

II.

THE KNOWE OF LAIRO, ROUSAY, ORKNEY. BY WALTER G. GRANT, F.S.A.Scot., AND D. WILSON, F.S.A.Scot.

Read January 30, 1943.

The Knowe of Lairó is a conspicuous long mound overlooking the Frotoft valley. It stands right on the precipitous edge of a relatively level terrace some 60 feet above O.D. Sixty-six to 75 feet north of the mound the ground rises again abruptly some 15 feet to the next terrace, a cliff $7\frac{1}{2}$ feet high being exposed.

The mound (fig. 1), which lies approximately east and west, is about 150 feet long and is conspicuously broader and higher at its eastern end. The suspicion that it was a long horned cairn of the Caithness type was confirmed by Dr J. G. Callander, Mr Hewat Craw, and Professor V. G. Childe, who visited the site with me in August 1929. It is true that cultivation of the level terrace had obliterated all superficial indication of horns on the north side of the mound. On the south side horns were visible on the surface at both ends. Lairó was thus the second long horned cairn to be recognised in Orkney, the first having been identified by J. M. Corrie at the Head of Work in East Mainland.

Excavations conducted in 1936 resulted in the discovery of a chamber possessing unique features at the east end of the mound, of indications of a northern horn at this end, and in the definition of the revetment wall of the mound and horns along the south side. Publication was, however,

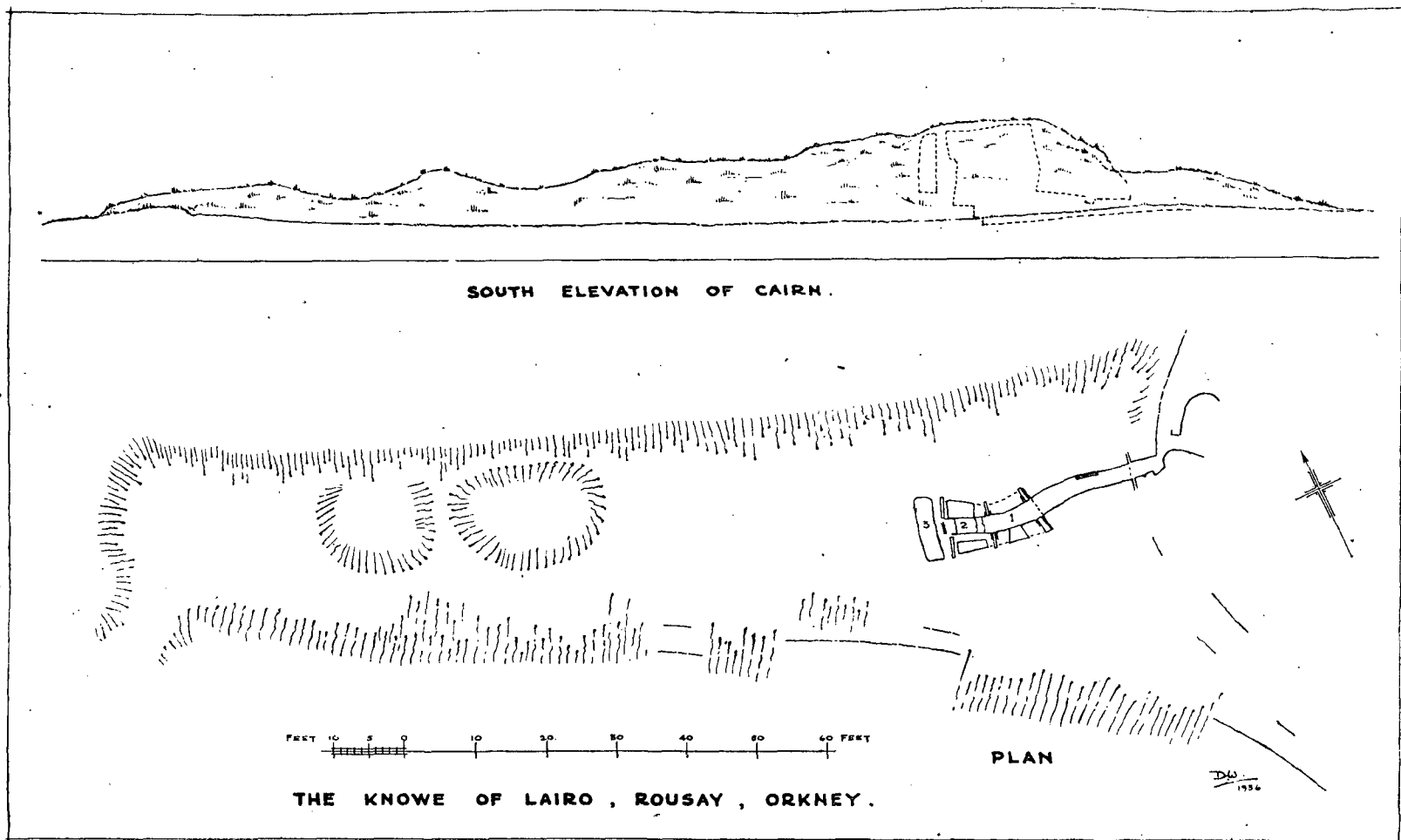


Fig. 1.

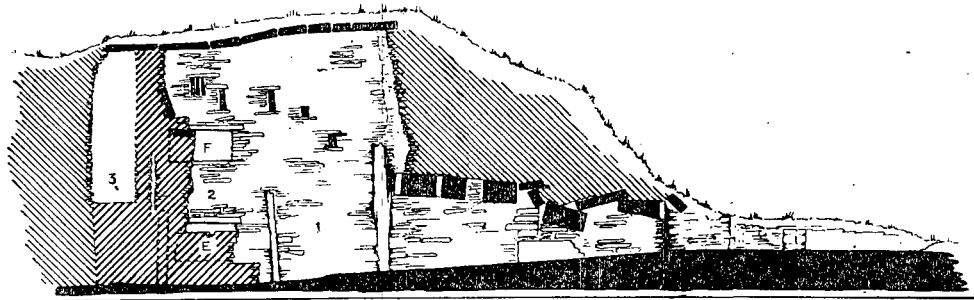
postponed because "secondary structure" had appeared in the forecourt which could not be explored that season. Now war conditions have delayed indefinitely the projected examination of this sector. As, however, the chamber in the mound is of such exceptional importance, it seems desirable to describe it at least without further delay.

The chamber of Lairò, which at first sight was believed to have its roof intact, was on entry found to be "roofed" by a partial collapse of an inner walling only to the chamber. It is, however, exceptional in its height of $13\frac{1}{2}$ feet, in its length of 17 feet, and in its "inner walling" features. Otherwise it seems to conform to the classical type made familiar by Dr Anderson's excavations seventy-five years ago—"a tripartite chamber divided into three sections by two pairs of divisional stones projecting from the side walls opposite each other and furnished with a passage of access" (figs. 2 and 3).

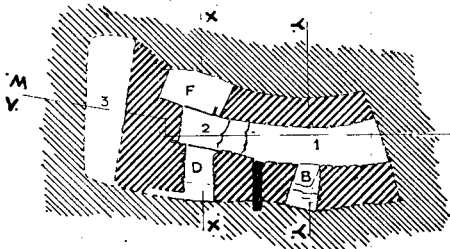
But the magnitudes of the structural elements are proportionate to the grandeur of the whole design. The inner portal stones, for instance, are unusually massive; that on the south is 6 feet $10\frac{1}{2}$ inches high, 2 feet 3 inches wide, and from 10 to $13\frac{1}{2}$ inches thick, while its northern counterpart rises 7 feet $3\frac{1}{2}$ inches high, 2 feet 3 inches wide, and varies in thickness from 8 to 10 inches. The innermost passage lintel measures 26 inches in width, 15 inches in thickness, and over $5\frac{1}{2}$ feet in length, and its fellows are equally massive (Pl. V, 1).

It really looks as if the tomb's architects had planned to build the loftiest vault of its type in the north of Scotland. However, their original plan, if we accept as the standard the classical tripartite chamber of Dr Anderson, was never carried to completion. Before the chamber had been built to roof height an "inner walling" was inserted, finishing flush with the edges of the portal and divisional slabs and crossing the inner end of the chamber, completely concealing the second pair of divisional slabs and blocking the entrance to Compartment 3, and so reducing the chamber to an average width of 2 feet by 12 feet in length. This "inner walling" carried up the full height of the incomplete (?) original walls reduced the span for the roofing slabs to an average width of 16 inches at $13\frac{1}{2}$ feet from the floor. At this level, in spite of a partial collapse or inward slide of the inner walling away from the original walls, two roof slabs were noted. *These spanned the reduced chamber width only, rested on the inner walling and did not reach the original walls.* The latter, however, showed slight inward corbelling and encroachments on the inner corners as if to reduce the span between the original side walls, which averaged 5 feet apart at their unfinished tops.

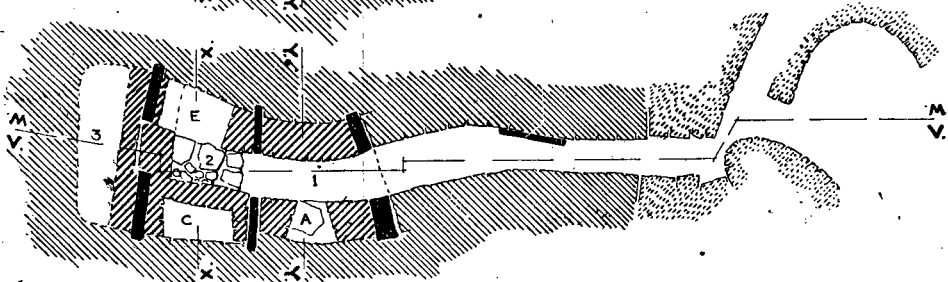
To examine the chamber, entrance was at first effected through the passage of access, but the partial collapse of the inner walls rendered movement in the restricted chamber very dangerous. Accordingly the



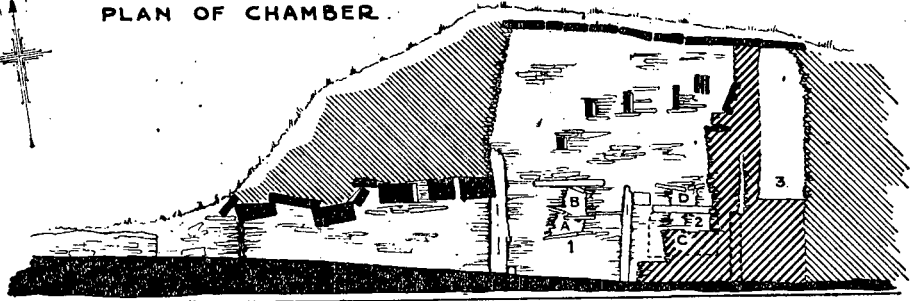
LONG SECTION V.-V.



PLAN SHOWING HIGHER RECESSES.

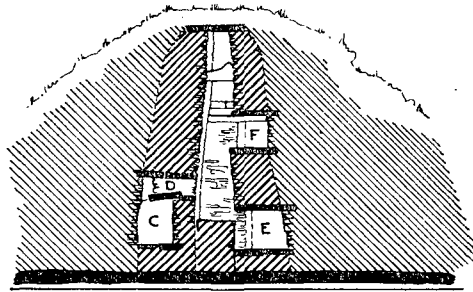


PLAN OF CHAMBER.



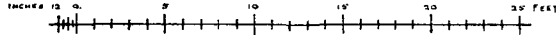
LONG SECTION W.-W.





Fig. 2.



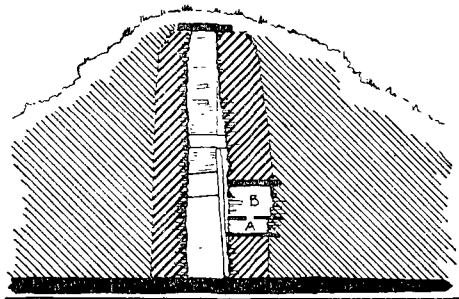
CROSS SECTION X-X.

THE KNOWE OF LAIRO,
ROUSAY, ORKNEY.
DETAILS OF CHAMBER.



-  SECTION STONES & SLABS.
-  ORIGINAL BUILDING.
-  INFILLING WORK.
-  DOUBTFUL, NOT FULLY EXCAVATED.

D.S.
1934



CROSS SECTION Y.-Y.

Fig. 3.

monument was opened at the roof and the inner walling brought back to its original position of bare contact with the original walls. It was specially noted that no bonding or tying-in united these two walls, the inner walling, as it is now referred to, being a veneer only 30 inches to 36 inches thick on the south and 24 inches to 30 inches thick on the north side, but following faithfully the slightly inward trend of the original wall.

As previously stated, this inner walling finished flush with the edges of the portal and divisional slabs. From each of the portal stones a layer some $2\frac{1}{2}$ inches thick has, possibly in quarrying, been split off about half the length of the inner faces. The infilling work has been neatly adjusted to the irregularities thus produced so as to abut against the face of the uprights as tightly at their narrower basal portions as against their bulging tops. Compartment 1 is entirely filled with such infilling save for a two-storeyed ambry A-B on the south that begins 2 feet 6 inches above the floor and is lintelled over at a height of 5 feet 2 inches. In depth it runs back 2 feet to the original wall, and the lower storey A has an average width of 2 feet 3 inches as against 1 foot 6 inches for the upper storey B.

The shelf slab, $1\frac{1}{2}$ inches thick, between the upper and lower portion of the ambry is fractured, as is the inner of the two lintels over B, the upper portion.

A stone axe and some sherds of pottery were found on the floor at the entrance to Compartment 1 between the portal slabs.

Compartment 2 is filled up in the same way by inner walling between the first and second pairs of divisional slabs, but, in addition, the space between the inner walls on north and south is, to the west or inner end of the chamber, blocked by a step-like infilling. The first step, beginning 8 inches back from the first pair of divisional slabs, raises the floor of Compartment 2 13 inches. Twelve to 19 inches farther in a second step, 22 inches high, has been erected upon the first so almost blocking the mouth of a recess, E, on the north (Pl. VI, 1). Finally upon this second step and 33 inches farther in, or west, a walling is built running right up to the roof so as completely to seal Compartment 3 and incidentally to mask the second pair of divisional slabs and narrow the mouth of a recess, F, on the north. A ragged breach or opening in this wall at 2 feet 6 inches to 3 feet 6 inches above the second step reveals the fact that this wall sealing Compartment 3 is of double thickness—the inner or western skin being some 12 inches thick, the outer or eastern being 19 inches thick, the latter is not bonded into the inner walling on the north and south till at 9 feet 6 inches from the floor it reaches a stone "tie beam" reminiscent of those described later (Pl. VI, 3).

In Compartment 2, as in 1, are recesses but on both sides of the chamber, a two-storeyed ambry C and D on the south, as previously mentioned, a

"ground floor" recess E on the north, and, at a conspicuously higher level, recess F.

The lower portion C of the two-storeyed ambry has a slab floor approximately 18 inches above the chamber floor. Its mouth was completely blocked up by a walling 14 inches thick which was breached to allow examination of the recess some 24 inches deep running back to the original south wall. The divisional slabs are hidden by masonry which reduces the length of the recess to 4 feet, and it has a 5-inch thick roof slab to give it a height of 2 feet 3 inches. A skull and bones of a burial were found herein.

The upper section, D, 1, 1 of the ambry is much smaller. Its floor is the roof slab of C; the mouth is 17 inches wide and approximately 10 inches high, the 3-inch-thick lintel being fractured. In depth equal to the lower recess, the upper runs back to the original south wall giving an average depth of 3 feet 2 inches by 20 inches wide. A curious feature noted is that while the east-side walling of the recess runs back to contact with the original wall, the west-side wall stops some 5 inches short of the original wall. This, however, may be due to an inward fall of the infilling wall which was noted and rectified in the upper portion of the chamber when first opened.

On the north side, recess E has a slab floor approximately 13 inches above the floor of the chamber. It is 2 feet 1 inch high, 2 feet 5 inches to 2 feet 8 inches deep, running back to the original north wall, and has a width of 3 feet 10 inches at floor level. Here, as was noted in C too, side walls screen the divisional slabs and the west wall is corbelled over the recess to the extent of 10 inches. This recess too contained a burial deposit probably inserted before the entrance was almost completely blocked by the inserted masonry already described, which leaves only a low aperture some 5 to 6 inches high at roof level.

Above E there is a second recess F in the inner walling 6 feet 10 inches above the assumed original floor of the chamber (Pl. VI, 3). It too has a slab bottom, is 1 foot 9 inches high, 2 feet 2 inches deep, running back to the original north wall of the chamber, and is 3 feet 6 inches wide. The recess is roofed with two slabs: one, the eastern, is carried at its east end by the inner walling; its west end rests on the second slab, the south end of which is supported by the transverse wall sealing Compartment 3, while the north end is bonded into the "original" wall of the chamber. This recess contained a human skull and bones. Considering the high level of F, it is to be inferred that the step-like blocking already described, that almost seals the mouth of recess E, was inserted to permit the builders to reach and form F.

Simultaneously Compartment 3 must have been doubly sealed either by a second thickness of wall east of its primary blocking or by the double

thickness wall previously mentioned, since the slab roof of F is carried, at least, on the former.

The terminal Compartment 3, blocked as it is with the infilling just described, can now only be glimpsed through a torn gap which had been left in the transverse walling, but it had been carefully inspected when the roof was breached to permit of the restoration of the infilling wall and its consolidation. The compartment seemed an empty space, its west end being in such a dangerously dilapidated condition that it could not be entered. There was, in any case, no sign of the terminal slab on edge that usually finished off the chambers in Caithness as in Rousay.

The floor to Compartment 3 is some 20 inches higher than the second step by which recess F is reached. That this is a third step forming a false bottom to Compartment 3 cannot be verified. If so, it might conceivably conceal the end slab which was looked for through the breached roof, and be a roof over a still undiscovered unnoted burial on the original floor of "3."

The infilling walls on either side of the chamber run up nearly vertically to the roof save for a slight inward corbelling on the south (see sec. X-X, fig. 3). They had been further strengthened by transverse slabs, 7 to 10½ feet above the floor, which span the upper space of the chamber like rafter tie-beams. By this ingenious device the parallel infilling or lining walls are tied together. Indeed we have here in a "Neolithic" burial chamber an obvious anticipation of the distinctive feature of broch architecture that gives solidity to the hollow walls of the "Pictish" towers. In this case, however, the ties—or struts—had not functioned too well, as the infilling walls had, as previously remarked, fallen inwards, slipping along the ties, which remained *in situ*, and away from the original walling of the chamber. The east chamber wall, into which the infilling walls on north and south had been bonded, and the blocking wall to Compartment 3 had, however, served to buttress the "later" building and saved the two roof slabs previously mentioned, the extreme east and west slabs.

The presence of this infilling walling and the accuracy with which it fits against the edges of the divisional slabs leave uncertain several crucial details of the plan and construction of the original chamber. Were the divisional slabs tapered back? How far were all the side walls corbelled in? How were the corners of the original chamber treated? None of this ingeniously contrived and closely fitting infilling could be removed without losing all the interesting details incorporated. On the contrary, to secure the stability of the whole and to prevent it falling about our ears it was urgently necessary to patch up the infilling and to consolidate it with cement, of which several tons had to be poured in. Hence some details of the primary plan remain, and must remain, doubtful.

Since it is assumed that the wall-faces exposed at the backs of recesses



2.



1.

Entrance viewed from the chamber.

W. G. GRANT AND D. WILSON.

THE KNOWE OF LAIRO.

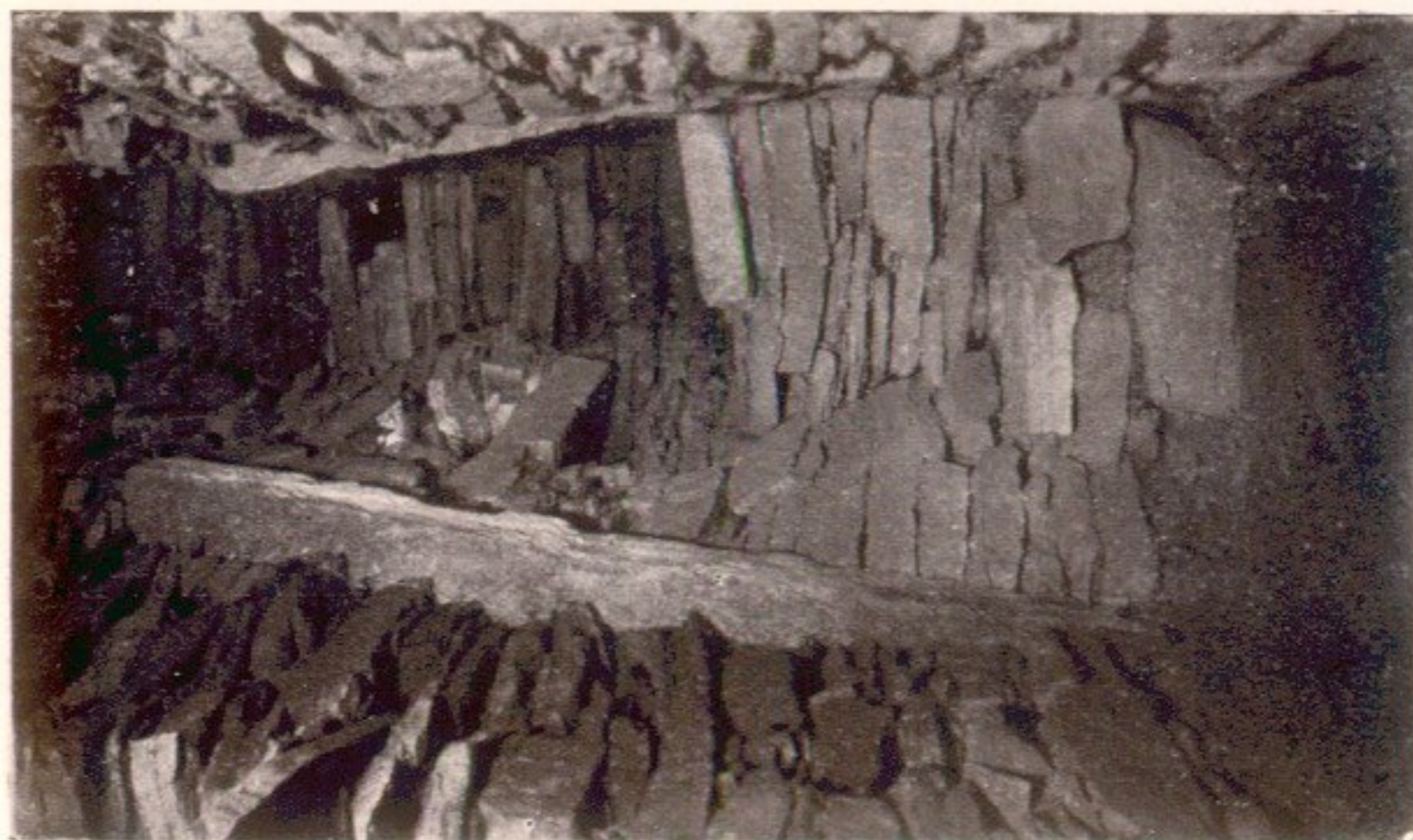
[Facing p. 24.]



3.



2.
The west end of the chamber.



1.

A, B, C, D, E, and F represent the side walls of the original chamber, the latter would be less oval and more elongated in plan than classical Caithness types represented at Yarrows and Camster. The plan would in fact approximate more closely to what is now familiar in the stalled cairns of Rousay type, particularly in the small but otherwise typical tripartite versions subsequently found at Craie, Kierfea Hill, and Bigland in Sourin. Similarly the relatively slight oversailing of the north wall as inferred from recesses E and F would conform rather to the walling of Midhowe than that of Camster (round). In other words, the chamber plan seems to show distinctively insular Orcadian features despite the exotic Mainland affinities of the covering cairn.

The chamber is entered by a lintelled passage that expands vertically and laterally towards the interior (Pl. VI, 1). The primary section is $14\frac{3}{4}$ feet long, 1 foot 11 inches high at the mouth and 4 feet at its inner end. It is spanned by seven massive lintels. The third from the mouth had, however, broken while the tomb was in use or even in building. To support it a strip of secondary walling had been built up against the primary northern face of the corridor, leaving a restricted passage at this point averaging 1 foot 8 inches high by 1 foot 5 inches wide. Both sides of the passage have been prolonged for some $2\frac{1}{2}$ feet by low walls not bonded into those of the primary section. This extension too was probably lintelled over with lighter slabs 2 feet or less above its floor: one of these lintels still straddles the passage though out of position; a second was found lying under a heap of debris.

No blocking of the entrance passage was noted although looked for, as this feature exists in all other Rousay cairns examined to date.

The passage doubtless opened on to a semicircular forecourt through a double-walled façade. On the north the basal courses of the façade, still 18 inches high, can be traced for a distance of 19 feet curving away to the north-east. The extremity of this horn beyond this point has been completely ploughed out. The corresponding façade wall immediately south of the entrance has been much disturbed, but after a gap of 18 feet a strip of the foundation 8 feet long was picked up. Behind this at a higher level strips of an inner façade that might join up with the mouth of the "primary passage" were picked up at three points, the furthest ending in disturbance 44 feet from the passage mouth. Though the inner façade wall has not yet been traced on the north, it may be inferred that the horns at the east end of Lairò were bounded by a double wall precisely as in Yarrows and Camster. Owing to the disturbance at their ends the dimensions of the forecourt cannot be determined. A strip of the outer, *i.e.* south-western, wall of the south horn continues as far as 55 feet from the passage mouth. Hence, judging by the existing segments of the façade wall, had the forecourt been semicircular and strictly symmetrical about the passage mouth it should have had a diameter of 70 feet.

Strips of the southern boundary wall of the cairn still standing, $2\frac{1}{2}$ feet were exposed for 26 and 7 feet respectively. This wall is formed of slabs deliberately set obliquely in the manner familiar from Midhowe, Blackhammer, and other Rousay stalled cairns. It thus constitutes an additional trait to link Lairò with the island group rather than with its Caithness analogies. Unfortunately agricultural encroachment seems to have destroyed the corresponding walls on the north, while the west end of the cairn had been reduced to a chaotic state.

NOTE ON THE RELICS. By Professor V. GORDON CHILDE,
F.B.A., F.S.A.Scot.

The burial furniture of this imposing vault was, as all too often in the Neolithic monuments of the British Isles, extremely poor. Only the undermentioned artifacts were recovered:—

1. A polished celt made apparently of finely grained sandstone or sandy flag, presumably of local origin. One face is slightly flatter than the other; the small sides are slightly flattened. The striations left by the grinding process are clearly visible, especially on the small sides. The edge is still quite sharp save for a few chips. Total length 5 inches.

2. Two sherds from a rounded vessel, $\frac{3}{8}$ inch thick. Coarse angular particles of stone are included in the clay. The interior surface and the core are pinkish in colour; the exterior, covered with a slip (perhaps only a mechanical slip produced by burnishing) that is peeling off in places, is smooth and dark brown. Technically these sherds could perfectly well belong to a vessel of Windmill Hill or British Neolithic A ware, but they are too small for this diagnosis to be confirmed by the criterion of shape.