner comparable to that from Cairnholy I. From floor of antechamber, lying on large stone in probably disturbed soil (fig. 13, No. 2).

This knife is comparable with that from Cairnholy I already described.¹

¹ For beach-pebble flint, see Appendix E.

3. (EO. 841.) *Broken fragment of scraper* of blue-grey mottled flint, 1.2 inches by 0.8 inch. Part of the scraping edge with moderately steep trimming remains. From disturbed soil in antechamber (fig. 13, No. 4).
4. (EO. 842.) *Flint chip* of blue-grey flint, 1.0 by 0.7 inch. From disturbed soil of antechamber.

PART II.—DISCUSSION OF THE CAIRNHOLY EXCAVATIONS.

Since the two cairns at Cairnholy have such evident relationship in the planning and arrangements of their chambers, and to some extent in the method of closing the tombs after the final burials, it is convenient first to discuss certain problems which relate to both monuments in common.

The Structure and Function of the Chambers.

The two cairns share a peculiar structural feature not, so far as we know, precisely paralleled elsewhere in the Clyde-Carlingford area, in which the inner half of the burial chamber is constructed as a massive closed cist to which access could never have been gained from the outer segment and portal. The surviving roofing of Cairnholy II, and the side-stones of the outer half of the burial chamber in both tombs, show that this forepart was designed to have a higher roof than the rear portion, and if parallels in other chambered tombs are valid, it was conceived as an antechamber and not a passage. The published plans of the unexcavated monuments had suggested that the Cairnholy tombs incorporated a passage element, foreign to the normal Clyde-Carlingford type; but this ignored the longitudinal section, which shows at once the closed character of the rear chamber, and the original height of the roof of the antechamber.¹

This separation of the rear portion from the antechamber raises several points of interest. Comparison is inevitable with the closed cists or chambers in such Irish Gallery-Graves outside the Clyde-Carlingford series as Labbacallee, Co. Cork, Ballyedmonduff, Co. Dublin, or Carrickard, Co. Sligo,² and possibly also with the closed cists such as that within the "rotunda" behind the chamber in the Notgrove long cairn in the Cotswolds.³ In fact, a study of the plans of the Irish Carlingford tombs strongly suggests that essentially they contain two main structural (and presumably ritual) elements: a front chamber and one or more subdivisions behind this—this distinction being most marked in the Dunloy cairn, where the rear element is a crematorium-trench in the Yorkshire manner.

¹ Cf. Mrs Hawkes' remarks on the necessity of correlating plan and section evidence in *Univ. Lond. Inst. Arch. Occasional Paper No. 6* (1945), p. 31.

² *Journ. Roy. Soc. Ant. Ireland*, vol. lxxvii. (1947), pp. 136 ff., with refs.

³ *Arch.*, vol. lxxxvi. (1937), p. 119.

A practical problem raised by the closing off of the rear portion of the burial chamber in the two Cairnholy cairns is that of the actual mode of introduction of the burials. Once the dry-walling had been built up on each of the side-stones to a height approximating to the end slabs, and this and the capstone covered by the cairn, access would have been impossible save by removing some cairn material and side-walling, and replacing this after the burial had been deposited within the chamber. Now it is not impossible that something of this nature was in fact done, since there is evidence from several chambered tombs of Passage-Grave type that the later burials in the chamber were in fact inserted in more or less this fashion. Lindsay Scott has noted this at Unival,¹ and on the Continent at least two excavators have noticed similar circumstances in recent years—by Arnal in the Lamalou Passage-Grave in Hérault,² where triangular apertures seem to have been deliberately left between the orthostats of the chamber and the capstone, to serve as methods of ingress to the chamber for the later burials, and by do Paço in the Alapraia rock-cut tombs in Portugal,³ where the central hole in the apex of the vault would seem to have served a like purpose. At Cairnholy, as at Lamalou and Unival, one would have to assume the minimum of cairn material over the chamber—in fact it is likely that the capstones were always intended to be visible, at least in part. This would also explain, at Cairnholy I, the re-use of this closed chamber for a Food-vessel burial: it would look like a ready-made cist, easily accessible from the side. Whatever the case with the now vanished primary burials, the Food-vessel deposit with its carved stone must have been inserted in this manner.

The Forecourt Area and Closing Stone.

In both Cairnholy tombs provision was made for closing the entrance⁴ between the portal stones by a massive pillar or slab, and in both sites it had fallen or been pulled forward. This feature seems not to have been recorded elsewhere in the Clyde-Carlingford group of tombs, but it does occur in the long cairn of Tinkinswood in South Wales⁴ where, as at Cairnholy II, it was bedded on the old ground surface and not, as at Cairnholy I, in the blocking material at a higher level.

An important point is stressed by the monumental façade defining the forecourt area at Cairnholy I, with the accompanying evidence of complex ritual activities in front of the portals, and the absence of any such façade

¹ *Proc. Soc. Ant. Scot.*, vol. lxxxii. pp. 1-49.

² *Ampurias*, vol. xi. (1949), p.p. 33-45. Dr Arnal discussed this feature with S. P. on the site in 1949.

³ *Alapraia II* (1941), p. 112, and discussion on the site in 1947. The Palmella tombs would be susceptible of the same interpretation, and the "silo" burials of Acebuchal (Castillo, *Vaso Campaniforme*, Pl. IV) may well be related.

⁴ *Arch. Camb.*, 1915, pp. 253-320.

at No. II, with an equally marked lack of any evidence for ceremonial performances at all. In other words, the provision of a crescentic façade and an architecturally planned forecourt to the tomb must have been designed as a setting to certain specific funerary ceremonies that demanded such a background. If for some reason no such ritual was necessary, the ceremonial demarcation of the sacred area was equally unnecessary—the ceremonies determined the planning of the area at the entrance to the burial chamber. Performed without the appropriate setting the magic would be inoperative, and without the appropriate rites the façade would be meaningless and redundant.

Discussion of the significance of the forecourt ritual must therefore be confined to Cairnholy I, except in so far as the stone closing the entrance plays a part. For parallels within the Clyde-Carlingford group of tombs we must turn to Ireland, for in no Scottish site had the forecourt area been examined before the present excavations. But eleven Irish examples can be used for comparative data, in which the forecourt area has been excavated wholly or in part, and the structural features recorded can best be expressed in a table as follows (see p. 132).

It will be seen that of the eleven Irish sites analysed, all have some form of cairn sealing in the forecourt (though in no instance so massive or so deliberately constructed as in Cairnholy I), and all have evidence of ritual performances attested by hearths and scattered pottery. Furthermore, no less than six have evidence of a standing-stone, or the socket for one, within the forecourt area—a remarkably high percentage.¹ In its general features of forecourt ritual, therefore, Cairnholy I is quite typical of the Clyde-Carlingford series, and in less specific terms the evidence from the forecourts of such Cotswold-Severn tombs as Tinkinswood, Notgrove or Nympsfield² is again in agreement, though here there is no evidence of standing-stones within the area. It may not be inapposite, however, to recall the standing-posts originally set at the eastern end of the unchambered long barrows of Thickthorn Down in Dorset and Badshot Lea in Surrey. At Cairnholy I the stratigraphy clearly shows that the stone-hole in the forecourt was bereft of its stone and filled level before the blocking was built over it, but in the three comparable Irish sites such evidence was not forthcoming, and the stones may have been removed at any time.

The relationship of deposits on the old ground surface *beneath* the blocking, to those actually incorporated *in* it, is discussed further below,

¹ Probable additional examples in unexcavated sites are at Ballymakellet, Co. Louth (*Louth Arch. Journ.*, vol. x. (1941), p. 60), and Ballymarlagh, Co. Antrim (*Ulster Journ. Arch.* (1948), p. 15).

² *Arch. Camb.*, 1915, pp. 253-320; 1916, pp. 239-294; *Arch.*, vol. lxxxvi, p. 119; *Proc. Prehist. Soc.*, vol. iv. (1938), 188-213. The standing-stones at Tinglestone and Lyneham are in the actual body of the cairn, and so not directly comparable, and the same may be said for that at Manio in Brittany (*Antiquity*, vol. x. (1937), pp. 441-55).

Site.	Cairnholly I.	Cairnholly II.	Ballyalton.	Ballyedmond.	Ballynamona.	Browndod.	Clady Halliday.	Clontygora, Large.	Dunloy.	Goward.	Hanging Thorn.	Legland.	Mourne Park.
Blocking or cairn sealing in forecourt . . .	×	× ¹	×	× ²	×	× ³	×	×	×	×	×	× ⁴	×
Monolith before portal .	×	×											
Monolith in central area of forecourt . . .						×					×		
Monolith beyond forecourt			×										
Probable stone-hole in forecourt	×						×	×					×
Hearths and/or pottery scatter below blocking	×		×	×	×	×	×	×	×	×	×	×	×
Prepared clay floor						×	×						
Pavement			×	×				×	×	×			×

Notes.—1. No forecourt. Blocking against chamber entrance only.

2. Deposit over pavement not of usual heavy stones.

3. Cairn sealing takes form of red clay against portals.

4. Excavation report most unsatisfactory.

5. Not certain. A small stone to one side of the forecourt.

6. The excavator suggests a ritual pit, but a stone-hole seems more likely.

7. Hearth but no pottery.

References.—Ballyalton, *PBNHPS* (1933-4), p. 79; Ballyedmond, *UJA* (1938), p. 49; Ballynamona *JRSAI* (1938), p. 260; Browndod, *PBNHPS* (1934-5), p. 70; Clady Halliday, *PBNHPS* (1935-6), p. 76; Clontygora, Large, *PBNHPS* (1936-7), p. 20; Dunloy, *UJA* (1938), p. 59; Goward, *PBNHPS* (1931-2), p. 41; Hanging Thorn, *PBNHPS* (1936-7), p. 43; Legland, *PBNHPS* (1939-40), p. 16.; Mourne Park, *PBNHPS* (1937-8), p. 18.

Abbreviations.—*PBNHPS*—*Proc. Belfast Nat. Hist. and Phil. Soc.*; *UJA*—*Ulster Journ. Archaeology*; *JRSAI*—*Journ. Roy. Soc. Ant. Ireland*.

but a feature common to all forecourt deposits examined is the presence of pottery in fragments, in circumstances implying the placing of broken sherds as ritual deposits rather than the shattering of a complete vessel *in situ*. This has been commented upon more than once in Ireland, and again in the Cotswolds, and was explicit at Cairnholy I. As we shall see, this deposition of groups of sherds, rather than whole pots, is characteristic of ritual within the burial chambers as well as in the forecourts in many tombs.

The Sequence of Burials, and their Relation to the Blocking.

The interpretation of the forecourt blocking at Cairnholy I, and its related phenomena such as hearths and ritual deposits, cannot be undertaken without reference to the sequence of burials in the accessible antechamber element of the tomb. The presence of a couple of sherds of Western Neolithic pottery, together with a leaf-shaped arrow-head, in the space between the edge of the stone-hole and the stone itself forming the back of the antechamber, strongly suggests that these in fact represent the remnant of early grave-goods, accidentally preserved in this crack when the rest of the antechamber floor was cleared and perhaps repaved. On this paving, as we have seen, were deposited burials accompanied by a plano-convex flint knife, and sherds of Peterborough Neolithic ware and of B beaker; nearer the portals was the fragment of a ceremonial jadeite axe.¹ It is important to note that both the Peterborough sherds and those of the B beaker were deposited as fragments, and in neither instance can have represented complete pots broken in the burial chamber: the rite is distinctively that of the collective tomb builders and contrasts sharply with Beaker Period reuse in which an individual burial would be inserted with its accompanying complete pot (as for instance at Nether Largie in Argyll). At Cairnholy II, also, the fragments representing five beakers were deposited as sherds, and in both tombs we have the final burials made in accordance with the traditional ritual of broken sherds, even though some of these were from pots whose origins lie with people of the alien, single-grave rite.

At Cairnholy I the deposits in the forecourt can be divided into two groups, the first represented by the hearth and sherds of a shallow Neolithic bowl (Deposit No. 9 in fig. 4) near the north portal stone. This deposit was carefully covered over by a layer of compact clean earth, on which the lower part of the blocking was constructed. This deposit, then, can be considered as primary, and, by inference at least, one would connect it

¹ The possibility has been considered as to whether this fragment might not have been placed to fulfil the rôle played by the complete axes in the entrances to chambers at Dunloy (*Ulster Journ. Arch.* (1938), p. 59) and Creevykeel (*Journ. Roy. Soc. Ant. Ireland*, vol. lxix. (1939), p. 53), but the evidence is inconclusive.

with the assumed early burials, fragments of whose grave-goods survived in the crack at the back of the antechamber.

All the remaining deposits (sherds of Western Neolithic pottery, including those of the carinated bowl near the portal; the jet bead; the edible molluscs; the stone discs) must be of the same general date as the blocking itself, and this is fixed in relation to the burial deposits by the presence of Peterborough Neolithic sherds at its base and on the axial line (Deposit 4 in the forecourt, fig. 4). The blocking, then, was not built until after the burials with Peterborough sherds were placed in the antechamber: since these were also accompanied by B beaker sherds, the blocking and its contained deposits are no earlier than the arrival in Galloway of makers of B class beakers. There is no inherent difficulty in accepting this relatively late date for any of the finds. The jet bead is not comparable in type with those from Neolithic contexts (Windmill Hill, Hembury, Nymphsfield, Notgrove, and a rough-out from Maiden Castle), but in its rounded biconical form is related to types of the Early or even Middle Bronze Age. There is no doubt, on the Irish evidence, that the carinated bowls similar to that from the blocking near the north portal at Cairnholy I continued in use until well into the local Early Bronze Age.

At both the Cairnholy tombs, then, there is evidence of at least two periods of use of the outer section of the burial chambers, the first phase in No. I being indicated by the Western rim-herd and leaf arrow-head, and in No. II by the incised Neolithic sherds (and possibly the leaf arrow-head and plano-convex knife from the disturbed filling). The second phase at No. II is represented by the sherds of five different B beakers, none complete, on a paving which is probably secondary, and at No. I by the intact deposit of a plano-convex knife, Peterborough Neolithic and B beaker sherds, and probably the fragment of a jadeite axe found some distance away. At cairn No. I the two phases are also represented in the forecourt deposits, absent in No. II—the first phase comprising one hearth at least, with sherds of a Western Neolithic bowl, all covered by a layer of clean earth, and the second phase by the massive blocking with its contained deposits and probably some of the hearths as well. The stone-hole (with the stone it temporarily held) would also belong to the first phase.

An important conclusion emerges from the consideration of the burial and blocking sequence at Cairnholy I—ritual deposits had been made in the forecourt on more than one occasion, and, by a reasonable inference, at the time of each successive burial in the antechamber, and the blocking was the final, irrevocable sealing of the tomb, after which no further burials would be made in it. We cannot regard the Cairnholy blocking as removed and replaced at every funeral, though clearly the closing stone here (and at such other sites as Tinkinswood) might very well serve as a temporary means of shutting off access to the chamber between ceremonies.

But during the effective use of the tomb for collective burial, the forecourt must have been an open area in which ritual fires could be lit and appropriate offerings made.

The evidence from the Irish tombs is in no instance sufficiently precise to allow such a sequence to be demonstrated with stratigraphical certainty, though, on the other hand, it nowhere conflicts with such an explanation. But recent work in Scandinavia has shown that exactly the same phenomena as at Cairnholy I can be observed in Passage-Graves in Sweden and Denmark, and can only be interpreted in the same manner.

The presence of quantities of sherds outside the entrances of certain Scandinavian collective tombs (sometimes amounting to 40,000 or 50,000 fragments!) has been known for many years, and usually interpreted as representing the debris of earlier grave-goods swept out of the chamber in successive clearings before the final burials, since a long chronological range of pottery has often been present. The recent excavations of a tomb near Horsens, in Jutland, the Grønhøj, have, however, led to a reconsideration of the whole problem, for here were not only a mass of forecourt deposits (including complete pots), but also the intact contents of the burial chamber, with abundant grave-goods. The chronological range of both groups was identical, and spanned the entire Danish Passage-Grave sequence in pottery, and it was only possible to regard the forecourt pottery, buried beneath a massive blocking, as being a series of offerings made during the period of effective use of the tomb. In the light of the Grønhøj evidence, Thorvildsen¹ has reinterpreted the results of excavations at such tombs as Jersdal and Gillhög in Denmark, and Vestra Hoby and Storegård in Sweden,² and shown that the new interpretation of the forecourt deposits is more satisfactory than the old. Cairnholy I has therefore contributed important evidence to the problem of European collective tomb ritual at large.

Relation of Cairnholy I and II to other Scottish Tombs.

The generic relationship of the two Cairnholy tombs to other members of the Clyde-Carlingford group in such areas as Arran and Bute, and again in Ireland and the Isle of Man, has been noted and discussed since their first recognition as a class.³ It is not the place here to deal with the questions of typological development of the tomb-plans, and the presence or absence of façades and forecourts, though it may be said in passing that the evidence seems to us to suggest that tombs with a shallow crescentic forecourt and probably with not more than two segments of the

¹ *Aarbøger* 1946, p. 74.

² Jersdal—*Fra Nat. Mus. Arbejdsm.* 1933, p. 9; Gillhög—*Ark. Stud. tillagn. H.K.H. Kronprins Adolf* 1932, p. 36; Vestra Hoby—*Med. Lunds V.H.M.* 1936, p. 28; Storegård—*Med. Lunds Univ. Hist. Mus.* 1930, p. 54.

³ As, for instance, by Childe in *Scot. Geog. Mag.*, vol. i. (1934), p. 18.

chamber are likely to be early in any such sequence. The Galloway group of Clyde-Carlingford tombs is discussed as a unit below, and in certain features of architecture they stand apart from those in the Clyde mouth area, but the grave-goods from the Cairnholy tombs, on the other hand, provide explicit evidence of relationship, at least by trade, between settlers round the mouth of the Cree and communities building the chambered tombs in Arran and Bute. The plano-convex knives from the two Cairnholy sites have close parallels from no less than five Arran tombs (Giant's Grave, Dunan Mor, Tormore, Slidery and Torlin), and even more to the point is the presence of actual Arran pitchstone in Cairnholy I, itself found in five Arran tombs (East Bennan, Carn Ban, Dunan Beag, Dunan Mor and Monamore) and in two in Bute (Glecknabae and Michael's Grave¹). So far as these two items go, then, contact between the Galloway and the Clyde-mouth groups is satisfactorily established. The pitchstone, petrologically confirmed as most probably of Arran origin, is an interesting addition to the west Scottish finds discussed by Mr Ludovic Mann.²

The carinated bowl from the blocking near the north portal stone tells another story. Vessels of this type are noticeably absent in the Arran and Bute tombs, though abundant in Clyde-Carlingford tombs in Ulster, and in a derivative site (Mull Hill) in the Isle of Man.³ The type seems ultimately to be of Yorkshire Neolithic derivation, and is found in habitation sites in North-western Britain at Ehenside Tarn, Cumberland,⁴ and on Glenluce Sands⁵ not far from Cairnholy, and also in Ulster at Lyles Hill and elsewhere. As we have seen, this type of pottery had a long life in the northern Irish Neolithic, and the recent recognition of the associated stone axes at Ehenside Tarn as products of the Langdale Pike axe-factory confirms the impression of a relatively late date for this ware in the north-west, since this factory flourished in Late Neolithic times.⁶ Its presence at Cairnholy shows that the Galloway colonies of chambered tomb builders had their contacts with those of the regions immediately south and south-west, as well as with those in the islands in the mouth of the Clyde to the north.

The Peterborough sherds from Cairnholy are the first to be found in a Scottish chambered tomb, but their presence in quantity at Glenluce shows that there was a coastal settlement of this group of Neolithic folk not far from Wigtown Bay. The incised scraps from Cairnholy II are less easy to parallel, but they do seem to have affinities with Hebridean wares of the type known from chambered tombs and a potters' workshop in North Uist,⁷ and if so would suggest extended traffic up and down the western sea-ways—an inherently probable situation.

¹ Bryce in *Proc. Soc. Ant. Scot.*, vols. xxxvi-xxxviii. and xliii., *passim*.

² *Proc. Soc. Ant. Scot.*, vol. lii. (1917-18), pp. 140-149.

³ *Antiq. Journ.*, vol. xii., p. 146.

⁴ *Arch. Journ.*, vol. lxxxviii. (1932), p. 96.

⁵ *Proc. Soc. Ant. Scot.*, (vol. lxiii. 1929), p. 67.

⁶ *Proc. Prehist. Soc.*, vol. xv. (1949), p. 16.

⁷ Cf. *Proc. Soc. Ant. Scot.*, vol. lxix. p. 480; vol. lxxxii. pp. 1-49.

The fragment of a ceremonial axe of pyroxene jadeite found on the paving of the antechamber of Cairnholy I is of great interest. Although about forty such axes are known from the British Isles, this is the first to be recorded in any archaeological context, and although only a small fragment, it is recognisable both by its petrology and its section, with characteristic high glassy polish on the faces, as representing a quite typical example. Unfortunately it is not possible to associate it directly with either the earlier Western Neolithic burials in the tomb, or with the later Peterborough-Beaker use, though the latter does provide a *terminus ad quem* for its deposition. In view of its worn condition, the earlier date, with implied contemporaneity with the building of the tomb, is to be preferred.

The petrology of rocks of the "jadeite" class is discussed by Dr Campbell Smith in Appendix A, and he shows that natural sources for some axes under discussion do not occur in the British Isles. On this ground alone, therefore, we are led to regard them as, in the main, imports from continental Europe, and this is borne out by the form of the axe-blades, which is comparable with those from Breton and other finds of votive deposits. The ceremonial nature of the axes is hardly to be doubted in view of their extreme thinness and delicacy of finish.

The distribution of such axes in Britain is shown in fig. 14, based on data kindly put at our disposal by Miss L. F. Chitty, and summarised in a list included in Appendix A. An earlier map of hers was published by Sir Cyril Fox in 1933,¹ but this included several axes not strictly of the type under discussion, so in the new map these have been omitted, but a few additional examples from other localities have been added. The distribution pattern presents several points of interest. The Cairnholy fragment falls into place as an item in a local concentration comprising two axes from Glenjorrie, Glenluce, and one each from Castle Douglas, Dumfries, and Glencrutchery, Isle of Man, and evidently the result of movements of trade and migration on the western seaways. The axe from the River Spean, Fort William, continues the line of trade up the Western Approaches; those from Caithness and Sutherland show its ultimate prolongation, and that from Daviot, Inverness, use of the Great Glen route. The remaining Scottish axes, from Aberfeldy, Rattray, Stirling and Dunfermline, and presumably also those from Berwickshire and Cunzierton, are probably more likely to be the results of trade inland from the west rather than from sea contacts on the east coast.

This explanation, too, seems probable for the group from Lyme Park, Cheshire, and Brierlow and Hopton in Derbyshire, and one may plausibly connect these axes with such chambered tombs as The Bridestones in Cheshire, and Five Wells and other sites in Derbyshire, all indicating

¹ *Proc. Prehist. Soc. E. Anglia*, vol. vii (1933), Pl. V, fig. 6 b, opp. p. 156.

settlement from the west coast. Indeed, it seems reasonable to associate all these axes with the same seaborne traffic at the beginning of the second

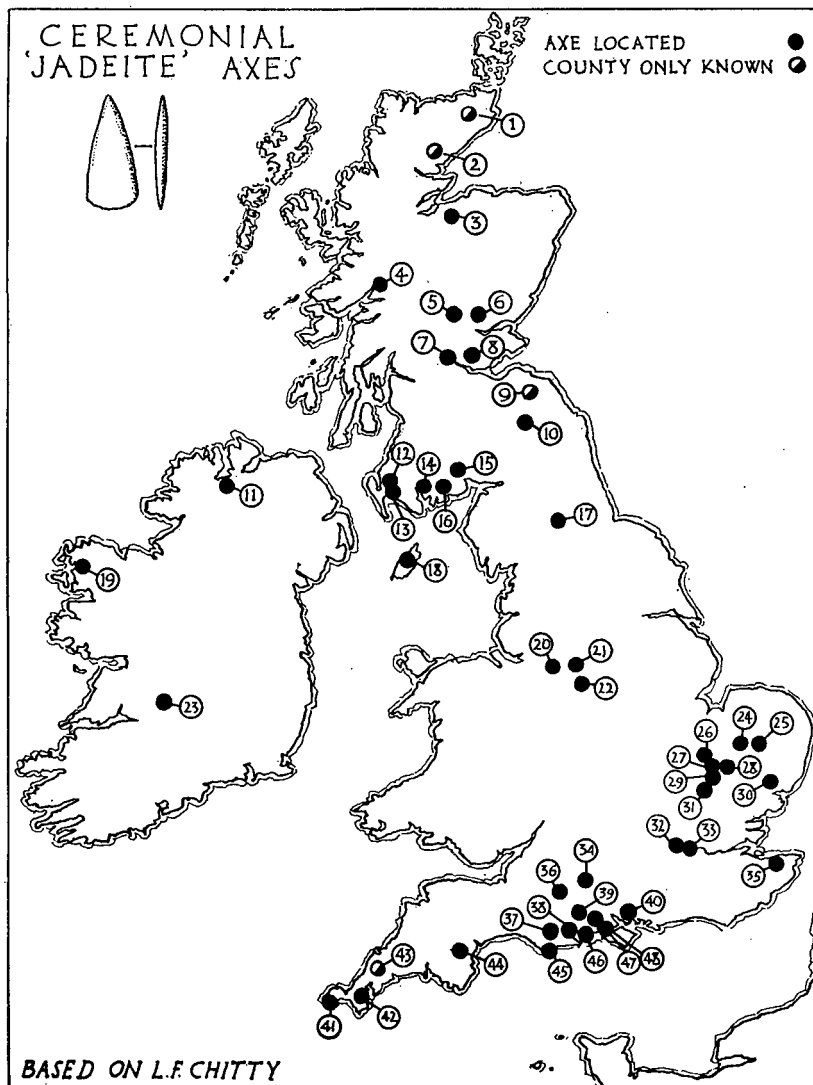


Fig. 14. (For gazetteer, see Appendix A, p. 155.)

millennium B.C. as that responsible for the Clyde-Carlingford tombs and their analogues. The south-west English group, scattered from Cornwall to Southampton Water, presumably relates to up-Channel trade, again

from the main western routes,¹ and the whole series (including the sporadic Irish finds) are likely to be connected with or derived from the well-known Breton ceremonial axes, made from local rocks of the "jadeite" group and found in many chambered tombs as votive deposits.²

But the marked concentration of axes in East Anglia (five from sites close to Cambridge), and those from the Thames and Canterbury, seem less likely to derive from a Breton source. In addition to the natural deposits of jadeite and chloromelanite in Brittany, and the abundance of ceremonial axes of these rocks in the same area, it must be remembered that the same rocks also occur in Western Switzerland and the adjacent parts of Italy, while the allied rock nephrite is found in many regions stretching from north-west Italy northwards to central and eastern Germany.³ Furthermore, finds of axes made of these stones are known from the Vosges, Thuringia and near Mainz,⁴ and the spread of such Breton types of axe westwards is to be connected with the occurrence of large rings of jadeite and allied stones, again a Breton type, in Alsace and the Upper Rhine, where they are associated with Grand Pressigny flint blades.⁵ Our East Anglian axes may then have a Rhineland origin.

The Re-use of the Tomb in Food-Vessel Times.

The problems raised by the difficulty of access to the rear chamber of Cairnholy I have been touched on above, but it is clear that the secondary burial with the *stele* and Food-Vessel fragments must have been inserted by removing dry-stone walling from the side of the rear chamber. There is reason to associate the carvings of the cup-and-ring class with the Food-Vessel culture of the Scottish Middle Bronze Age, and in Galloway such carvings, normally on living rock surfaces, form three main concentrations—one near Kirkcudbright, with a few examples on the west side of the Dee estuary; another westwards of the estuary of the Fleet, including Cairnholy; and a third more sparsely scattered group in the Wigtown peninsula south of the Bladenoch (fig. 15).⁶ A single outlying example has been noted

¹ Sites such as the chambered long cairn of the Grey Mare and Her Colts in Dorset, with its shallow crescentic façade, may be significant in this context (*Proc. Dorset N.H. and Arch. Soc.*, vol. lxvii, p. 30).

² C. D. Forde, "On the Use of Greenstone . . . in the Megalithic Culture of Brittany," *Journ. Roy. Anthropol. Inst.*, vol. lx. (1930), pp. 211-34.

³ J. Andree, "Das Natürliche Vorkommen v. Nephrit u. Jadeit in Europa," *Mannus-Bibliothek*, No. 22 (1922), pp. 25-9.

⁴ *Prähist. Zeitschrift*, vol. iv. (1912), p. 231; Lindenschmidt, *Altert. uns. heid. Vorzeit*, vol. i. i, pl. I. In the archaeological museum at Nancy are two jadeite axes of Breton types, one very fine and thin from Raon-sur-Plaine, and the other, smaller, from the foot of Le Donon, both at the northern end of the Vosges Mountains. There is a fragment of the butt of what appears to be another similar axe from Marlenheim, Alsace. (Archæological Museum, Strasbourg, No. 2936 a.) Noted by S. P. August 1950.

⁵ W. Kimmig, "Probleme der jüngeren Steinzeit an Hoch-und Oberrhein", *Jahrb. d. Schweiz. Gesellsch. f. Urgeschichte*, vol. xl. (1950), pp. 137-155.

⁶ Known examples are listed in the Royal Commission's *Inventories* for Galloway, but there are certainly more unrecorded sites to be added by systematic field-work.

on a stone of one of the Mid-Gleniron chambered cairns on the Water of Luce. The use of a diamond-shaped *stèle* deliberately set up in the burial chamber at Cairnholy I seems to be unique.

It is likely that the concentrations of cup-and-ring carvings in the regions mentioned above may be related to the local exploitation of copper and other ores in Bronze Age times: certainly such a correlation seems probable in Ireland, and in other areas of North Britain.¹

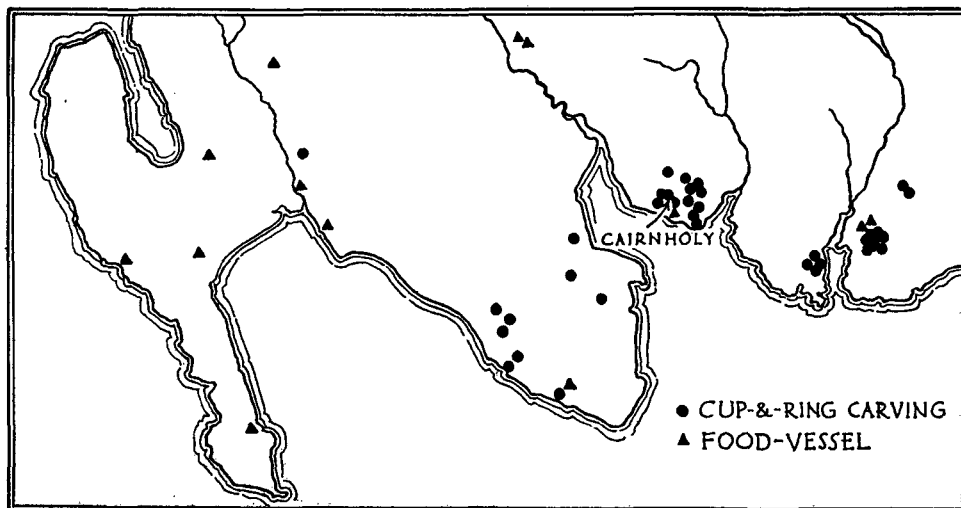


Fig. 15. Cup-and-ring carvings and Food-vessels in Galloway.

PART III—THE GALLOWAY GROUP OF CLYDE-CARLINGFORD TOMBS.

The existence in Kirkcudbrightshire and Wigtownshire of at least nine chambered cairns of the Clyde-Carlingford class makes a brief review of the group as a whole desirable to round off the Cairnholy evidence. Childe has already indicated the main lines of colonisation in South-western Scotland in Neolithic times,² represented by the distribution of such tombs, but field-work during the period of the Cairnholy excavations has supplemented the evidence available in his paper and in the *Inventories* of the Royal Commission on Ancient Monuments.

The tombs fall into two distinct groups, one on the northern shore of Wigtown Bay and stretching inland up the valley of the Cree, and the other on the Water of Luce with an outlier near the coast on the east side of Luce Bay, and a probable second in the high ground between the Water of Luce and Loch Ryan (fig. 1 and details in list.). All lie near, or just

¹ MacWhite in *Journ. Roy. Soc. Ant. Ireland*, vol. lxxvi. (1946), p. 59. The Mid-Gleniron example is recorded here for the first time.

² *Scot. Geog. Mag.*, vol. i. (1934), pp. 18-25.

within, the 500-foot contour, except for the burial-chamber ruins (no. 1), and the High Gillespie cairn (no. 7), on lower land near the coast. The sites are usually slopes facing south or south-west. As Childe pointed out, the distribution of the tombs indicates colonisation from the sea, and the utilisation of alluvial stretches along the rivers for cultivation, but most if not all the sites must have been originally in woodland.¹

An interesting point is the occurrence of tombs in closely adjacent pairs at Cairnholy and Mid-Gleniron (nos. 2 and 3, and 8 and 9 of the map). The feature is not unknown elsewhere in the Clyde-Carlingford area—one may instance Dunan Beag and Dunan Mor in Arran, and half a dozen examples in Ireland: curiously enough it recurs in the Cotswold-Severn group of chambered cairns (Poles Wood South and North; Eyford and Newclose; the two Ffostyll cairns for instance) and in the unchambered long barrows of Wessex (Thickthorn and Gussage Down in Dorset; Barton Stacey in Hampshire, and others).²

Typologically, the tombs fall into three classes, with a fourth group of indeterminate burial chambers at Newton (no. 1) and The Auld Wife's Grave (no. 12). The first class is that of long cairns with terminal chambers, all with crescentic forecourt settings except Cairnholy II (no. 3), the remainder comprising Cairnholy I (no. 2), Boreland (no. 4), Mid-Gleniron I (no. 9) and Mid-Gleniron II (no. 8)—the forecourt setting of the last is here recorded for the first time. Details of these and the other cairns are given in the list on p. 143, and plans to uniform scales are given in figs. 16 and 17.

It will be seen that Mid-Gleniron I has, in addition to chambers along the axial line behind the forecourt, one at least at right angles, with a presumed entrance from the side of the cairn, and this feature links the site with the second class, of lateral-chambered cairns, at Dranandow (no. 5), High Gillespie (no. 7) and the Caves of Kilhern (no. 10). Of these, Dranandow has been excavated, but produced no artifacts: an interesting point established, however, was the use of very low slabs, a few inches high, as septals, recalling the possibly similar practise in the antechamber at Cairnholy I. In this site the chambers had lost their functional entrances through the edges of the cairn, and this may be the case in the unexcavated sites as well. The relative remoteness of Dranandow and the Caves of Kilhern from the coast carries the implication that these typologically degenerate tombs may be the products of communities later in establishment than the primary coastal settlements, but High Gillespie lies close to the shore.

¹ Cf. Grimes' remarks in *Arch. Camb.* (1936), pp. 259-82, on the chambered tombs of the Black Mountains: many of his observations are relevant to the Galloway tombs under discussion.

² Crawford, *Long Barrows of the Cotswolds* (1925), p. 12; Grimes, *loc. cit.*; *Map of Neolithic Wessex* (1932).

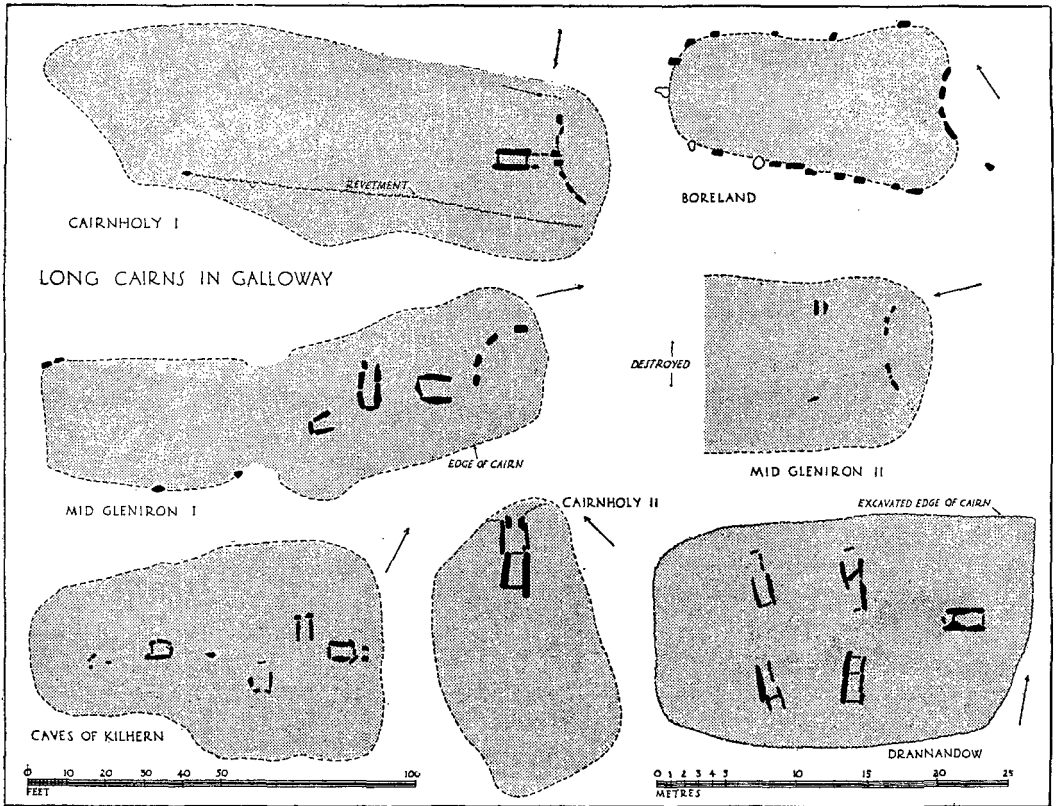


Fig. 16. Plans of chambered long cairns in Galloway.

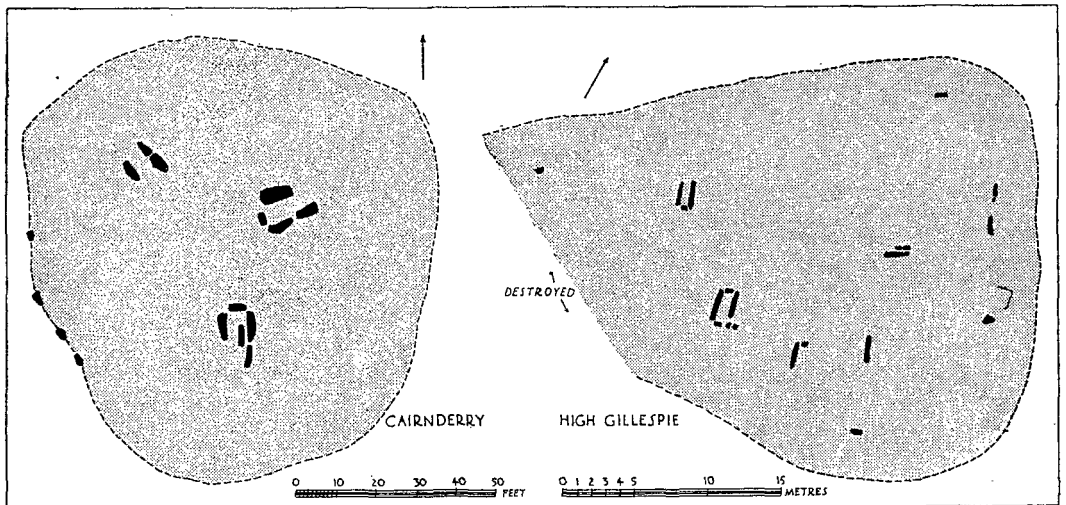


Fig. 17. Plans of chambered long cairns in Galloway.

The sequence of tomb-plans, with the break-down of the chambers into a number of lateral units, is paralleled in such sites as Cufi Hill, and probably the cairn at Darvel, Ayrshire, and an allied form of multiple-chambered tomb occurs and is described below. But the Galloway series does recall that of the Severn-Cotswold chambered cairns to a remarkable degree, where a very similar multiplication of lateral chambers and a reduction in importance of the wider end is seen in typologically later examples.¹

The third class of Clyde-Carlingford tombs in Galloway is represented by a single example, that of Cairnderry (no. 6). This large roundish cairn has three radially set chambers, which relate it to Glecknabae in Bute and Dunan Mor in Arran, the former (with two chambers surviving) producing Neolithic and Beaker sherds, and pitchstone flakes, and the latter pitchstone and a plano-convex knife. There seems no doubt, therefore, that these three sites belong to the Clyde-Carlingford series: Cairnderry is remote from the mouth of the Cree, but it might well represent inland penetration not from this coast, but from the Ballantrae region to the north-west. Indeed, the evidence is in favour of a trans-peninsular route from Ballantrae Bay up the River Stinchar and its tributary the Duisk, thence three miles overland to the Cree, and it is likely that the Arran contacts seen at Cairnholy were established and maintained by this route rather than by coasting round Burrow Head and the Mull of Galloway.

LIST OF CHAMBERED TOMBS SHOWN ON MAP, FIG. 1.

1. *Newton*, Anwoth. Remains of a rectangular chamber about 7 by 3 feet, with side slabs flush with the ground, and three pillar-shaped stones up to 5 feet 4 inches high at the corners. Probably remains of a Clyde-Carlingford chamber. (*Kirk. Invent.*, No. 29.)
2. *Cairnholy I*, Kirkmabreck. Present paper.
3. *Cairnholy II*, Kirkmabreck. Present paper.
4. *Boreland*, Minnigaff. This cairn is virtually intact and without vegetation growing on it, and is 6 feet in height, ridged, and with a modern pyramidal cairn built on it. Four stones of the crescentic forecourt setting are visible, the outermost both 4 feet 6 inches high, and the innermost 1 foot 9 inches high. There is no sign of the passage or chamber, both being concealed by the cairn. There is no forecourt blocking visible. The peristalith is intermittently marked by large boulders of the same type as those of the façade. (*Kirk. Invent.*, No. 362.)
5. *Dranadow*, Minnigaff. Excavated by A. J. H. Edwards in 1922, but no finds. The cairn had been much robbed, and there was no built kerb or peristalith. Four lateral and one terminal chamber, none having functional entrance. Vestigial septal slabs. (*Kirk. Invent.*, No. 358; Edwards in *Proc. Soc. Ant. Scot.*, vol. lvii. (1923), p. 55.)

¹ Cf. Grimes in *Proc. Prehist. Soc.* (1939), p. 139. The long cairn of Ringham Low, Derbyshire, may show the same process (Bateman, *Ten Years' Diggings* (1861), p. 93).

6. *Cairnderry*, Minnigaff. Large roughly circular cairn with three radial chambers and a few stones of peristalith on the south-west. (*Kirk. Invent.*, No. 346.)
7. *High Gillespie*, Old Luce. Large chambered cairn, pear-shaped, and cut across the narrow end by a field dyke. Traces of at least five, and probably originally six or seven, lateral chambers, and another on the axial line near the broad end. (*Wig. Invent.*, No. 346.)
8. *Mid-Gleniron II*, New Luce. Small chambered cairn, much robbed, and destroyed at its rear end, where a field dyke cuts it. A crescentic façade can be traced at the southern end, with indications of a heavy forecourt blocking, and at least one lateral chamber. The axial chamber is not now visible. (*Wig. Invent.*, No. 263.)
9. *Mid-Gleniron I*, New Luce. Large chambered cairn near no. 8, with half-façade surviving with high forecourt blocking, one axial chamber and one lateral, and a possible closed cist or chamber behind this. Cut through by cart-track; some stones of peristalith. (*Wig. Invent.*, No. 261.)
10. *Caves of Kilhern*, New Luce. Roughly pear-shaped cairn with axial chamber at wider end, two lateral chambers apparently without functional entrances, and a second axial chamber near the small end. In high upland country. (*Wig. Invent.*, No. 269.)
11. *White Cairn, Bargrennan*, Minnigaff. Present paper.
12. *Auld Wife's Grave, Cairnscarrow*, Inch. Megalithic burial chamber constructed against a natural rock outcrop forming one side. It may be nothing more than a massive Bronze Age cist. (*Wig. Invent.*, No. 46.) (Not visited.)
13. *Cairn Kenny, High Murdonochee*, New Luce. Circular chambered cairn of uncertain type, probably a passage-grave. (*Wig. Invent.*, No. 271.) (Not visited.)
14. *Cave Cairn, Strawarren*, Ballantrae. Circular chambered cairn of uncertain type, perhaps a passage-grave. (J. Smith, *Prehistoric Man in Ayrshire* (1895), p. 225.) (Not visited.)

PART IV—EXCAVATION OF THE WHITE CAIRN, BARGRENNAN.

The Site and its Setting (fig. 18).

The Passage-Grave¹ known as the White Cairn, Bargrennan, is the easternmost of two sites of the same name, both north of Bargrennan, and a little over half a mile apart. The western White Cairn is more or less intact, 50 feet in diameter and 7 feet high, with no evidence as to whether or not it covers a cist or a tomb-chamber.

The eastern White Cairn lies within the 375-foot contour on a broad spur of land running south-west from Glencaird Hill (1025 feet). To the north-east is the great mass of The Merrick (2764 feet), separated from which by the Glen Trool valley lies Lamachan Hill to the east (2349 feet),

¹ Nat. Grid Ref. 353784; O.S. 6-inch sheet Kirkcudbrightshire XXIII N.E., Royal Comm. Anc. Mons. (Scot.), *Kirkcudbrightshire Inventory* (1914), No. 350. The western White Cairn is No. 349.

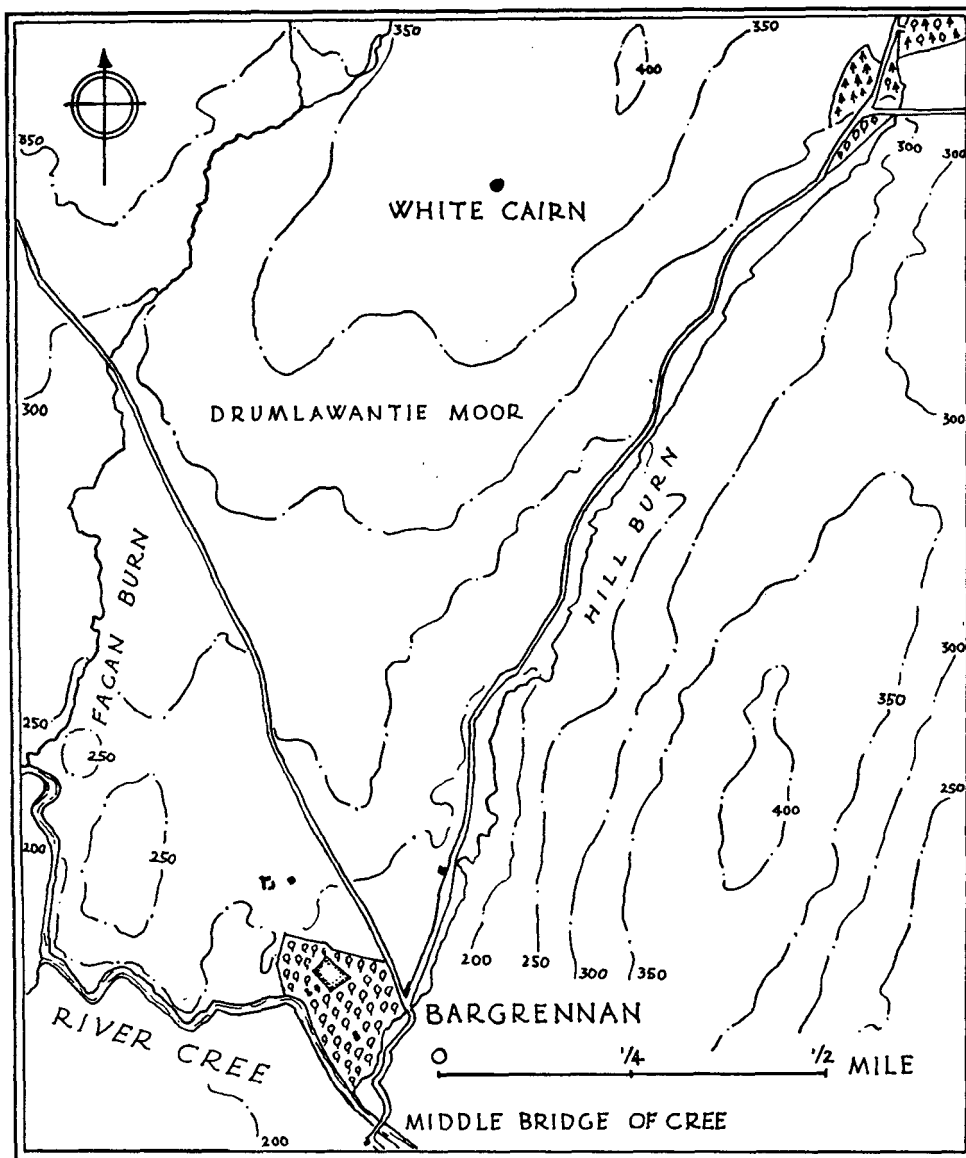


Fig. 18. Site plan of eastern White Cairn, Bargrennan.

but the moorland immediately around the White Cairn is undulating, and not in general rising above about 450 feet. Southwards the view extends towards Luce Bay, 18 miles away, and to the north-west the coast at Girvan, 16 miles distant, lies behind a low range of hills rising to 700-800 feet. A mile south of the cairn runs the River Cree, in a valley within the 150-foot contour.

As at Cairnholy, the subsoil is Silurian rocks, but of the Wenlock series. Glacial deposits overlie the rock in most places, but there are frequent outcrops. The area is in general moorland and rough grazing, and the eastern White Cairn is on land recently planted by the Forestry Commission.

Visible Structures before Excavation (fig. 19).

The site consisted of a much-robbled circular cairn, with a diameter of some 45 feet, remaining to a maximum height of 4 feet 6 inches near the centre but elsewhere averaging about 2 feet. Within this cairn was exposed a megalithic chamber and passage, of typologically late plan in which these two elements were not structurally distinct, the whole forming an "entrance grave" narrowing towards its outer end, 24 feet long, with its axis north-west and south-east. Two massive capstones still remained covering the inner half of the structure. There were no revetment stones or peristalith, and the cairn was partly covered with vegetation.

Method of Excavation.

In view of the very ruined nature of the monument, attention was directed to the excavation of the passage and chamber, and the examination of an area at its presumed entrance, though no structural evidence of a junction between the passage and edge of the cairn could be seen before excavation. The site was planned from an axial line on a scale of 10 feet to 1 inch (1 : 120), with a detailed plan of the excavated area at 2 feet to 1 inch (1 : 24) and a longitudinal section at twice this scale (1 : 12).

Summary of Results.

A collective chambered tomb, within the Passage-Grave group and an isolated member of its class in South-west Scotland, was built on a slope overlooking the Cree valley some 15-20 miles from the coast. Its builders not only followed architectural and ceremonial traditions alien to the builders of the Clyde-Carlingford tombs in this region, but they used pottery of a type dissimilar from that found at Cairnholy. Near the entrance to the tomb, ritual, including the digging of a pit and the making in it of a fierce fire, followed by the deposition of a human cremation and

a flint tool, suggests comparison with Late Neolithic practices known from elsewhere in Lowland Scotland and in Southern England.

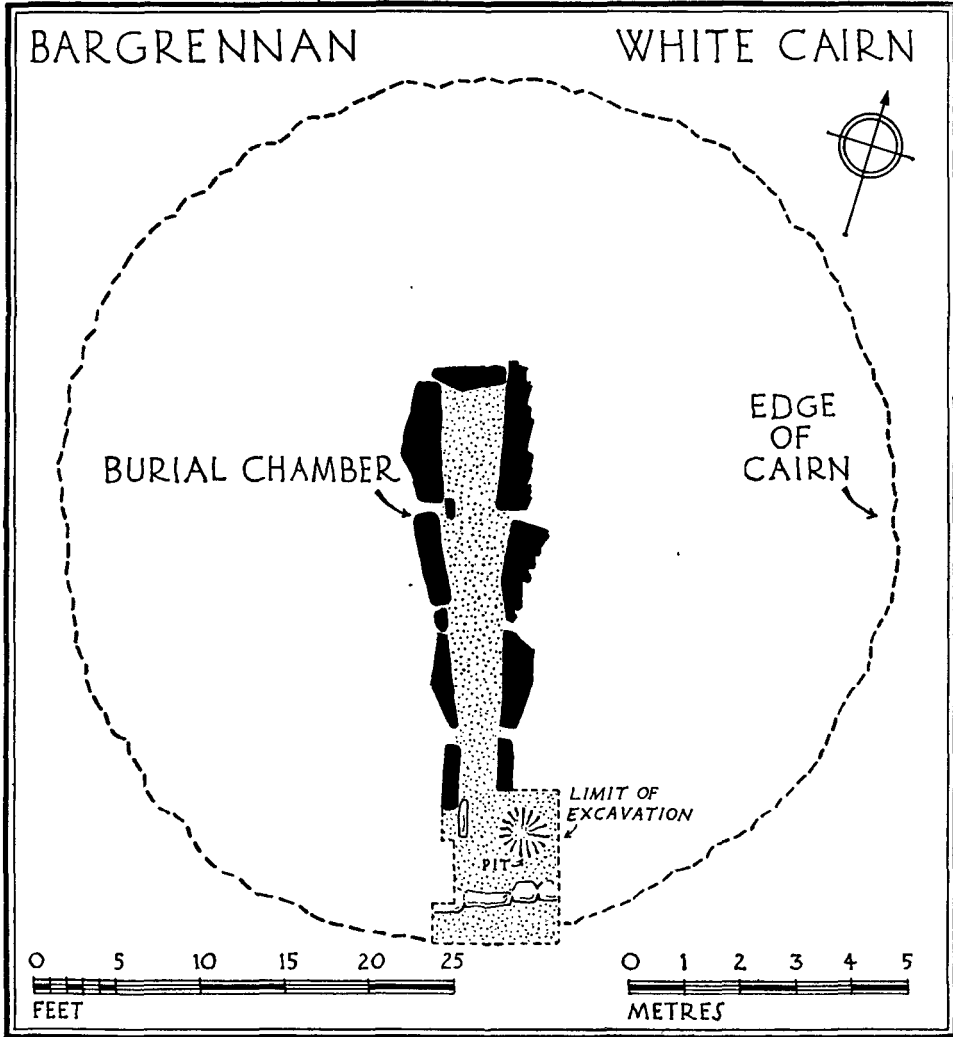


Fig. 19.

DESCRIPTION.

The Cairn.

In the small area examined the cairn was found to consist of large rounded boulders, without evidence of any form of built kerb or peristalith or larger blocks.

The Passage and Chamber (fig. 20).

Since it is impossible to make any structural distinction between these two elements, it is convenient to describe the whole area between the orthostats and originally roofed as a single entity. The walls were constructed of large boulders, set with their flat faces innermost, above which the roofing slabs had been carried on massive dry-stone walling. The structure took the form of a truncated wedge, 24 feet long, 4 feet wide internally at its inner (north-west) end, and narrowing to 2 feet at its open (south-east) end. The walls were made up of eight stones, roughly paired, and it was found on excavation that the passage had ceased to exist as a structural feature at a point some 8 feet before it reached the edge of the cairn. On the south-west side an additional low slab appeared to continue the line for another 2 feet, but the area immediately in front was occupied by the ritual pit described below. A barrier of large stones, rather more compactly laid than the remainder of the cairn, appeared to form a "blocking" across the line of the passage approach at the edge of the cairn, outside which were two small burnt areas on the old ground surface. But there could never have been a functional entrance to the passage through the periphery of the cairn, and access can only have been gained by descending in some manner into the edge of the cairn mass to the entrance beneath the first capstone. Steps giving access in this manner are indeed known from a Cotswold tomb and may have existed here, but the area was too wrecked to retain evidence.

The inner ten feet of the chamber were still roofed by massive capstones *in situ*. These were carried by the rear walling-stone, and by very heavy dry walling of huge blocks, one a parallelogram of 3 by 2 feet, set on the orthostats at the sides. The under-side of the capstones were 4 feet 6 inches above the original floor-level, and it is likely that the roof was maintained at this height throughout the passage. Corbel stones to support the capstones still remained at one or two points along the passage, notably on the north-east.

On the second stone of the south-west wall from the rear of the chamber were various scratches, some forming rectilinear designs that may be ancient.

The whole of the area under the capstones had been thoroughly robbed, and only an inch or so of modern humic soil remained over the original floor in this part of the tomb. But thanks largely to the fact that the passage and outer part of what was presumably regarded the chamber were choked with debris, which included large corbel-slabs fallen in, it had been left intact. The fallen slabs caused considerable difficulty in excavating this confined area, but eventually it was completely examined.

It was found that the floor had been covered with a fairly regular paving of flat slabs, which had presumably originally extended over the

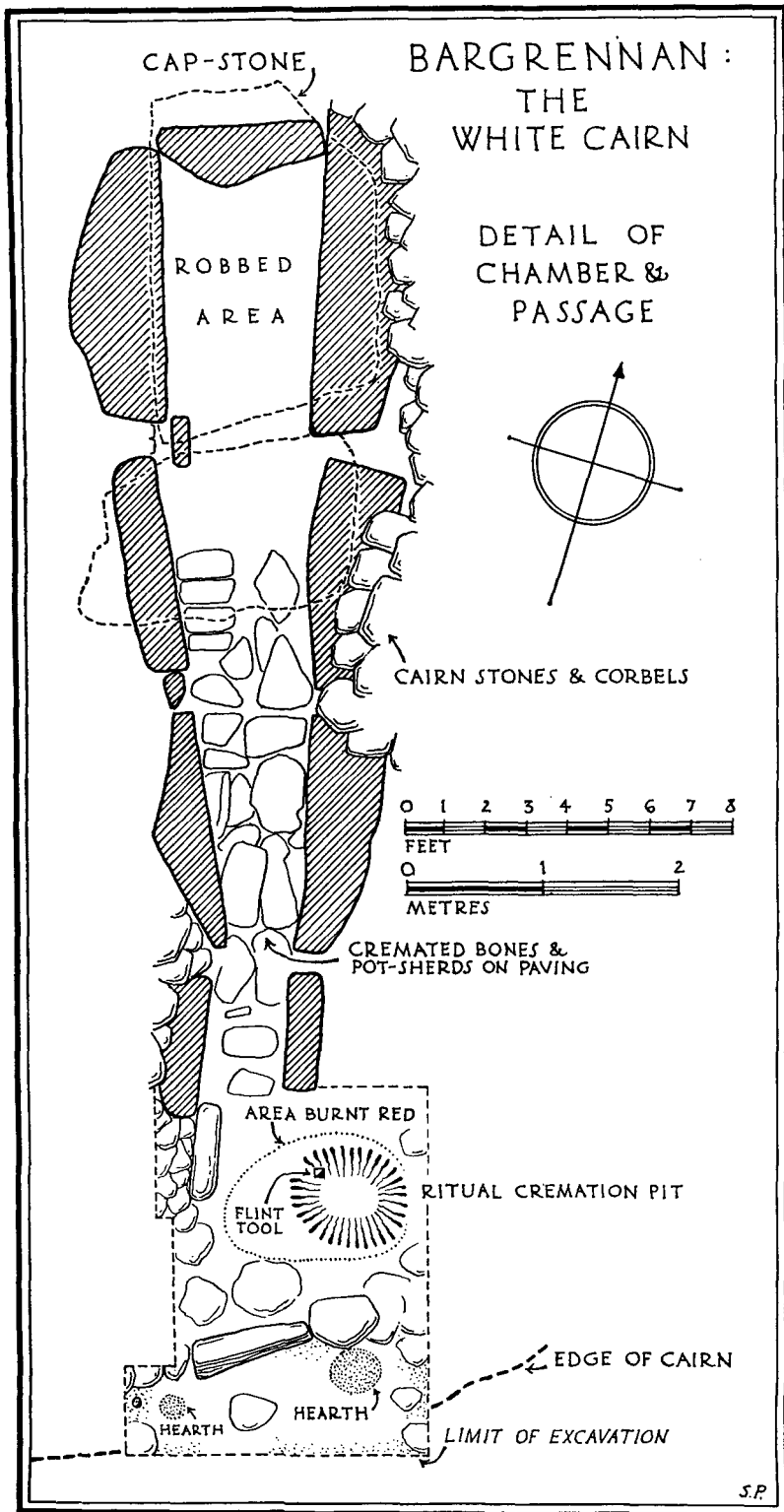


Fig. 20.

inner part of the chamber floor as well. On this paving, over an area extending for some five feet into the passage from the front edge of the second capstone, were scattered fragments of cremated bones and sherds of pottery ornamented with incisions, cord ornament and impressions probably made with the edge of a cockle (*cardium*) shell (fig. 21). Cremated bone fragments were also found scattered further towards the entrance, but without pottery. The filling of the passage, between the large fallen slabs, consisted of stones and dark soil to a depth of 1 foot 6 inches to 2 feet.

The Ritual Cremation Pit.

A completely unexpected discovery was made while searching for the continuation of the passage towards the edge of the cairn. Just off the

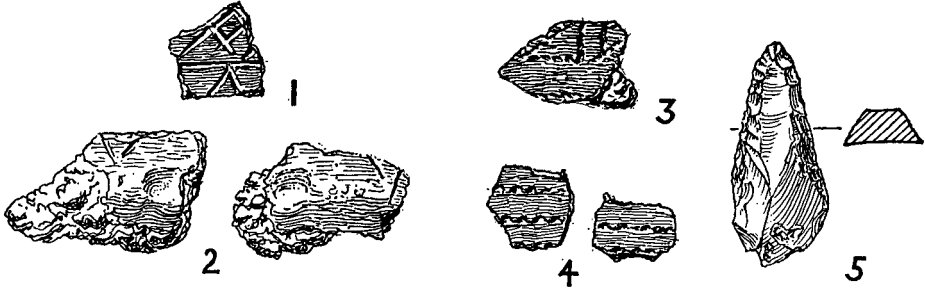


Fig. 21. White Cairn, Bargrennan: 1-4. Pottery from Passage; 5. Flint "fabricator" from Ritual Pit. ($\frac{1}{2}$)

axial line of the structure to the north-east was an area of clay floor burnt to an intense orange-red, about 4 feet 6 inches by 3 feet, and towards the north-eastern side of this was a clay-lined pit, 2 feet in diameter and a little over 1 foot deep, with its sides similarly burnt. Filling the pit level with the surrounding floor was a mass of black soil in which cremated bones were mixed with abundant fragments of oak charcoal, and on the top of this filling, near the north-west edge of the pit, was a calcined flint tool of the "fabricator" type (fig. 21, No. 5).

Parallels to such a ritual pit are not easy to find, but we shall see in the subsequent discussion that something similar has been found in at least one Passage-Grave (Bryn Celli Ddu), and that likely parallels exist in the Late Neolithic ritual holes at Cairnpapple Hill in West Lothian, and those from southern English sites such as Dorchester-on-Thames and Stonehenge I.

LIST OF FINDS.

1. *Pottery.*

(EO. 843-45.) *Sherds from paving in passage.* About 50-60 sherds of pottery representing at least three vessels. All fragments are of coarse ware, usually with the surfaces flaked off, and ranging in colour from blackish brown to red-buff. The grit in the paste includes lumps of up to 0.25 inch across, and there is evidence in several sherds of construction in overlapping rings or coils. No fragments of flat bases are present, but no other features of shape can be recognised.

There are, however, 11 *decorated sherds* which can be divided into three groups:

- (a) Four sherds of coarse ware, none of which join, and of which two show a massive cordon with finger-tip impressions spaced at intervals of about 1 inch. The interior surfaces have flaked away. Along one edge of the cordon are oblique incised lines, and two other sherds appear to continue these incisions in rough lattice pattern. A fifth sherd may be a fragment of the cordoned zone (fig. 21, Nos. 1 and 2).
- (b) Two sherds, one retaining both surfaces and 0.5 inch thick, with a small raised cordon along one edge of which runs a horizontal line of fine cord impression. The other sherd has similar cord-impressed ornament in horizontal, vertical and oblique lines (fig. 21, No. 3).
- (c) Four sherds of coarse ware, of which one appears to come from near the rounded base of a pot 0.9 inch thick. The smoothed reddish outer surface has ornament of horizontal lines made either with some form of comb or more probably with the edge of a *cardium* shell (fig. 21, No. 4).

This assemblage of pottery is difficult to match in Scotland, and its problems are discussed later.

2. *Stone.*

(EO. 846.) "*Fabricator*" of white flint, burnt, 2.4 inches by 1.0 inch by 0.5 inch maximum thickness. From top of burnt deposit in ritual pit (fig. 21, No. 5).

Tools of this type are common in Bronze Age contexts, but are also known in Late Neolithic associations at, for instance, Dorchester-on-Thames and Stonehenge (Aubrey Holes). Its significance is discussed elsewhere in the text.

PART V—DISCUSSION OF THE BARGRENNAN EXCAVATION.

Architecturally, the White Cairn presents so distinct a contrast to the Clyde-Carlingford tombs discussed earlier in this paper that it must be considered as the monument of an alien group of people, sharing little save the basic fact of collective burial in a stone-built vault with their neighbours

in the Cree and Luce valleys. In its circular cairn-plan and undifferentiated wedge-shaped burial chamber and passage in one, it is virtually impossible to parallel in the known Scottish tombs of the Passage-Grave class. Typologically it bears a surprising resemblance to that homogeneous group of round chambered cairns one of us has defined in Southern Ireland and in western Cornwall and the Isles of Scilly—the Scilly-Tramore group.¹ Further than noting this close similarity we cannot go, but it is worth while noting that other Passage-Graves of aberrant types do occur in South-west Scotland, notably the double-chambered round cairn on the Water of Deugh,² paralleled only in the Five Wells cairn in Derbyshire.

The pottery from the tomb emphasises its distinction from the Clyde-Carlingford series, as it bears no resemblance to any from the Scottish or Irish tombs of this culture, nor does it belong to the Hebridean or the Orcadian group of Scottish Neolithic wares. Its nearest parallels seem to be in the Irish Passage-Grave pottery of the types known from Lochcrew and Carrowkeel, both in fabric and ornament, though even here the resemblance does not amount to identity: another possible analogue may be found in the pottery of the Ronaldsway culture discussed below.

The remarkable ritual pit at the entrance to the tomb has no specific parallel in chambered tombs, so far as we are aware. The pit behind the chamber in the Bryn Celli Ddu Passage-Grave in Anglesey provides a partial analogy, but no more. But a comparison may be drawn between this pit at Bargrennan and those of Late Neolithic date associated with cremation-burials at Cairnpapple Hill, West Lothian,³ and in a series of sites in Southern England, notably Dorchester-on-Thames and the first phase of Stonehenge,⁴ where, however, the pits are arranged in regular arcs of penannular rings. These pits, though associated with cremation deposits in or near them, are not themselves burnt, nor do they contain burnt material, and for this phenomenon the nearest parallel seems to be the pits in the cremation cemetery at Ballateare, Isle of Man, which is similarly of Late Neolithic date.⁵ The Ronaldsway culture, to which the Ballateare cemetery belongs, has certain links with chambered tomb cultures in, for instance, the incised stone plaques of Iberian affinities, the flint concave saws common in the Irish Clyde-Carlingford tombs, and the polished edge knives known not only from the Skara Brae culture, but from chambered tombs in Arran, Orkney and Caithness.⁶ Comparisons might indeed be made between some of the Bargrennan sherds with rough incised lattice ornament, and pottery of the Ronaldsway culture.

¹ Powell in *Proc. Prehist. Soc.* (1941), p. 142.

² *Proc. Soc. Ant. Scot.*, vol. lxiv. (1929-30), p. 273.

³ *Proc. Soc. Ant. Scot.*, vol. lxxxii. (1948-9), p. 76.

⁴ Atkinson and C. M. Piggott, *Excavations at Dorchester, Oxon* (1951).

⁵ *Proc. Prehist. Soc.*, vol. xiii. (1947), p. 161.

⁶ *Ibid.*, p. 149.



1. Cairnholy I: Site from the south before excavation.

[Photo: C. M. Piggott.]



2. Cairnholy I: Cairn in section behind leaning slab of revetment on south.

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[To face p. 152.]



1. Cairnholy I: Revetment at south-east corner.



2. Cairnholy I: Revetment on south.

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1. Cairnholy I: South side of forecourt with cairn material exposed.



2. Cairnholy I: As above, second stage with cairn material removed exposing blocking.

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1. Cairnholy I: South side of forecourt showing cairn material over blocking.



2. Cairnholy I: Detail of blocking, south side.

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1. Cairnholy I: Base of closing stone *in situ*.



2. Cairnholy I: Socket of closing stone on top of blocking.



1. Cairnholy I: Forecourt excavated except for central baulk.



[Photo: Allard Johnson.]

2. Cairnholy I: Portals and dry-stone walling in forecourt.

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1. Cairnholy I: South side of forecourt completely cleared.



2. Cairnholy I: North side of forecourt completely cleared.

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1. Cairnholy I: Cup-and-ring carving on detached slab near chamber (6-inch scale).



2. Cairnholy I: Chamber.



1. Cairnholy I: Cup-and-ring stone in chamber.



[Photo: Allard Johnson.

2. Cairnholy I: Cup-and-ring stone in chamber, showing seating.

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[Photo: C. M. Piggott.]

1. Cairnholy II: Chamber before excavation.



2. Cairnholy II: Frontal area during excavation.

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1. Cairnholy II: Portals from inside chamber.

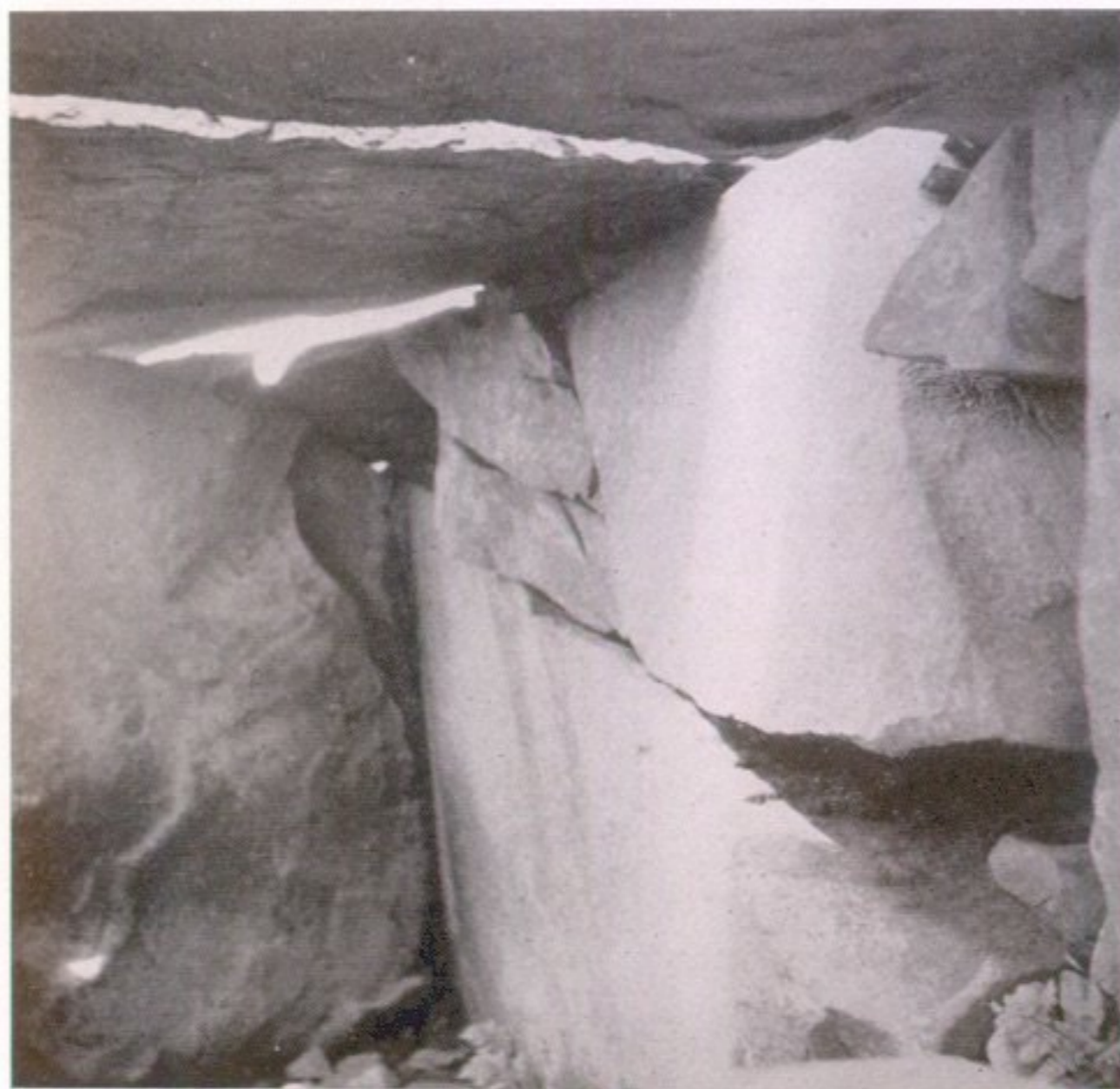


2. Cairnholy II: Closing stone.

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1. Bargrennan, white cairn: Passage and chamber after excavation.



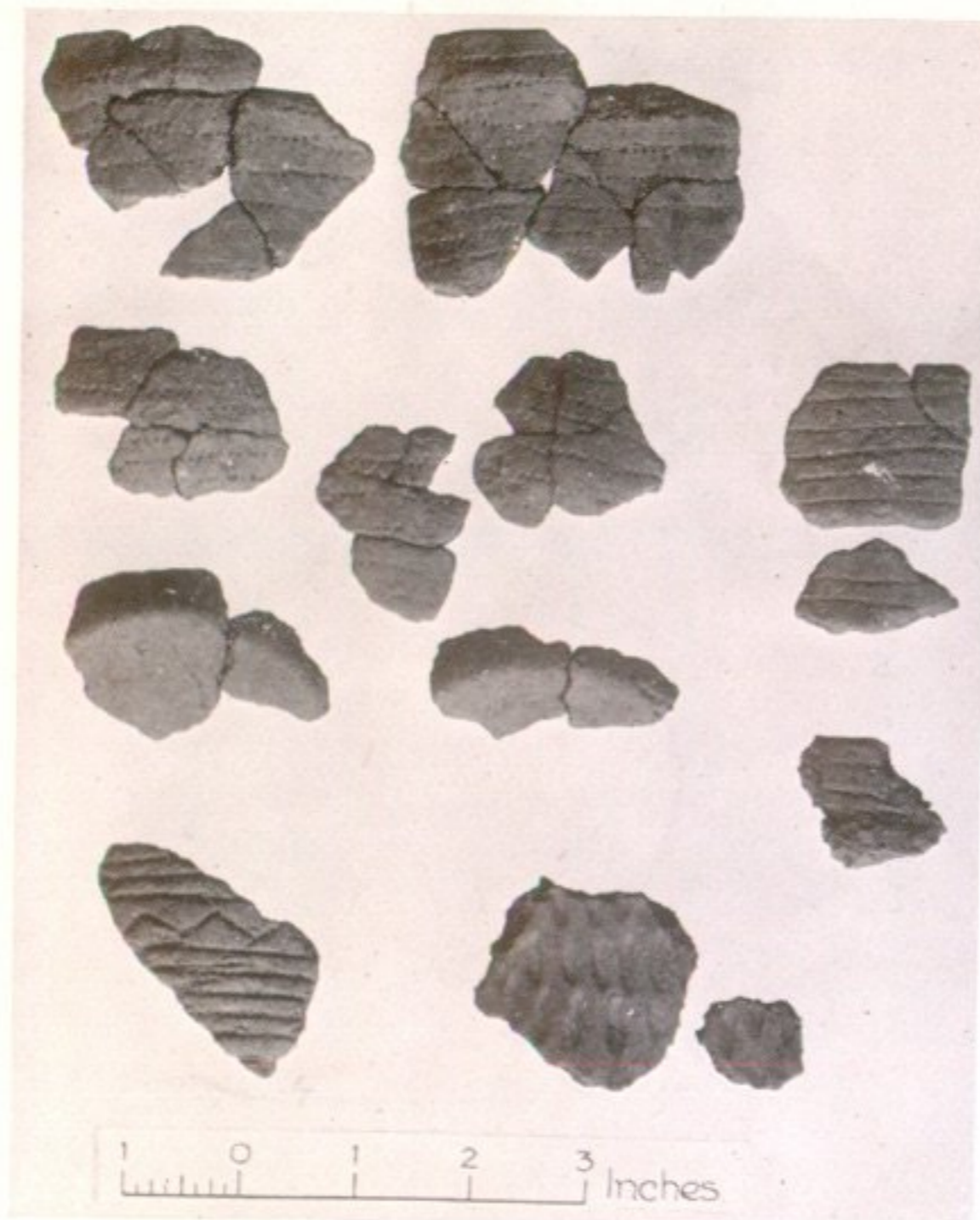
2. Bargrennan: Walling in chamber.



1. Bargrennan: Paving in passage.



2. Bargrennan: Paving in chamber and passage.



1. Beaker sherds from Cairnholy II.



2. Cup-and-ring stone from Cairnholy I.

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The flint tool, found burnt on top of the filling of the ritual pit, is of a type allied to those called "fabricators" by nineteenth-century antiquaries. Such tools do in fact occur in the Late Neolithic sites at Dorchester-on-Thames and Stonehenge already mentioned, and survive well into the Middle Bronze Age: they do not appear to be characteristic of the Ronaldsway stone industry. But one occurred in the Unstan chambered cairn in Orkney (with a polished edge knife).¹

There seems then just a possibility that there may be some link between the makers of the Bargrennan Passage-Grave and the Ronaldsway culture of the Isle of Man, though we do no more than indicate this as a hypothesis needing additional evidence for confirmation or refutation. But contact between Galloway and the Isle of Man in Late Neolithic times is by no means unlikely, and the carinated bowl from Cairnholy I may in fact be connected with Manx rather than Ulster contacts, and it is worth noting that of the stone axes of the individual Ronaldsway type known outside the island, the nearest geographically are those from Wigtownshire, one from Stoneykirk, west of Luce Bay, coming very close to the Ronaldsway forms.²

APPENDIX A.

THE "JADEITE" AXE-FRAGMENT FROM CAIRNHOLY I.

The axe-fragment of "jadeite" from Cairnholy I has been discussed in general terms on p. 137, but the problems raised by its material are by no means simple. Dr W. Campbell Smith, Keeper of the Department of Mineralogy, British Museum (Natural History), has very kindly undertaken an examination of the petrological thin section of the Cairnholy fragment and compared it with the only other available thin sections of axes made of rocks of the jadeite class from Britain. These thin sections, five in number, have been made in the course of the work of the Sub-Committee on the Petrological Examination of Stone Axes of the South-Western Group of Museums, and were placed at Dr Campbell Smith's disposal by kind permission of the Sub-Committee and its Petrologist, Dr F. S. Wallis. The numbering used in the following report is that of the Sub-Committee's records.

Dr Campbell Smith points out that "it has proved very difficult to identify the mineral components of these 'jadeite' axes from the thin sections alone," and emphasises that his identifications are provisional, and may need revision. With these reservations, his report runs as follows:—

"*Cairnholy I* (No. 563). A diopside-rock, texture allotriomorphic-granular. Grain-size about 0.3 mm. The pyroxene is colourless in thin section, biaxial, optically positive, with maximum extinction, $\gamma: c.$ 39°. Accessory minerals: granules of sphene, and very small areas of a colourless mineral (optically positive, uniaxial).

¹ *Proc. Soc. Ant. Scot.*, vol. xix. (1884-5), p. 351, fig. 16.

² *Proc. Prehist. Soc.*, vol. xiii. (1947), p. 148 n.

Beaulieu, Hants (No. 123). The main constituent appears to be a pyroxene, probably diopside, but its crystals show a remarkably zoned structure. The outer shells of these crystals show pale green in thin section and are weakly pleochroic, so the stone of the axe may be definitely green in colour. Associated with the pyroxene is what is possibly zoisite, and also grains of epidote and sphene and small garnets up to 2 mm. in diameter. This stone might be derived from the same kind of geological environment as that from Cairnholy.

Rafra, St Levan, Cornwall (No. 170). The section consists almost entirely of a mineral of blade-like and fibrous habit. Long colourless prisms form part of the section, but for the most part it consists of a fibrous mass of pale brown colour. Here and there clear areas show cross-sections of the mineral, but these possess no definite outline. The mineral has straight extinction, elongation is positive, with the optic axial angle very small. I believe this mineral is *sillimanite* (*fibrolite*). . . . We have here in the Department a nice axe of sillimanite said to be from N.W. France and another from Spain (Alhama de Granada). It must also be noted that sillimanite is known in massive form from Scotland.

Scratchbury Camp, Wilts (No. 289). Very fine-grained felted mass of prisms of actinolite associated with some patches of extremely fine-grained fibres pale brown in thin section and having straight extinction and positive elongation. This may be wollastonite (or sillimanite). In so far as nephrite is a variety of actinolite, it is possible that the name could be applied to the material of the axe, but one needs to see the specimen.

Breamore, Hants (No. 300). Prisms of thickness 0.025 to 0.05 mm. forming a rather felted mass. Extinction angle up to 35°, biaxial, positive. Cross-sections show cleavages intersecting roughly at right angles. This is probably a pyroxene, and its properties are not incompatible with those of *jadeite*.

Preston, Weymouth, Dorset (No. 334). Very fine-grained 0.03 mm. to 0.2 mm. granular texture. The main constituent here is a green actinolite, pale green in thin section and somewhat pleochroic; pale green for vibrations along the length of the prisms, colourless for vibrations at right angles to this. Extinction angle 19°. Other minerals are occasional grains of epidote and pale pink zoisite (?), with lines of opaque 'ore,' possibly magnetite. A chemical test would be necessary to identify this opaque mineral. As with the Scratchbury axe, it might be permissible to describe this material as nephrite, but again one needs to see the stone.

"As for the source of the materials of the axe-heads, I cannot make any suggestion for those from Scratchbury, Breamore and Preston, but for the Cairnholy specimen I should guess Brittany as the source of supply. Possibly that from Beaulieu is related to the same type as that from Cairnholy, and if so, Brittany may be its home also. My suggestion that these types could be found in Brittany is only a guess, but I think it is a good one.

"Some of the pyroxene-granulites (*gneiss à pyroxéne*) of Brittany are known as '*jade Breton*.' The rocks have been described by A. Lacroix. Most of these contain feldspar and/or scapolite and these minerals are not present in either the Cairnholy or the Beaulieu specimens."

Dr Campbell Smith adds that it would be desirable to make direct comparisons

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between Breton and British axes, and hopes that this may be possible at some future time.

The gazetteer to Miss Chitty's map on p. 138 follows here. The basic list is Miss Chitty's work, with certain additions, including the new petrological identifications discussed by Dr Campbell Smith above. In view of the uncertainties of identification he has stressed, the map and gazetteer must of course only be regarded as provisional pending further petrological work on a large scale.

GAZETTEER OF "JADEITE" CEREMONIAL AXES IN BRITAIN, TO ACCOMPANY MAP (fig. 14, p. 138).

Site.	Map No.	References.	Museum.	Notes.
ENGLAND.				
<i>Cambs:</i> Burwell Fen .	28	Evans, <i>ASI</i> , p. 107, fig. 52.	Ashmolean (Evans Coll.).	..
Cambridge (Warkworth Street).	27	Fox, <i>Arch. Camb. Reg.</i> , p. 10.	Cambridge A. and E.	..
Grantchester .	29	..	B.M. (Sturge Coll.).	..
Histon . .	26	Fox, <i>ACR</i> , p. 10, pl. v.	Cambridge A. and E.	..
Triploew . .	31	<i>VCH Cambs</i> , vol. i. p. 267.	Cambridge A. and E.	From barrow ?
<i>Cheshire:</i> Lyne Park .	20	<i>Ant. Journ.</i> , vol. xii. p. 167.	In possession of Lord Newton.	..
<i>Cornwall:</i> Falmouth .	42	Hencken, <i>Arch. Corn.</i> , fig. 18a.	Truro.	..
Raftra, St Levan	41	..	Wellcome Hist. Mus. (Marsden Coll.).	S.W. Sub-Committee, Thin section No. 170.
No site . .	43	..	Nat. Mus. Antiq., Edinburgh.	..
<i>Derbyshire:</i> Brierlow, Buxton	21	Evans, <i>ASI</i> , pp. 107-108.	Ashmolean (Evans Coll.).	..
Hopton, Wirksworth.	22	<i>Ibid.</i>	..	..
<i>Devon:</i> Bovey Tracey .	44	<i>Proc. Devon. Arch. Ex. Soc.</i> , I, Pt. 2, 74; Pt. 3, 143.	Torquay.	..
<i>Dorset:</i> Parkstone .	38	..	Cambridge A. and E.	..

Site.	Map No.	References.	Museum.	Notes.
ENGLAND. Preston, Weymouth.	45	..	Dorchester.	Axe-amulet. S.W. Sub-Committee, Thin section No. 334.
Sturminster Marshall.	37	..	Farnham, Pitt-Rivers Mus.	..
<i>Durham:</i> Caldron Snout .	17	<i>Proc. Soc. Ant. Newcastle</i> , 3rd series, vol. iv. p. 199.	..	..
<i>Hants:</i> Barton, Milton .	46	<i>Proc. Soc. Ant.</i> , vol. xxi. p. 265; <i>Proc. Hants F.C.</i> , vol. iv. p. 185.	..	..
Beaulieu . .	47	..	Winchester (Dale Coll.).	S.W. Sub-Committee, Thin section No. 123.
Breamore .	39	<i>Devizes Mus. Cat.</i> , pt. ii, pl. va.	Devizes.	S.W. Sub-Committee, Thin section No. 300.
Hill Head .	40	..	Winchester (Moggridge Coll.).	..
Hordle . .	47	<i>Proc. Hants F.C.</i> , vol. v. p. 21.	Hartley Mus., Southampton.	..
<i>Isle of Man:</i> Glencrutchery .	18	<i>List of Manx Antiqs.</i> , (1900), p. 16.	Manx Museum.	..
<i>Kent:</i> Canterbury .	35	<i>B.M. Stone Age Guide</i> (1926), p. 100, fig. 94.	B.M.	..
<i>London:</i> Mortlake . .	33	<i>Arch. Journ.</i> , vol. lxxxvi. p. 84.	London Museum.	..
Vauxhall . .	32	<i>Ibid.</i>	<i>Ibid.</i>	..
<i>Norfolk:</i> South Lopham .	25	Evans, <i>ASI</i> , p. 107.	Ashmolean (Evans Coll.) ?	..
Thetford . .	24	..	B.M. (Sturge Coll.).	..

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Site.	Map No.	References.	Museum.	Notes.
ENGLAND <i>Suffolk:</i> Wherstead, Ipswich.	30	..	B.M.	Found upright in soil, point uppermost.
<i>Wilt:</i> "Barrow near Stonehenge."	34	<i>Arch.</i> , vol. xliii. p. 406; Evans, <i>ASI</i> , p. 107.	..	..
Scratchbury Camp.	36	Hoare, <i>Ancient Wilt.</i> , vol. i. p. 70; <i>Cat. Stourhead Coll.</i> , No. 11.	Devizes.	S.W. Sub-Committee, Thin section No. 289.
SCOTLAND. <i>Berwickshire:</i> Greenlaw . . .	9	<i>Proc. Soc. Ant. Scot.</i> , vol. xxvi. p. 175.	Nat. Mus. Antiq. Edinburgh.	Site identified later than map.
<i>Caithness:</i> No site . . .	1	Anderson, <i>Stone</i> , p. 338.	<i>Ibid.</i>	..
<i>Dumfries:</i> Mains . . .	15	<i>Arch.</i> , vol. vii. p. 414; Evans, <i>ASI</i> , p. 108.	..	..
<i>Fife:</i> Dunfermline . .	8	Evans, <i>ASI</i> , p. 109.	Nat. Mus. Antiq. Edinburgh.	..
<i>Inverness:</i> Daviot . . .	3	Evans, <i>ASI</i> , p. 107.	Ashmolean (Evans Coll.).	..
Fort William (R. Spean at).	4	..	Fort William Museum.	..
<i>Kirkcudbright:</i> Cairnholy I. . .	14	Present paper.	Nat. Mus. Antiq. Edinburgh.	S.W. Sub-Committee, Thin section No. 563.
Castle Douglas .	16	<i>Proc. Soc. Ant. Scot.</i> , vol. xvii. p. 384.	<i>Ibid.</i>	..
<i>Perth:</i> Aberfeldy . . .	5	Evans, <i>ASI</i> , p. 109.	<i>Ibid.</i>	..
Ratray . . .	6	<i>Proc. Soc. Ant. Scot.</i> , vol. xvii. p. 383; Anderson, <i>Stone</i> , fig. 331.	<i>Ibid.</i>	.

Site.	Map No.	References.	Museum.	Notes.
SCOTLAND. <i>Roxburgh:</i> Cunzierton . . .	10	<i>Proc. Soc. Ant. Scot.</i> , vol. xvii. p. 383; Anderson, <i>Stone</i> , fig. 332.	Nat. Mus. Antiq. Edinburgh.	Two axes, one unpublished.
<i>Stirling:</i> Stirling . . .	7	..	<i>Ibid.</i>	..
<i>Sutherland:</i> Dunrobin region ?	2	..	Dunrobin Castle Museum.	No locality given.
<i>Wigtown:</i> Glenjorrie, Glenculce.	12	<i>Proc. Soc. Ant. Scot.</i> , vol. ix. p. 356; Anderson, <i>Stone</i> , fig. 333.	Nat. Mus. Antiq. Edinburgh.	..
Glenjorrie, Glenculce.	13	<i>Proc. Soc. Ant. Scot.</i> , vol. lxiv. p. 298.	..	..
IRELAND. <i>Donegal:</i> Raymoghly . . .	11	..	Nat. Mus. Dublin.	..
<i>Mayo:</i> Tristia . . .	19	..	<i>Ibid.</i>	..
<i>Tipperary:</i> Nenagh . . .	23	..	<i>Ibid.</i>	..

Addenda (not on map).

Site.	References.	Museum.	Notes.
<i>Lincolnshire:</i> Isle of Axholme . . .	<i>Arch Journ.</i> , vol. ciii. p. 5.	Private coll.	Probably from Wroot.
<i>Perth:</i> Lochearnhead . . .	<i>Cat. Nat. Mus. Antiq.</i> (1892), 32.	<i>Nat. Mus. Antiq.</i> Edinburgh.	

APPENDIX B.

THE PITCHSTONE FRAGMENTS FROM CAIRNHOLY I.

By F. W. ANDERSON, Geological Survey.

I have sectioned the two larger pieces of rock from Cairnholy (*i.e.* that from behind the south portal stone and that associated with the carinated pot in the entrance blocking). All three (the third a small flake coming from under the clean earth spread in the forecourt) are undoubtedly *pitchstone*. I have compared them with material from Arran (the only pitchstone we have in our collection), and though the Cairnholy specimens are less devitrified I have no doubt that they come from the same source. The Scotstarvit specimen, like the majority of the Arran pitchstones, is more strongly devitrified. (*Proc. Soc. Ant. Scot.*, vol. lxxxii (1947-48), p. 263.) The rock from Dun Fionn, Arran, is, however, very nearly as glassy as the Cairnholy specimens.

To be absolutely certain one would need to examine pitchstones from many sources, but in view of the fact that Arran is the nearest source for this rock, and of the very close resemblance between them, it would probably be a waste of time looking further afield.

APPENDIX C.

REPORT ON THE MOLLUSCA FROM FORECOURT BLOCKING,
CAIRNHOLY I.

Dr A. C. Stephen, of the Royal Scottish Museum, kindly examined a typical sample of the deposit of marine mollusca from the forecourt blocking in Cairnholy I, and reports that four species were represented, in the following numbers:—

Periwinkle (<i>Littorina littorea</i>) .	46 large, 83 small or medium.
Limpet (<i>Patella vulgata</i>) .	11.
Mussel (<i>Mytilus edulis</i>) .	5.
Whelk (<i>Buccinum undatum</i>) .	portion of one medium-sized animal.

APPENDIX D.

CHARCOAL FROM CAIRNHOLY I AND BARGRENNAN.

By M. Y. ORR, Royal Botanic Garden, Edinburgh.

- Cairnholy I.*—(a) From forecourt blocking on south—extremely friable fragments of oak (*Quercus* sp.) and hazel (*Corylus Avellana* Linn.).
 (b) From stone-hole in forecourt—a few small fragments of hazel (*Corylus Avellana* Linn.).
Bargrennan.—From ritual cremation pit—fragments of oak (*Quercus* sp.).

APPENDIX E.

THE DISTRIBUTION OF BEACH-PEBBLE FLINT.

The plano-convex knife from Cairnholy II, and probably that from Cairnholy I as well, were made of beach-pebble flint, as were those from the Arran chambered cairns—in both areas the only available source. Flint pebbles of up to 6 by 4 inches can be found sporadically on the beach below Cairnholy, and one need look no further for the origin of our raw material. But the presence of flint nodules on the west Scottish coasts raises the possibility that their distribution may in part be a function of the drifting of seaweed with such pebbles held in the roots, especially from such areas of naturally abundant flint as the Antrim coast.

The Antrim flint from the Early Larnian site at Campbeltown, Kintyre, of Boreal Age, seems certainly a humanly carried import,¹ and the same probably applies to the flint-workers' hoards from Portpatrick in Wigtownshire,² of uncertain age but again of Antrim flint. But the carrying capacity of certain of the seaweeds, notably *Fucus vesiculosus* and *Ascophyllum nodosum* (the Bladder and Knotted Wracks), which may drift long distances with relatively large stones held by their roots, must not be ignored in any discussion of the distribution of primitive man's raw materials in beach-pebble form.³ We are much indebted to Professor C. M. Yonge of Glasgow University, and Dr J. B. Tait, Senior Hydrographer to the Scottish Home Department, for their interested co-operation in this inquiry; while there is no doubt of the floating power of the seaweeds, Dr Tait reports with regard to the present-day surface movements that

“resultant currents through the North Channel between Galloway and Antrim seem almost invariably to be directed northward, or a little to the west of north. . . . On the evidence I have in regard to currents, I should scarcely expect flints to be transported from so far north in Ireland as Antrim into Wigtown Bay, or to Galloway generally; to Kintyre, especially the west side, and indeed right up the west coast of Scotland, yes! And in lesser degree the Arran-Bute area might also be fed from Antrim, but the tendency is for currents rather to scour out the lower basin of the Clyde (below Arran), and carry everything out between Kintyre and Northern Ireland, with a strong probability of deposition along the west coast, on the islands and on the mainland. Oceanic influences between Barra Head and Malin Head greatly enhance this tendency.”

So far as Cairnholy is concerned, therefore, we may exclude seaweed drift as a factor in the distribution of at least Antrim flint along the shore, though this may have affected Arran and Bute and so contributed to the sources of supply available to the Clyde-Carlingford folk there. And in the wider context of primitive beach-combing for useful stones, it is worth while quoting a passage to which Symington Grieve drew attention. At the beginning of the nineteenth century the natives of the Radaek Archipelago in mid-Pacific obtained iron from

¹ Movius, *Irish Stone Age* (1942), p. 177, with refs.

² *Proc. Soc. Ant. Scot.*, vol. li. (1916-7), p. 121.

³ Cf. C. M. Yonge, *The Sea Shore* (1949), p. 68; Symington Grieve in *Trans. Bot. Soc. Edin.*, vol. xxx. (1929), pp. 72-103.

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cast-up wreckage, and "receive, in a similar manner, another treasure, hard stones for whetting. They are sought for in the roots and hollows of the trees that the sea throws up: iron and stones belong to the chiefs, to whom they must be delivered."¹ The search for flint by the Neolithic colonists of Western Scotland cannot have been so dissimilar.

APPENDIX F.

ANALYSES OF SOIL SAMPLES FROM OLD GROUND
SURFACE UNDER CAIRN, CAIRNHOLY I.

Analyses of soil samples representing the old land surface on which the cairn had been originally built were made at the West of Scotland Agricultural College by Mr Allard Johnson and Dr Nicol, and compared with samples taken from the modern surface south of the cairn. They agree that the soil under the cairn is most likely to have preserved the same composition as it had when originally built upon, and can therefore be used with some confidence. It is a soil not particularly rich in nutrients, but might be expected to bear arable crops for a few years without manuring under primitive farming conditions, and would support a natural growth of scrub and woodland. The field soil (outside the cairn) is significantly higher in phosphate than that under the cairn, probably owing to modern manuring. The soil beneath the cairn is, on the other hand, higher in potash (query enrichment owing to plant ash after clearance by burning), but the results are not altogether conclusive on this point. This soil was also slightly more acid than the modern sample, but not acid enough to be infertile.

The detailed results are as follows:—

Sample.	Total P ₂ O ₅ .	Available P ₂ O ₅ .	Available K ₂ O.	pH.	Loss on ignition (organic matter).
Ia. Soil below cairn, 2 inches deep, brown, with charred matter.	187 mg./100 g.	6 mg./100 g.	6 mg./100 g.	5.5	5.3 per cent.
Ib. 7 inches deep, yellow-brown, under Ia.	188 "	4 "	4 "	5.5	4.2 "
IIa. Top soil in field, 9 inches light grey loam.	300 "	5 "	4 "	6.1	13.7 "
IIb. Under IIa 10 inches yellow-brown.	253 "	6 "	3 "	5.9	14.7 "

¹ von Kotzebue, *Voyage of Discovery into the South Seas* (1821), vol. iii. p. 155.