

### III.

#### THE GALLERIED DÙN AT KILDONAN BAY, KINTYRE.

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On the landward side, the old kingdom of Dalriada and its modern counterpart, Argyll, present to the outside world a rugged mountainous aspect in the massifs around the head of Loch Long and of Loch Awe, and around Glen Coe. But within these bastions there is a land of lower elevation, of long inlets, peninsulas, and islands, where the relief, though rugged, is on a smaller scale. It is a less repellent country from the point of view of human settlement, and one of great natural charm. Main roads and railways and the traffic going down from the Clyde pass this region by, and at the present time it has an air of remoteness which is surprising in view of its close proximity to the densely populated Lowlands near Glasgow. In early times it was quite otherwise, for from the Mull of Kintyre to the Glens of Antrim there is a channel not 15 miles wide, and our region was in close contact with Ireland. By reason of its position, its mild climate, its sheltered valleys and inlets, it seems to have offered an attractive home to early settlers, and for the archæologist it is indeed a happy hunting-ground.

Kintyre is a characteristic sub-region; it is an island except for a narrow isthmus between East and West Loch Tarbet, but it is best

considered as an incomplete bridge on the way to and from Ireland. It is hilly, but rarely rugged; the interior is mainly moorland, but the raised beaches and the narrow coastal districts are mild and sheltered, and have attracted settlers from Atlantic times onwards. The archæological sites are numerous, and, in view of the close connection with Ireland, may prove to be of great significance.

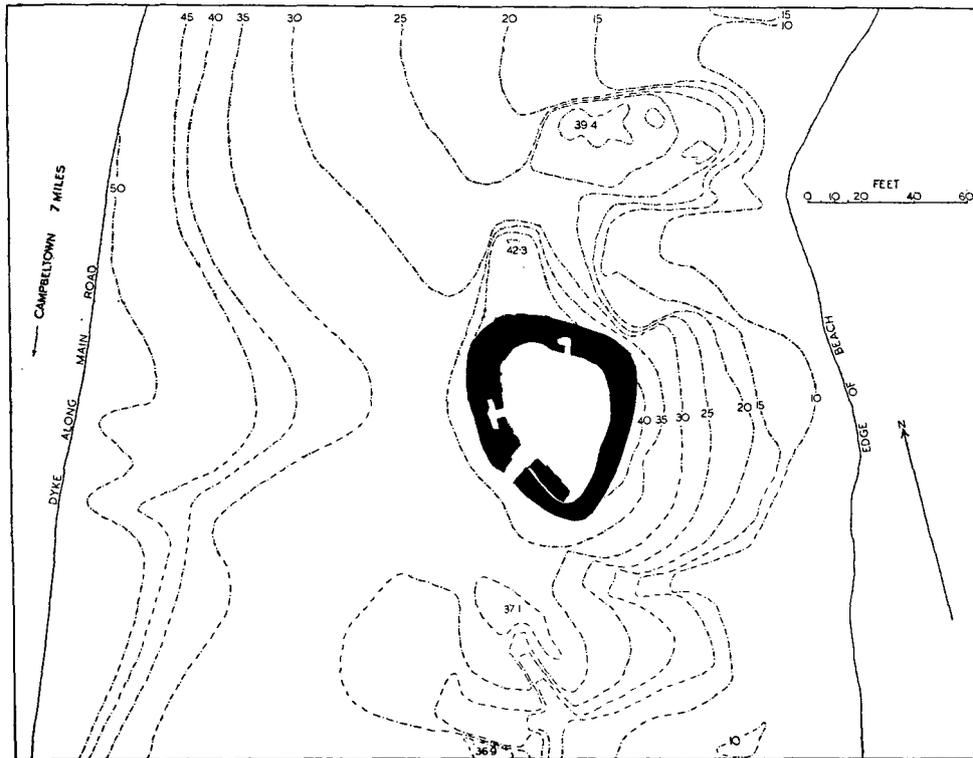


Fig. 1. Map 1.—The immediate surroundings of the Kildonan Fort, drawn from data compiled by Dr J. Orr (heights in feet above Ordnance Datum).

Upwards of sixty forts of various types have been located within Kintyre,<sup>1</sup> most of them in close proximity to the sea. Three of these, all marked on the 1-inch Ordnance Survey Map, are to be found on the shores of Kildonan Bay,<sup>2</sup> on the east side of the peninsula and some 7 miles north of Campbeltown. The coast here is rather low and rocky, but from the head of the Bay the land rises rapidly to Sgreadan Hill (1298 feet)  $2\frac{1}{2}$  miles away. The northern side of the inlet is formed by Ugadale Point, on the extremity of which stands a small ruinous stack fort; the southern side, half a mile away and opposite the farmhouse of Ballochgair, consists of

<sup>1</sup> Information from Mr J. R. Cunningham, Askomil End, Campbeltown.

<sup>2</sup> Misspelled "Kildonald Bay" on the Ordnance Survey Maps.

another rocky point, which is the site of another fort of large dimensions and once enclosed by a single rampart, now very ruinous. At the head of the Bay, below the 50-foot contour, the ground is broken into a series of crags and hillocks of mica schist, separated by deep clefts and gullies, the whole being overgrown with whin and bracken, grass and nettles. Upon one of the largest of these crags or hillocks, at a height of about 40 feet above sea-level, stands the Kildonan fort (Pl. LXXII, 1).

The hillock rises steeply from the water's edge (see fig. 1) and then the ground falls again on the landward side more gently to a great bed of yellow irises, only to rise again after 20 or 30 yards to a terrace and then a hill slope which obstructs the view on this western side. To the south the land is more open, but on the north there is a series of crags and clefts, which again drastically restrict the view. For an attacking party there was cover to within a stone's throw on the north, but the immediate natural defences were strong. Only to the west does the ground fall away gently from the top of the hillock, for on the south and seaward slopes the approach is steep and rocky, while on the north it is precipitous. Part way down this latter slope there is, incidentally, a small natural cave half-filled with fallen rock.

Before excavations commenced, traces of a single stone rampart, built of local mica schist, could be seen surrounding the top of the hillock amid the debris and undergrowth (see fig. 2). It appeared to be from 10 to 15 feet thick, and to enclose a heart-shaped area measuring some 63 feet along the major north-south axis, and 42 feet at the maximum at right angles to this. The enclosure was a saucer-shaped hollow, with banks of debris along the inner face of the rampart, thickly overgrown with bracken, briar, and nettles, but with signs neither of hut-circles nor of interior walling. The outer face of the rampart showed clearly along the seaward side, and rose at one point to a height of 6 feet; two great holes had been dug into the rampart on this side in the recent past, and had spoiled the appearance of the monument. On the other three sides the outer face could not be followed except in two short stretches. The inner face was quite obliterated on the east and south, but was easily followed on the west and north, where it showed sometimes for a course or two, sometimes as a steep grassy bank, and in one stretch in the north stood 5 feet high as a well-constructed face. The entrance was obviously located in the south-west sector of the rampart, where there was a marked depression, through which led a modern path, and two short lines of stones indicated the position of the passage walls. On the south side of this depression another great hole had been dug into the rubble core of the rampart (probably in search of a lost ferret) and had exposed a large horizontal flagstone with suggestions of walling on either side, as though there had been a gallery or cell within the rampart. Five feet to the south

of this, the top of an outward facing wall appeared above turf-level for a distance of 6 feet, and presumably formed the continuation of the cell or gallery opening into the entrance. In the north-east sector of the rampart there were the remnants of a small oval cell similar to those

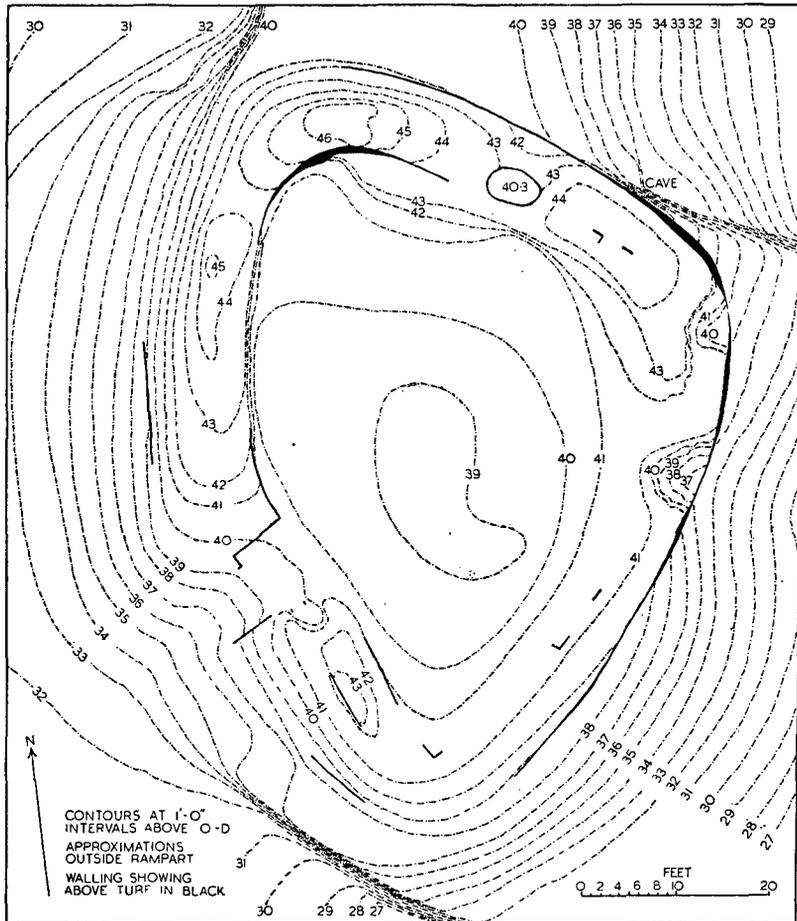


Fig. 2. Map 2.—The site of the Kildonan Fort before excavations.

found in the brochs. Commencing 3 feet south-east of the cell was another stretch of walling facing inwards, running parallel to and half-way between the inner and outer revetments of the rampart; in addition, there was a short cross-wall forming a right angle with it, and running as though to abut on the inner face. A similar right-angled corner was exposed in the south-east sector. Furthermore, the alignment of an occasional stone on top of the rampart along the seaward side suggested more walling half-way across, running parallel to the inner and outer revetments.

Traces of what appeared to be a kitchen-midden had been detected, by members of the Kintyre Antiquarian Society, in the cleft which runs along the south side of the hillock between the iris bed and the beach.

#### THE EXCAVATIONS (GENERAL).

Early in 1936 the members of the Kintyre Antiquarian Society invited me to conduct excavations at a selected site in Kintyre, and promised to supply paid labourers; it was their initiative, continued financial help, and encouragement which made these investigations possible. The site at Kildonan, which we chose without much hesitation, provided a far larger task than was originally contemplated either by the Society or myself, and it is a real pleasure to place on record my most sincere thanks for the original invitation, and for the most generous support which the members have given to me.

After permission had been granted by his Grace the Duke of Argyll, excavations commenced in June 1936, and were continued for a month. Two periods of work were undertaken in 1937, in July and September, and a fourth in June and July 1938. In all, nearly eighteen weeks were spent on the site, but of this period a number of days were completely lost through wet weather, the curse of the excavator in the west of Scotland. Two labourers were employed in 1936 and 1938, and three, and sometimes four, during 1937. Professor V. G. Childe was present during the first week, and a number of friends provided help during 1937 and 1938. The labour force was kept low, as an increase would have involved inexperienced workmen, and the site was too complex to consider this course.

Some rebuilding was undertaken along the outer face of the rampart, especially on the landward side, not as attempted reconstruction, but simply to preserve the fabric from collapse. The result is not gratifying, partly because of the almost complete absence of suitable building stones, all of which had apparently been removed to construct the modern dykes along the road, and partly because of the impossibility of matching the excellent masonry of the original without a large and highly trained labour force.

#### THE STRATIFICATION (GENERAL).

Within the area enclosed by the rampart the various strata and surfaces were as follows, commencing from the top:—

1. The surface before excavations started, referred to as "turf": large stones jutted through to give a very irregular surface.
2. Earth and stones, referred to as "debris," immediately below turf, representing a stratum formed since the last occupation.

## 3. The strata of the fourth occupation (Kildonan IV).

IVa—material accumulated during the fourth occupation resting on the 4th floor.

IVb—the stones and earth forming the 4th floor.

(In practice, IVa was nowhere distinct from debris.)

## 4. The strata of the third occupation (Kildonan III).

IIIa—a very thin occupation deposit.

IIIb—a floor of cobbles and earth, with two hearths and traces of walling.

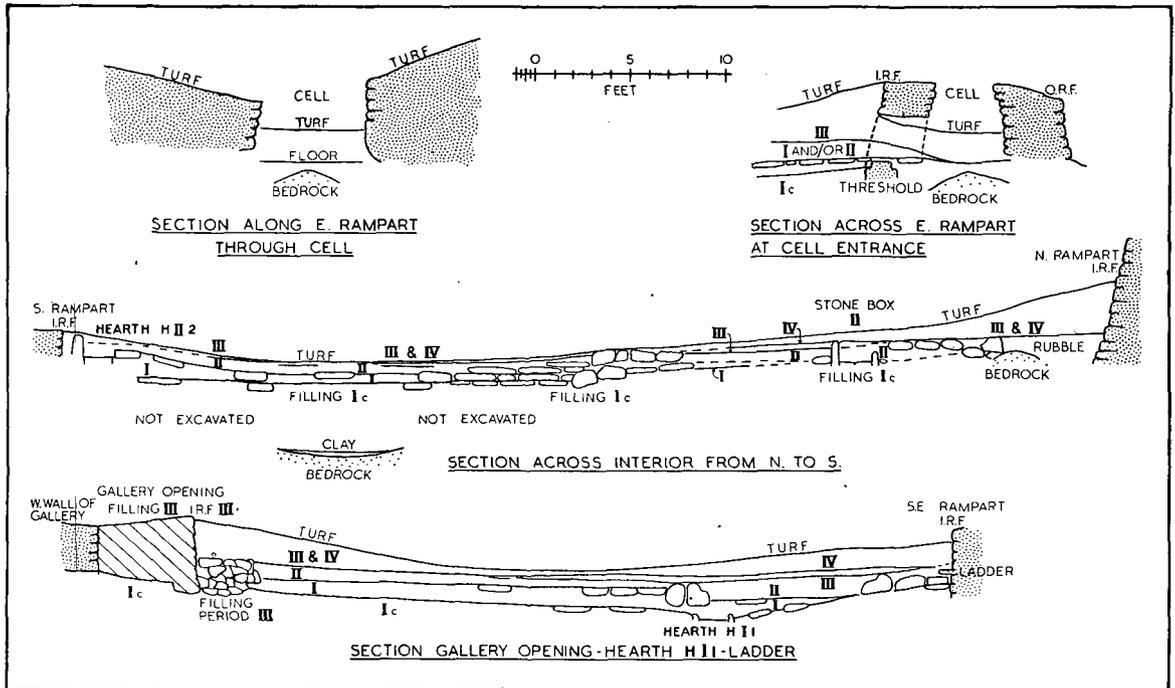


Fig. 3. Sections to show the stratification in the interior of the Kildonan Fort, and the form of the Cell.

5. A light brown loamy layer, completely devoid of relics, and found over most of the fort: since floor IIIb rested upon it, for reference it becomes IIIc.
6. The strata of the second occupation (Kildonan II).
  - IIa—the occupation deposit, difficult to separate from the strata below.
  - IIb—the 2nd floor, of earth, and flagging stones, on which were two hearths and traces of walling.
7. The strata of the first occupation (Kildonan I).
  - Ia—the occupation deposit, grading into IIa and IIb.

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Ib—earth, stones, flagging, and pebbles forming the 1st floor, on which were three hearths and further traces of walling.

Ic—a coal-black soil below the 1st floor and resting directly on 8.

8. Virgin soil or bedrock—a yellow clay or, far more commonly, mica schist.

The task of stripping these strata presented considerable difficulty; the various horizons were far from horizontal, and sometimes dipped quite steeply independently of each other, so that IVb sometimes lay less than 1 foot above Ib, but sometimes was 3 feet above; in places floor IVb was almost 6 feet above bedrock, and subsidence seems to have occurred, distorting some of the lower strata; re-levelling took place at three periods; structures were often inset into strata below the true horizon, and stones on end were encountered which actually projected above turf-level, yet penetrated downwards into the Ic stratum. To disentangle this complex stratification in some cases was impossible, and the maps of the fort for Periods I, II, and III are not complete, and embody a certain amount of conjecture.

### THE ORIGINAL FORT: KILDONAN I.

*The Rampart.*—When the hillock was first selected as the site for the dùn there were several disadvantages apart from the restricted outlook on the north and west sides. There was a long narrow projection on the north side of the hillock, and to have included this within the rampart would have resulted in a long and irregular-shaped fort. This extension was already difficult of access and was left outside without appreciable loss of security; it now appears as a narrow platform dominated by the rampart in the north. Furthermore, the top of the hillock was fearfully irregular, as the mica schist was broken into a number of great rounded blocks or bosses, generally smooth on top but with cracks and fissures on the sides, and separated from each other by deep clefts. These bosses all rose to within a foot or so of 40 feet L.D., and were disposed around a deep and irregular hollow in what is now the south central part of the fort, which fell in places below 34 feet L.D.<sup>1</sup> The rampart was constructed so that the foundations of the inner face passed either across the actual summits of the bosses or, more often, a little outwards from the top, while the foundations of the outer face lay somewhat downhill on the outer side. The idea, of course, was to make the enclosure as large as possible while

<sup>1</sup> Local Datum is a horizontal plane 40 feet below the topmost point of the boss of bedrock lying immediately by the inner face of the rampart just to the south of the junction with the south wall of the entrance passage. This point is in fact 41.7 feet above Ordnance Datum, as measured from the nearest bench-mark at 43.1 feet on the corner of the barn of Ballochgair Cottage, quarter of a mile along the main road to Campbeltown. All levels will be quoted in relation to Local Datum unless otherwise stated, and therefore lie 1.7 feet higher with reference to Ordnance Datum.

utilising the bosses in the construction of the rampart. The surface of the enclosure which resulted was so irregular that the builders adopted the obvious expedient of infilling the deep hollows nearly to the level of the

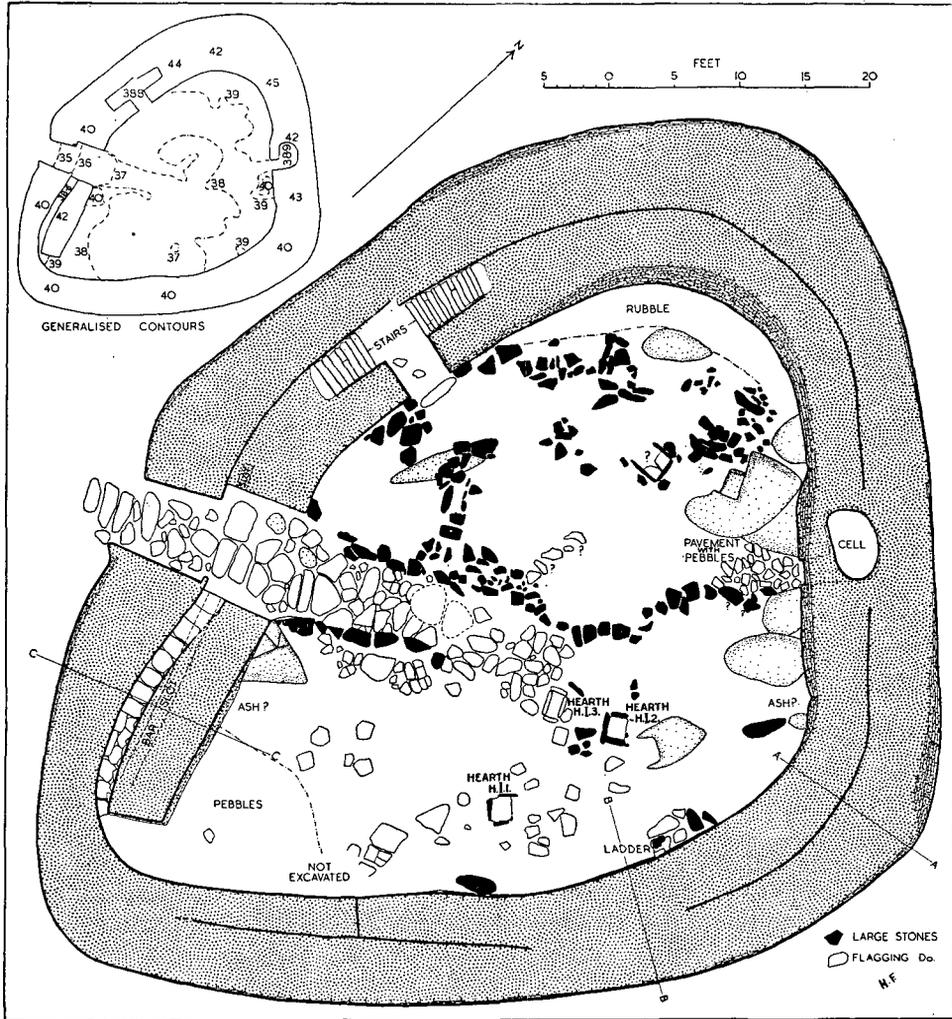


Fig. 4. The Kildonan Fort, Period I.

tops of the bosses—hence the coal-black Ic deposit, resting on bedrock and beneath the primary (Ib) floor. Subsidence in this infilling appears to have occurred during Periods I and II, and at present the bosses project well above the general level of the Ib floor.

The rampart reaches its maximum thickness of about 14 feet in the extreme north; it is about 13 feet near the entrance, 9 to 11 feet along the

seaward side, and narrows to 8 feet in the extreme south. The height at present varies considerably. The inner face stands 3 to 4 feet above the approximate level of the primary floor for the most part, but rises in the north to over 7 feet, and from the presence of what appeared to be "capping stones" in this section and also on the south side of the entrance it would seem possible to estimate the original height of the *inner face* as not much more than 7 feet above primary floor-level. The outer face varied in height in accordance with the irregularities of the hillock; along most of the west side, where it is badly ruined, it now stands no more than a course or two high (apart from our extensive rebuilding), but along parts of the eastern face the original masonry still rises to upwards of 7 feet, and was once much higher. There are some indications that a form of breastwork existed on the outer half of the rampart,<sup>1</sup> and, if this were so, then the outer face must have stood over 15 feet high in one or two places along the seaward side, and over 12 feet at the entrance.

A complete section was cut across the rampart in the eastern sector, 12 feet south of the cell, utilising one of the great holes which so much disfigured the monument on this side (see section A-A, fig. 5). The outer face was founded on bedrock, and consisted of large roughly trimmed blocks, half a yard square and 8 inches thick on the average; just north of the section it stood 8 feet high when the debris at the foot was cleared, and had a marked batter of 1 : 4,<sup>2</sup> rising near the base to 1 : 3. It formed a revetment to a rubble core. The inner face, again founded on bedrock, was much more roughly built of uncoursed masonry, with no appreciable batter, and again formed a revetment to a rubble core. About half-way across the rampart—that is, 4 feet 6 inches outwards from the inner face—another revetment was found, consisting of a vertical wall, facing inwards, roughly built of smaller stones than those even of the inner face, and dividing the rubble core into two compartments. The rubble of the inner core was more loosely packed than that of the outer. The middle revetment, or "median face" as we named it, was founded, not upon bedrock, but on a layer of slabs 1 foot 6 inches thick, which formed the base of the outer and inner cores: in no sense did this slabby layer resemble a paved floor, but a pile of whelk shells was found resting on it, and piled against the median face. The section suggested that an early rampart represented by the outer revetment, outer rubble core, and median face had been subsequently thickened by the addition of the inner face and inner rubble core. Unfortunately in the section only the strata of Periods III and IV abutted against the inner revetment.

To elucidate the situation a second section was cut some 16 feet south

<sup>1</sup> The presence of a *twin* staircase is easily explained in this way, as the breastwork, rising from the casing-wall, would preclude movement along the rampart walk, past the staircase.

<sup>2</sup> *I.e.* it inclined 1 foot from the perpendicular for a rise of 4 feet.

of the first, utilising the other great hole on the east side of the rampart. The result was almost exactly the same (see section B-B, fig. 5), save that the median face rested on bedrock, though the slabby layer and the whelks were present. Yet all the strata from Ic to IV abutted without any sign whatsoever of disturbance against the inner revetment. Since the Ic infilling antedates slightly the primary floor, there can be no doubt that

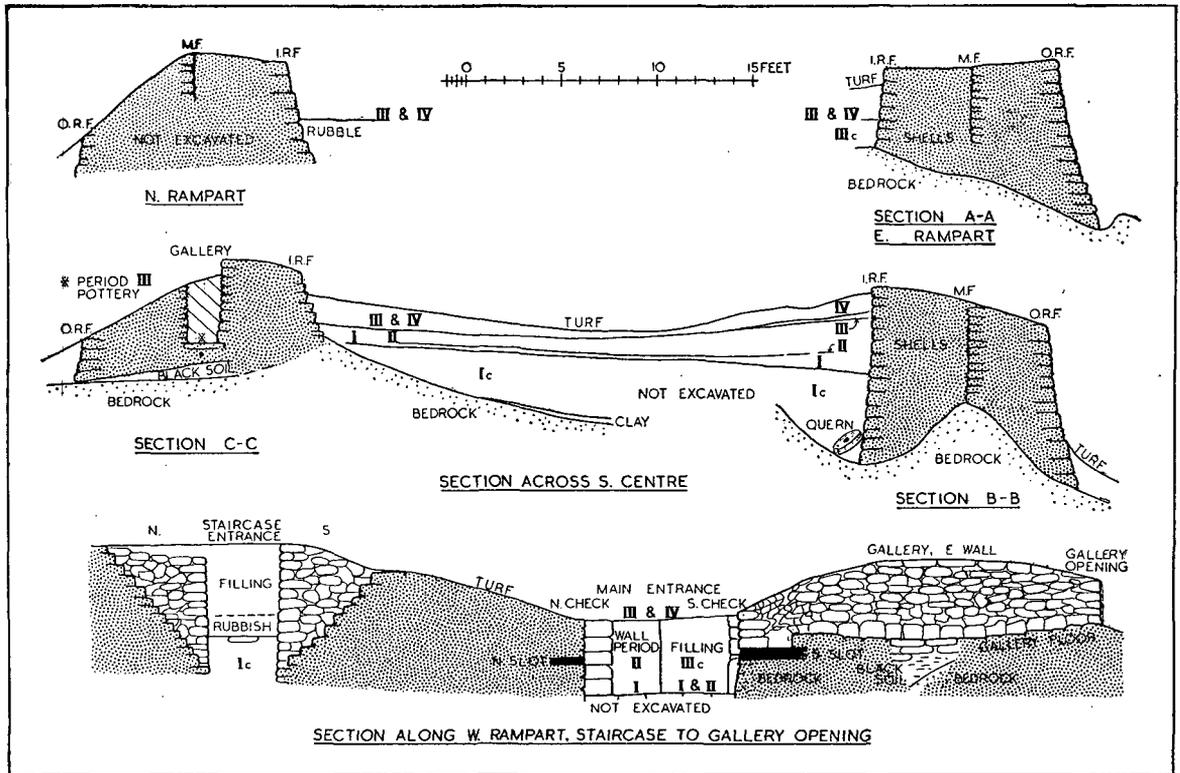


Fig. 5. Sections to show the structure of the rampart of the Kildonan Fort.

the rampart with its two rubble cores and partitioning wall or median face was constructed in the primary building operations. No evidence subsequently came to light to cause this conclusion to be modified.

The discovery of the median face led to extensive investigations on top of the rampart, and eventually the middle revetment was traced from the second to the first section (see fig. 4—Period I), and then to the edge of the casing-wall of the cell; it recommenced on the north side of the casing-wall and ran continuously through the northern sector of the rampart, formed the western casing-wall of the staircase, and ended at the door-check or rebate on the north side of the entrance. Reverting to the second section, this median face appeared to have been destroyed

by the vandals responsible for the great hole previously mentioned. It was picked up some distance to the south-west and was followed to the curious right angle formed by a short "cross-wall" facing north-east, and running through the inner rubble core to abut at right angles upon the inner revetment, where it appeared as a vertical joint in the masonry; the significance of this "cross-wall" will be discussed later. Thence, the median face continued for another 15 feet, but simply petered out in the rubble core just before the abrupt turn in the rampart in the extreme south of the fort; a short section was cut from the outside to verify this apparently casual ending.

The south-west sector of the rampart, south of the entrance, showed a different structure. Another section was cut 10 feet south of the entrance, commencing at the outside. The outer face was but 3 feet high, and once more formed a revetment to a rubble core. Five feet inwards the back of a wall was encountered and proved to be the western revetment of a gallery 2 feet wide, running within the thickness of the rampart (see section C-C, fig. 5). This gallery was filled with rubble of a smaller size than that of the outer core, and under this, resting on the flagged floor, sherds of pottery of Period III were discovered. No point was to be gained by continuing the section farther, especially as the inner half of the rampart was one of the finest sections in the whole fort. Obviously the gallery had been filled in during Period III, and we cleared away this rubble to expose the original structure. It began on the south side of the entrance (see fig. 4), 3 feet above the floor of the passage and over one of the schistose bosses incorporated within the rampart. At this northern end the gallery was 1 foot 10 inches wide, with a horizontal floor carefully flagged; the casing-walls, after the first 4 feet, where they were badly ruined, were vertical, uncoursed, and rather roughly constructed, so that the masonry was suggestive of the median face rather than either the outer or inner face of the rampart. Curving slightly, the gallery widened to 2 feet at the section, and then rapidly narrowed until it was but 6 inches wide. In this southern section the casing-walls were very rough, with projecting angular stones, and the slabbed floor was most uneven. After the constriction the western casing-wall (see map) curved evenly round and became the inner revetment of the south sector of the rampart (Pl. LXXIII, 1). The east wall turned an acute corner, and ran transversely to meet the inner revetment running southwards from the entrance. The floor of this curious funnel-shaped "gallery opening" dropped steeply from the flagging in the gallery to the Ic infilling at the foot of the inner revetment. When the gallery was filled in during Period III, a blocking wall was constructed across this gallery opening, so that the inner revetments of the south-west and of the south sectors of the rampart met at a right angle.

The gallery, from the entrance to the constriction at the head of the gallery opening, is 18 feet long, and the casing-walls at present stand 3 feet to 4 feet 6 inches high; since no trace of a deposit earlier than the Period III infilling was found on the floor, the only possible conclusion is that it was originally roofed over. If our estimate for the original height of the inner half of the rampart be at all correct, the gallery cannot have been more than 5 feet high at the most. In the northern half, where it is 1 foot 10 inches to 2 feet wide and carefully flagged, it might possibly be described as a passage or storage place, but as for the southern half, narrowing to 6 inches, with an extremely irregular floor and with angular stones projecting from the casing-walls, nothing could be less suggestive of a storage place or a passage.

The obvious conclusion is that both the median face and the gallery serve a similar structural function. Had the rampart been built simply with two revetments and a rubble core, the loose infilling above a plane rising at about  $45^\circ$  towards the centre of the rampart from the foot of the revetments would have pressed downwards and outwards, just as a heap of grain or the scree on a mountain-side tends to find its angle of rest. The resulting thrust in a structure of this height and thickness would have been so great as to threaten the stability of the retaining faces. At Kildonan, too, the foundations of the outer face are generally a foot or two below those of the inner face, so that the thrust upon the outer revetment is increased by the additional volume of rubble tending to slip downwards and outwards in that direction. Both the median revetment, which invariably presents its strongest face inwards, and the gallery may be considered as supports for the loose rubble core, to lessen the thrust upon the revetments.<sup>1</sup> The gallery is the more efficient, since it is a double wall and its construction implies a smaller volume of rubble, but it was more difficult to build. It is interesting to note that the rampart through which the gallery runs is especially thick—possibly because it is near the entrance. Now, apart from the large volume of loose rubble involved, the rampart also traverses a cross-gully between the boss on the south side of the entrance and another on the north side of the gallery opening, so that cross-stresses in the rubble core would cause a still greater thrust than usual upon the outer face. Furthermore, the difference in level between the foundations of the inner and outer faces is very marked, especially just north of the actual line of the section. Perhaps the builders realised that in this particular sector the difficulties of constructing a thoroughly stable rampart were greater than usual, and preferred the device of the gallery to that of the simpler median face which was employed in the other six-sevenths of the length of the rampart. The median face

<sup>1</sup> This is an over-simplified interpretation, but Dr W. MacGregor of Glasgow University Engineering Department, with whom I discussed the principles involved, assures me that it is fundamentally correct.

would doubtless be continued upwards above the level of the inner face of the rampart to form the inner revetment of the breastwork, if that feature actually existed. The additional weight of this superstructure would, of course, have been a further incentive to strengthen the base by constructing the median face and gallery.

The entrance consists of a well-paved passage, provided with door-checks and bar-holes half-way along the side walls. Measured on the

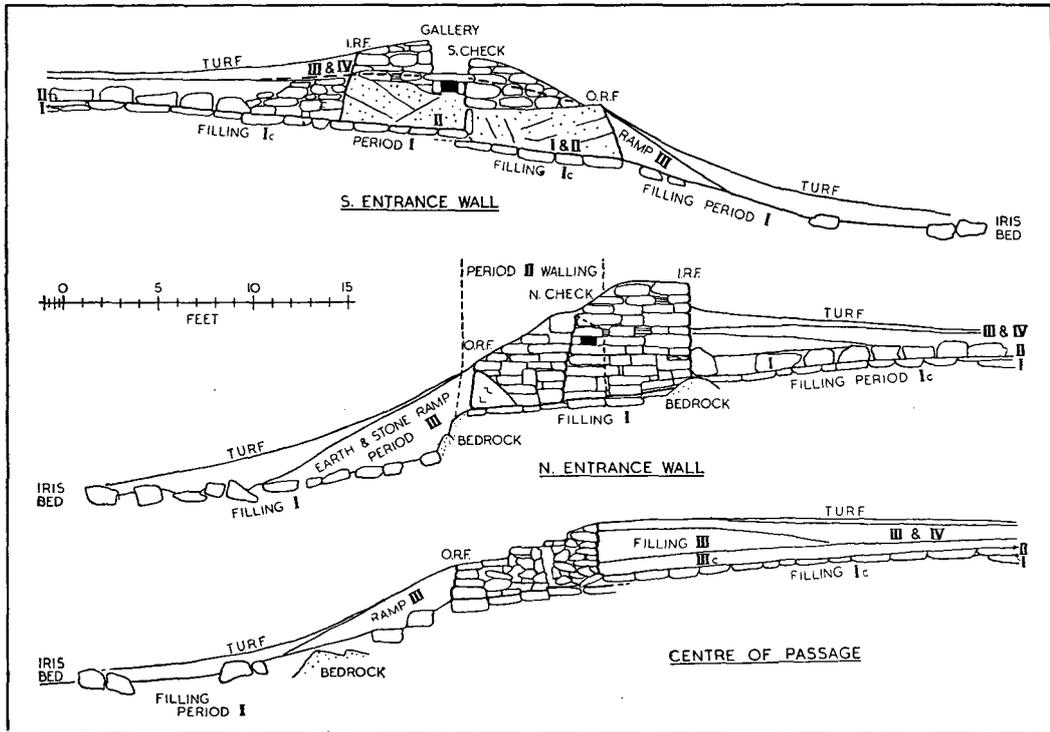


Fig. 6. Sections through the Entrance of the Kildonan Fort.

medial line, the passage is 13 feet 6 inches long; the width is 5 feet 5 inches at the outer end, whence it increases slowly to 5 feet 11 inches, and then, beyond the rebates, becomes 8 feet, reaching its maximum of 8 feet 6 inches at the inner end. The lower 2 feet or so of the southern wall consists of a face of bedrock, over which lies the end of the gallery (Pl. LXXIII, 1); the south door-check, 6 inches deep, is formed at the bottom, of an upright slab, and at the top of an extension of the western casing-wall of the gallery. Before rebuilding, this wall reached its maximum height of 4 feet 9 inches just west of the gallery. The north wall, part of which rises to a height of 4 feet 6 inches, is 3 feet shorter than the southern, for

the positions of the four corners of the passage appear to have been chosen in relation to the lie of bedrock, not for symmetry (see plan, fig. 4). The door-check on the north side is 1 foot 4 inches deep, and noticeably overhangs towards the interior of the fort at the rate of 1 : 6 (Pl. LXXIV, 1). The reason for this overhang may have been to accommodate a socket stone at the foot of the check for a swivel pin for the gate; no socket stone was found here, for there was rebuilding during Period II, but one of the type envisaged was actually discovered in this secondary walling. When closing the passage, the gate was held in position against the checks by a horizontal bar behind, for which slots were provided in the passage walls. It is significant, in the first case, that the bases of the two checks are not in alignment, though the tops would be brought strictly opposite by the overhang on the north check if the passage were 6 feet high; secondly, the slots for the bar, though directly opposite, are not equally spaced from the checks, for that on the north side is 8 inches inwards, and the southern slot is but  $4\frac{1}{2}$  inches inwards from its associated check. It is a simple precaution to build a vertical check and to see that the two bar-holes are equally spaced from their respective checks, and unless we are prepared to believe that the builders purposely made an ill-fitting door we must accept the idea of a socket and swivel pin upon which the gate rotated on the north side of the passage.

The slot on the north side is merely a bar-hole 1 foot 10 inches deep, but that on the southern side extends 16 feet into the thickness of the rampart, and was obviously intended as a receptacle for the bar when not in use; it is curious to note that a pole 11 feet long would be ample to span the passage and allow purchase in the slots. Again, the alignment of the southern slot does not allow a bar to be slipped directly into the slot on the north side, which is 1 foot out of line (see plan, fig. 4), and to get the bar home requires an awkward swivelling movement which can be accomplished only with a length of about 10 feet. There is no indication of any gravitation outwards of the rampart as a whole, which might be suggested by these curious maladjustments, and even if the explanation for the overhanging check be accepted, we are still faced with the error in the alignment of the bar-holes; ill-fitting locks are apparently not a new phenomenon.

The pavement of the entrance passage slopes downwards from the interior of the fort rather steeply, with an average gradient of 1 in 5 or 6, and continues 3 feet beyond the line of the outer revetment. Then it gives place to an earth and stone ramp, leading down to the iris bed; the purpose of this ramp was not to ease the gradient down from the entrance, but to smooth out the irregularities of the rock surface on the side of the hillock. Many large slabs were found embedded in it, but whether these were part of the infilling, or slabs fallen from the rampart, or traces of outworks, it

is impossible to say with certainty, but after very careful study I came to the conclusion that outworks did not exist. Originally a path must surely have led westwards from the fort to the arable land on the hillside, but no sign of it was found. In the cleft at the base of the hillock on the south side, where traces of kitchen-midden had been detected, two sections were cut down to bedrock, and we were driven to the conclusion that the earth, stones, shells, bones, and refuse generally did not represent ordinary "kitchen-midden," but had been carefully placed in the cleft to provide a regular floor. In other words, the narrow steeply sloping gully curving round the south side of the hillock (see fig. 1) must be regarded as a sea-way or road from the entrance down to the beach. Overlooking the upper end of this cleft there is a narrow rock platform at the foot of the outer face of the rampart, which was probably used in the defence of the fort (see figs. 1 and 2).

The twin staircase was not visible before excavations began, as it had been walled up and filled in not very long after the construction of the rampart. The entrance to it is an opening in the inner face of the rampart 11 feet northwards of, that is to the left of, the main entrance; it is 3 feet 6 inches wide, and runs inwards between vertical walls for 3 feet 6–8 inches. Then on either side a set of steps leads upwards to the rampart top, while the floor continues between them to the western casing-wall. This is roughly built, and in fact part of the median face of the rampart as a whole; on the line of the north wall of the staircase entrance there is a great crack running up the masonry of this western casing-wall, and the part to the south seems to have slipped outwards by about 12 inches (see fig. 4). The two sets of steps are not identical and their measurements may be summarised as follows:—

	Length.		Breadth.		No. of Steps.	
	Ft.	In.	Top. Ft.	Foot. In.		
North	5	2	2	9	3 3	14
South	4	10	2	11	3 7	9 (1 missing from <i>foot</i> )

The steps on the north side are more numerous but more irregular, generally smaller individually, and the stones are less carefully selected and laid in position—in five cases the steps consist of two stones instead of a single slab (Pl. LXXIII, 2), on the south side all the steps are single slabs, and Nos. 2, 3, 4, 7, and 8, counting from the top, are to some extent bonded into the eastern casing-wall, though no such bonding occurs on the western side, nor in the north staircase.

Two curious features were discovered. In the first place, the foundations of the staircase entrance and the eastern casing-walls do not rest on bedrock, but are placed *in the Ic* infilling. Secondly, the earth floor

of this entrance (floor *Ib*, above the infilling *Ic*) was at such a height as to cover the three lowest steps on the south side and the four lowest on the north side (see section along western rampart, fig. 5); there was no floor at the level of the lowest steps, but merely the *Ic* infilling. This latter point seems to prove that in spite of the minor differences in the appearance of the two sets of steps both are primary features. The explanation of the two anomalies just mentioned seems to be as follows. During the original building operations the outer half of the rampart as far as the median face was constructed first; later, but still during the original building operations, the two staircases were built, possibly by different gangs of workmen, on top of some refuse (now part of the *Ic* infilling) which had already accumulated within the fort. When the time came; still later, to level the enclosure within the completed rampart for the primary floor (*Ib*), the builders found that they had laid the bottom steps too low for the most convenient floor-level; after abstracting the lowest step on the south flight to serve as a threshold at the inner revetment (see fig. 4, Period I), the superfluous steps were buried amid the *Ic* infilling.

Almost at once the staircase appears to have been used as a receptacle for rubbish, and apparently not long after the completion of the fort the whole was filled in and walled up, possibly on the development of the great crack in the western casing-wall. It is rather disappointing to think that this really attractive feature of the fort, the twin staircase, was but little used, and soon proved to be an unsuccessful venture on the part of the builders.

Some 20 feet south of the cell there was found, against the inner face of the rampart, a flagged area about 3 feet square, directly over which, and 9 inches above it, a square slab projects from the revetment. This appears to be the lowest "rung" of a ladder or stile leading to the rampart top. Unfortunately the rampart here was too ruinous to trace the ladder beyond this lowest step.

The cell, entered by a small opening 2 feet 7 inches high, 2 feet 3 inches wide at the maximum, and 2 feet 6 inches long, is an irregular oval in plan, measuring 5 feet 10 inches parallel to the axis of the rampart, and 4 feet 8 inches at right angles to this line (see sections across the cell, fig. 3). It is clear that the casing-walls once converged to a corbelled roof, at a height of somewhere about 6 feet above primary floor-level. The earth floor of the cell showed signs of disturbance, and embedded amongst the infilling beneath this floor and resting on bedrock several potsherds of Period III were found. This might suggest that the cell itself may be an insertion into the rampart of Period III; furthermore, the casing-walls of the cell do not rest on bedrock, but on earth and rubbish. Again, on the inner face of the rampart,



1. The Kildonan Fort after excavations.



2. The interior from the Entrance, Period I.



1. The western half of the Fort, Period I. The staff in the Entrance marks the end of the Gallery.



2. The north Stairs, with the Staircase Entrance on the right.



1. The north wall of the Entrance, Period I.



2. The Entrance with the secondary walling, Period II.



1. The north-west sector of the Fort, Period II.



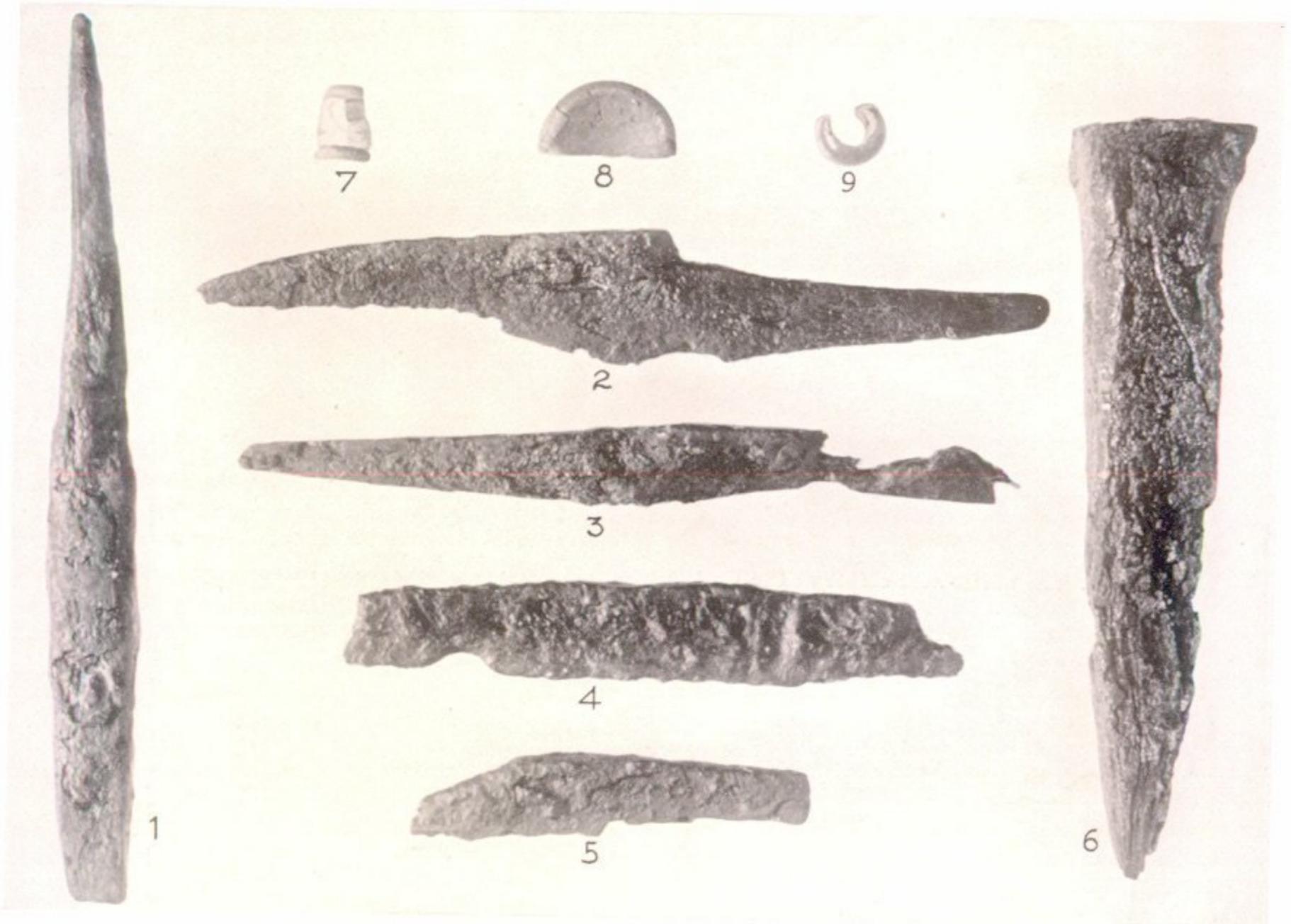
2. Sockets exposed at Period II horizon (Numbers 35 and 36), with the "stone box" to the right of the staff.



1. The north-west sector of the Fort, Period III. The staff marks the secondary walling across the Staircase Entrance.

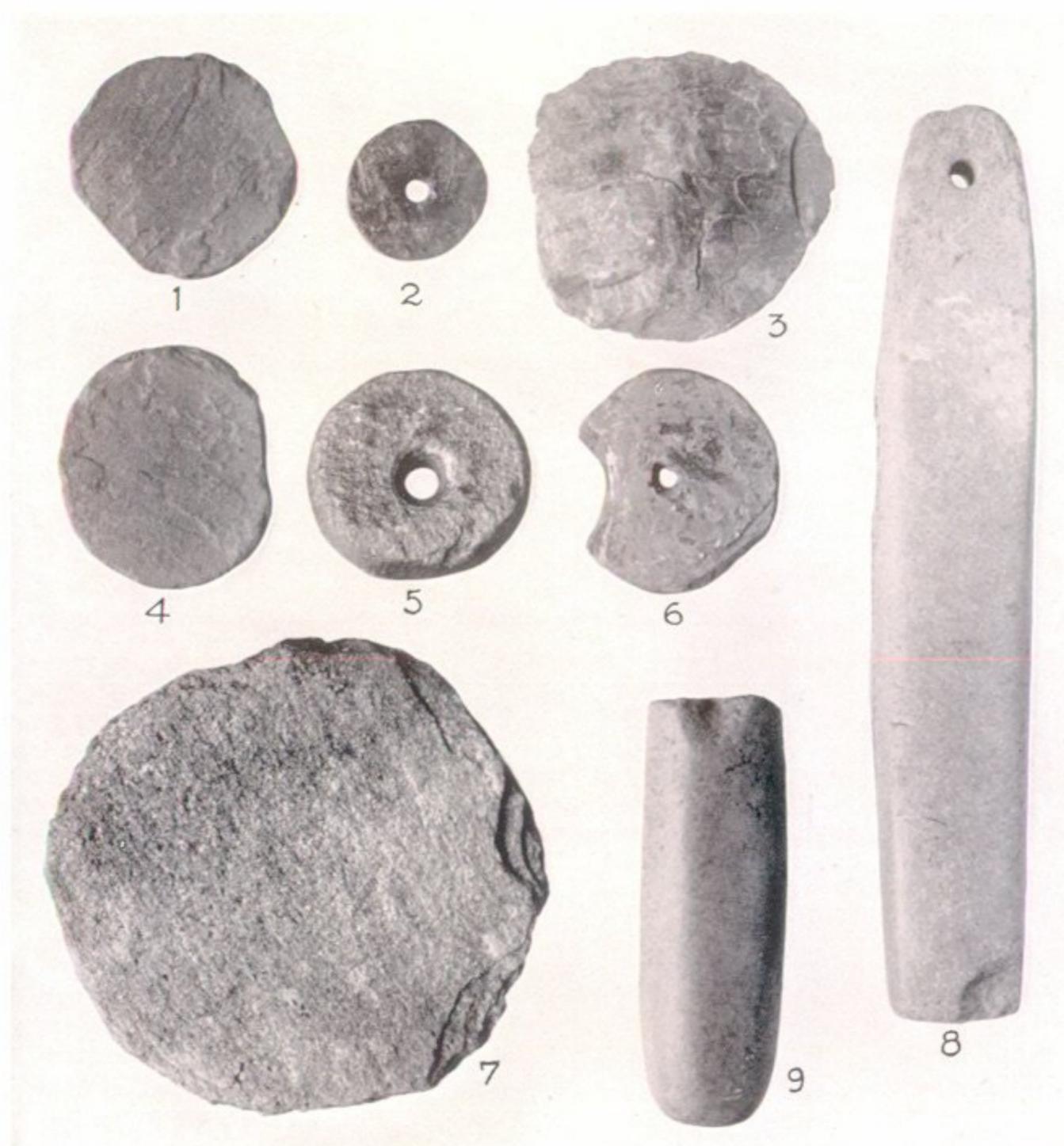


2. The north-west sector of the Fort, Period IV.



Relics from the Kildonan Fort, Periods I and II. (†)

1. Awl-like implement, Period I.
- 2, 3, and 4. Parts of knives, Period I.
5. Part of a knife, Period II.
6. Part of a large pin, or possibly a chisel, Period I.
- 7 and 9. Parts of beads, Period I or II.
8. Piece of red enamel with yellow markings, Period I.



Relics from the Kildonan Fort: stone discs and whetstones, Periods I and II, and a pot-lid (7), Period III. ( $\frac{1}{2}$ .)

- 1 and 4. Stone discs, Period I.
2. Toggle, Period I or II.
3. Stone disc, Period I.
5. Spindle whorl or weight, Period I.
6. Whorl or toggle, Period I.
7. Pot-lid, Period III.
8. Whetstone, Period I.
9. Whetstone, Period II.

6 feet 6 inches to the north of the cell mouth and 8 feet 5 inches to the south, there are two very conspicuous joints in the masonry; between these two joints the revetment follows a curve which is convex to the interior, in contrast to the rampart elsewhere (see fig. 4). Yet there is no evidence of disturbance along the inner revetment such as must have been apparent had the cell been inserted at this later period; secondly, during Period III there was a hearth at the cell mouth: again, the level of the interior of the fort was by this time so high that it was almost impossible to crawl into the cell. It is difficult to believe that the inhabitants of Kildonan III carefully built this chamber, and immediately half-buried the entrance, constructed a hearth at the mouth making ingress virtually impossible, and finally left no visible traces of their activities apart from the fireplace. The cell is almost certainly a primary feature, and for some reason not apparent the inhabitants of Kildonan III disturbed the earth floor and threw away some potsherds there. The "joints" on either side deserve special consideration elsewhere.

The outer face of the rampart appears to be of a consistent type of masonry throughout; large slabs, often measuring about 2 feet long, 12 to 18 inches wide, and 6 to 9 inches thick, have been carefully laid and roughly coursed, and many of them have been trimmed to shape. The face usually has a marked batter of somewhere about 1:8, rising near the foundations in places to 1:3, but sometimes falling, as in the north, to 1:12. The inner face, however, shows very marked variations. South of the entrance the wall consists of large roughly squared slabs, with the interstices carefully packed with small very thin slabs, or slats; the batter is about 1:2 near the foundations, but rapidly decreases upwards. Running obliquely across this masonry between the entrance and the gallery opening there are traces of a joint (Pl. LXXIII, 1). The passage walls of the entrance are vertical and built of well-trimmed slabs, not coursed, but packed with slats. The south and east sectors of the revetment are very much rougher in form, for there is no batter, coursing, nor packing with slats, and the stones are irregular in shape, though they present a smooth face at the revetment. Between the joints on either side of the cell the wall consists of well-laid and rather thin slabs, but to the north large blocks are characteristic, and there is to be found one of the finest stretches of masonry in the fort, making a wall with a marked batter of 1:4 (Pl. LXXII, 2). Near the staircase the wall is more vertical and the stones more irregular in shape, and "slatting" occurs. There are again traces of a joint running obliquely up the masonry between the staircase entrance and the main entrance, at about the line of the south set of steps (Pl. LXXIII, 1).

The primary floor abutted apparently without signs of disturbance upon all these types of masonry, so that there is no evidence that the variations are due to reconditioning in later phases of the occupation of

the fort. The joints on either side of the cell and the variations in the masonry thus constitute particular cases of a general problem.

We would suggest an explanation along the following lines. The outer half of the rampart between the outer revetment and the median face, together with stretches of the foundations of the inner half, as for instance in the south-east sector, were constructed by the builders first of all. Then the individual features, such as the cell, the staircases, the entrance and the gallery, were erected one at a time, often after some rubbish and chippings from the masons' hands had accumulated within the enclosure. This would account for the presence of the whelk shells at the foot of the median wall, in the sections cut across the rampart in the south-east, and for the fact that some of the walling rests in the Ic infilling, not on bed-rock. Finally, the gaps between were built up,<sup>1</sup> and trouble was not taken to see that the masonry was everywhere the same on the inside of the fort. Perhaps gang work is indicated, or the type of walling was a response to the quality of the building stone available, for, while well-trimmed slabs were thought necessary for the outer face of the rampart, "seconds," *i.e.* irregular blocks, appear to have been used to complete the inner revetment.

It is to be borne in mind that the builders were probably not working to a detailed pre-arranged plan of operations, as the Kildonan fort does not follow a more or less stereotyped form such as the Broch, and, judging from an examination of upwards of fifty forts which I myself have seen in various parts of Argyll, there is no strictly parallel type nor set model which the builders can have used as a prototype. It may be that closer parallels will be revealed by future excavation or that they exist in Ireland, but on the whole I am tempted to think that the form of the dùn is to a considerable degree a response to the conditions of the site, and that the final arrangement was arrived at by empirical methods. Mistakes may have been made, as with the alignment of the bar-hole and the height of the steps in the staircases, and possibly the curious "cross-wall" in the south sector of the rampart was the beginning of some structure which was never completed. Nevertheless the rampart appears in its final form as a well-constructed, integrated whole, and, although the form may be unusual, it does not seem to be freakish. Nowhere is the impression given that the builders were expressing in their dùn half-understood principles and lingering ideas of a decaying tradition.

#### THE INTERIOR OF THE FORT IN PERIOD I.

One of the most interesting features of the Kildonan fort is the presence beneath the primary floor of the infilling (Ic), to which reference has

<sup>1</sup> The curious right angle showing on top of the rampart just south of the cell before excavations began (see page 188) probably represents one of the temporary ends of a "section" of the masonry.

repeatedly been made. This deposit is in places 4 to 5 feet deep, and usually rests directly upon bedrock, but in the great hollow which originally existed in what is now the south central part of the fort there intervened a layer of bright yellow clay, 2 to 3 inches thick. This Ic stratum is normally almost coal black in colour and is made up of rather fine soil in which are embedded numerous large stones; pot-boilers and cracked stones occur frequently, and large quantities of animal bones were found in the south central hollow. The builders apparently did not trouble to make a level surface everywhere within the enclosure, for some of the upstanding portions of bedrock were left jutting above the primary floor as the great "bosses" previously mentioned; it is difficult to estimate the original floor-level owing to the fact that subsidence has probably occurred. Apart from these bosses, the infilling was encountered everywhere inside the fort and beneath the pavement in the entrance passage, but it was not excavated throughout. The task would have been one of considerable magnitude, and there was the difficulty of preserving the pavements and other structures on the primary floor, while, judging from the sections which were investigated down to bedrock, the deposit was extraordinarily poor in relics, apart from the animal bones.

It seems an obvious expedient to fill in the hollows in the bedrock to form a convenient floor-level, and yet at Druim an Duin, near Loch Sween, and at King's Cross Point in Arran, where the bedrock slopes almost as steeply, the excavators seem to have found no traces of such a deposit; in the present state of our knowledge an infilling on the scale of that at Kildonan must be considered an unusual feature.

The investigation of the deposits associated with the primary occupation (Ia and Ib) presented considerable difficulty. In the first place, the primary floor was far from horizontal; the occupants of Kildonan II had systematically razed the buildings which undoubtedly existed in Period I within the enclosure formed by the rampart, presumably when they were attempting to form a level surface for a new floor; and, finally, these inhabitants of Kildonan II added to the confusion by insetting the foundations of their own buildings into the older strata (Ia, b, and c).

From the meagre evidence available we provisionally obtain the following picture for Period I: A pavement ran inward between two walls, from the entrance to the central area of the fort, where it ended on the far side of a small hearth (H I 3 on the map). Around this pavement there were half a dozen or so small huts, the boundaries of which could not be precisely defined; in at least two we found hearths (H I 1 and 2) formed of a horizontal slab and a low curb. No passages appear to have led either to the staircase, cell, or ladder, all of which opened from one or other of the enclosures. The huts were presumably small hovels, in contrast to the fine rampart around them; the foundations, which remain, are not

altogether unlike those of the much later sheilings which one sometimes encounters on moorland walks. The hut walls probably consisted of stone and turf, laid upon stone foundations, and apart from a vague tendency to branch or radiate from the central area they did not conform to a regular design.

#### KILDONAN II

In the general discussion of the deposits within the fort (page 189) reference was made to a sterile loamy layer (IIIc) which underlay the occupation debris of Period III. During the time which elapsed between the original building operations and the beginning of the accumulation of this loam the interior of the fort was radically altered. At first sight this might suggest an entirely different occupation, but the changes which were made were probably not all simultaneous, and there is nothing in the stratification of the intervening deposits between the Ib floor and the IIIc loam to indicate a gap in the occupation of any length of time. The simplest explanation seems to be that the inhabitants of Kildonan I themselves made some alterations—possibly the walling up of the staircase is one—and that newcomers later razed the old interior walls, constructed new huts, and introduced a new hearth type; perhaps there was a short period during which Kildonan was uninhabited, or perhaps the fort was captured, suffered some destruction, and was immediately reconditioned. An attempt will now be made to describe the site as it was just before the IIIc loam commenced to accumulate. For convenience the reconditioned fort will be referred to as Kildonan II, and the time during which it was occupied as Period II, but it must be borne in mind that there is no satisfactory evidence for assuming that there was an interval between the primary occupation and this later phase or period; in practice it was often quite impossible to differentiate the soil and rubbish (and relics) which accumulated in Periods I and II.

The form of the entrance had been considerably changed, and door-checks and bar-holes were apparently out of fashion in Kildonan II times (Pl. LXXIV, 1 and 2). A solid block of masonry had been constructed to reduce the outer two-thirds of the passage to half the original width (see map, fig. 7). This secondary masonry was roughly built, except for the western face, which consisted of large slabs, and was continuous with the outer revetment of the rampart to the north. The new masonry commenced about a foot outwards from the old outer north corner of the entrance, and ran inwards so that it just covered the bar-hole on the north side. The new passage between the secondary masonry and the old south wall was reduced to 2 feet 8 inches at the outer end, and to 3 feet 8 inches where the constriction ended (see map); the inner third of the passage continued to be 8 feet to 8 feet 6 inches wide as before, but it was repaved and the

old slope made practically level. At the junction where the old floor in the narrow portion ran beneath the new paving there was a marked step upwards of about 6 inches, which was, however, masked by three large

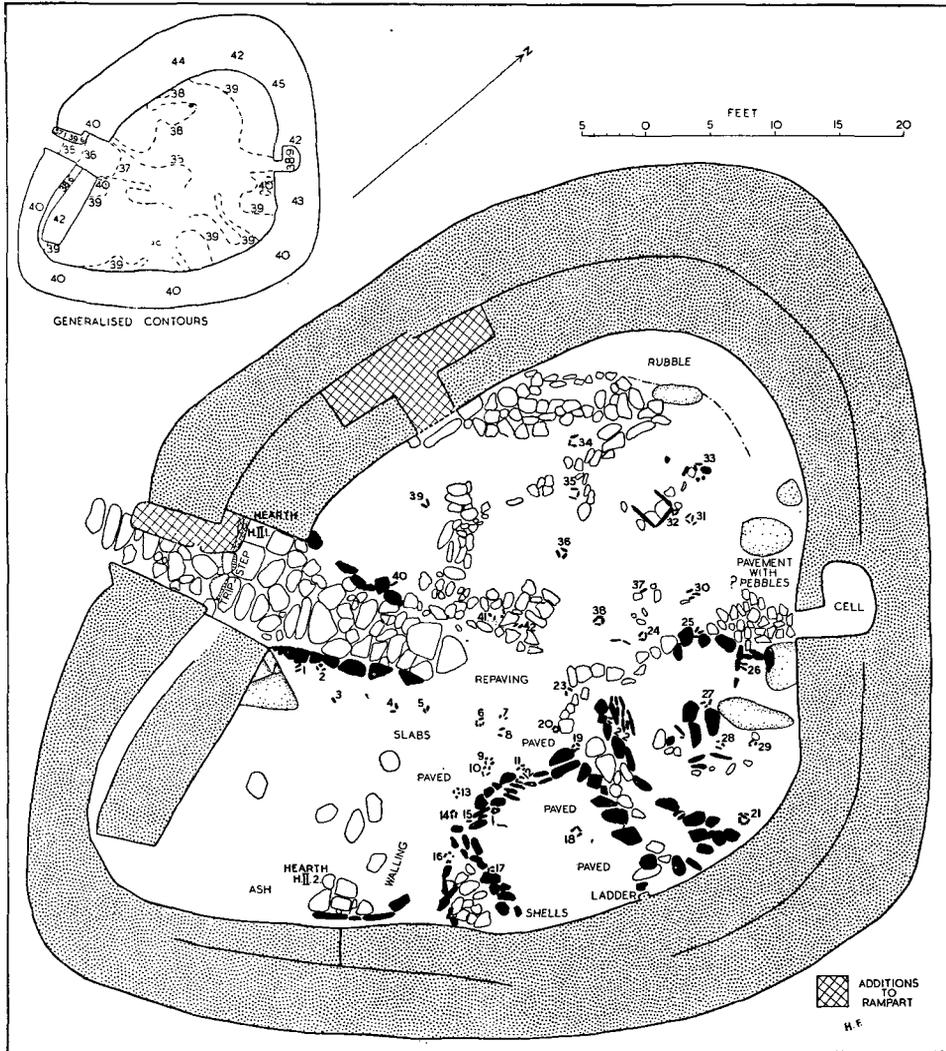


Fig. 7. The Kildonan Fort, Period II.

slabs in a row across the passage and lying aslant on the step. The flagging stones of the new paving were so arranged as to leave a sunken hearth (H II 1) in the corner between the old north wall and the eastern face of the secondary walling; it measured 2 feet along the old wall, and was 1 foot 6 to 9 inches wide: there was no curb, but it was floored

by a horizontal slab nearly 6 inches below the surrounding pavement, and when discovered was filled with brown peat ash. Presumably a guard was stationed in the wider portion of the passage in the shelter of the secondary masonry, and this "guard-room" had been refloored and provided with a hearth; the three stones crossing the inner end of the narrow part of the passage were probably to form a "trip step."

An almost exactly similar type of hearth was found just by the cross-wall in the south sector of the rampart; this second example (H II 2) has been left intact within the fort. Horizontal flagging stones form three sides of a sunken floor measuring 1 foot 8 inches parallel to the rampart, and 1 foot 3-6 inches wide; it was again floored by a horizontal slab 6 inches below the pavement around. The back consists of large thin slabs set on end in a row, parallel to the inner face of the rampart and about 7 inches away. When first uncovered there were quantities of brown peat ash in the hearth and on either side, almost as far as the gallery opening on the west but only for a foot or so to the east, where a line of stones running inwards from the rampart indicated the position of a wall.

This hearth (H II 2) lay almost immediately below the IIIc loamy layer, and was more than a foot above the level of the primary floor (39.1 feet as against 37.9 feet L.D.), so that there was no difficulty in recognising the two horizons. Elsewhere within the fort, flagging stones occurred at the horizon corresponding to that of hearth H II 2, and repaving was detected almost immediately below the IIIc deposit in the central area; in various places too, especially in the south-west part of the fort, isolated slabs were lying at this "Kildonan II" horizon (IIb), as though somewhat casual attempts had been made to improve the earth flooring. But when this secondary paving was absent the soil between the primary floor and the IIIc layer consisted of a uniform deposit, very dark brown in colour, with plentiful signs of occupation throughout. In other words, the distinction between the Ia occupation soil and the IIa-b deposits was arbitrary, and hence the difficulty of separating the relics into Periods I and II. A further complication arose from the fact that the difference in level between the primary and secondary floors was often less than 6 inches, the considerable thickness beneath hearth H II 2 being quite exceptional.

At this "IIb" horizon there occurred a number of what appeared to be sockets to support upright posts or poles (Pl. LXXV, 2). The best-preserved examples consisted of three or more small stone slabs set on end, corner to corner, to enclose a small rectangular or triangular space 6 to 8 inches across; a number of these have been preserved within the fort. The upper edges of these stones projected well into the IIIc stratum, and some were actually incorporated in the IIIb floor, but the lower edges

often reached down to the Ib horizon, and many penetrated the Ic infilling. Of a total of over forty possible examples it can be said with certainty that the great majority were in use in Period II, and had been inset into the lower deposits; in some cases the primary pavements had been clearly disturbed in the construction. Although the remnants of a number were not encountered until the Ib floor was excavated, it is highly probable that all belong to the later period, though it must be stated for accuracy that some *may* belong to the lower horizon.

The sockets and large slabs which occurred at the same level give a moderately clear indication of the lay-out of the Kildonan II fort (see fig. 7, Kildonan II).

It would appear that the fort was entered by a very narrow passage, at the inner end of which was a trip step, and then came a "guard-room" provided with a hearth. From the entrance, a pavement between two walls supported by upright posts led to a very small central courtyard, whence a narrow roughly paved passage led to the ladder in the south-east. On the south side there were two enclosures, one in the south-west provided with a hearth, and one a small semi-circular hut south of the ladder. North of the ladder passage there was another enclosure extending to the cell; it is very doubtful whether a passage led to the cell mouth from the central courtyard. On the north side of the central pavement there may have been two enclosures near the staircase, but there was no passage to the staircase entrance, which in all probability had been walled up during Period I. Finally, a roughly rectangular structure surrounded a "stone box" framed by three thin slabs on end rising from 6 inches to 1 foot 2 inches above the floor in the north central part of the fort. The comparative absence of an accumulation on the floor, apart from the sterile loam, seems to suggest that the fort very quickly went out of use after the reconditioning which has just been described. It may have been partially destroyed, but the re-levelling of Period III makes it impossible to say with certainty, and the interior may simply have fallen into ruin, as is suggested by the survival of the sockets and the "stone box."

### KILDONAN III.

Above the IIb floor and its associated structures there was found, almost all over the interior of the fort, the stratum of light brown loamy soil (IIIc) to which reference has previously been made. It was completely devoid of relics and of signs of occupation, and presumably was formed during a relatively long gap in the occupation of the Kildonan site. After this interval the whole of the interior was once more roughly levelled, and either flagged or cobbled with stones up to about 9 inches long. On this pavement a new set of huts came into being in the northern half of the

fort. The gallery was filled in and walled up at the "gallery opening" at this time; we discovered that the foundations of this short but well-built wall had been laid as deep as the Ic infilling, and for once the disturbance of the strata between Ic and IIIc was clearly distinguishable.

The entrance (see map, fig. 8) was restored to its original width, but was repaved at a higher level, about the height of the old bar-holes. The secondary masonry of Period II had been reduced in height, while the old guard-room and narrow part of the entrance had been filled in with large stones set on end to form the new pavement, which was thus about 3 feet above the old floor-level of Kildonan I and II (figs. 5 and 6). A low wall was discovered running for about 3 feet across the inner end of the passage from the inner south corner, but it had been damaged in the recent past, and in any case had suffered at the hands of the inhabitants in Period IV; its purpose was not apparent. The pavement near the inner end of the entrance too had been disturbed before excavations started; the outer part, westwards from the old gallery, was in better condition, and descended by four large rough steps to the line of the outer revetment to the rampart, and then gave place to an earth-and-stone ramp, leading downwards with a gradient of about 1 in 5 to the iris bed at the foot of the hillock (see sections, fig. 6). There was nothing to indicate that this new passage was roofed, and almost certainly it was open.

The passage gave access to what appears to have been an open yard occupying the whole of the southern half of the fort (see map, fig. 8); it was well paved near the entrance, but after about 10 feet or so gave place to a roughly cobbled floor stretching to the rampart on the south and south-east. There were no signs of walling nor of hearths, though stones of the walls of Period II sometimes projected through the cobbles. In the corner, at the old gallery opening, quantities of whelk shells and a few potsherds were found.

A wall of some form or other seems to have run inwards along the north edge of the well-laid pavement from the inner north corner of the entrance; the evidence, however, is rather doubtful, and the actual foundation-stones shown on the map for Period III are in reality the foundations of the earlier wall of Periods I and II. Clear traces of walling ran to meet this line from the wall blocking up the old staircase, long ago filled in. In the enclosure so formed there appeared to be a hearth (H III 1) against the rampart half-way between the entrance and the staircase. It consisted of a more carefully paved area than the cobbles around, measuring 3 feet 6 inches by 3 feet, and was 2 or 3 inches above the general floor-level, from which it was separated by a low curb; no ash was found.

Another hearth (H III 2) was discovered on top of the boss on the north side of the cell mouth. A rough curb about 3 inches high was found on the north and west sides, but on the south side we found only the

THE GALLERIED DUN AT KILDONAN BAY, KINTYRE. 209

trench where the curbstones had once been set; the enclosure so formed measured 2 feet by 2 feet 3 inches. The whole area was covered

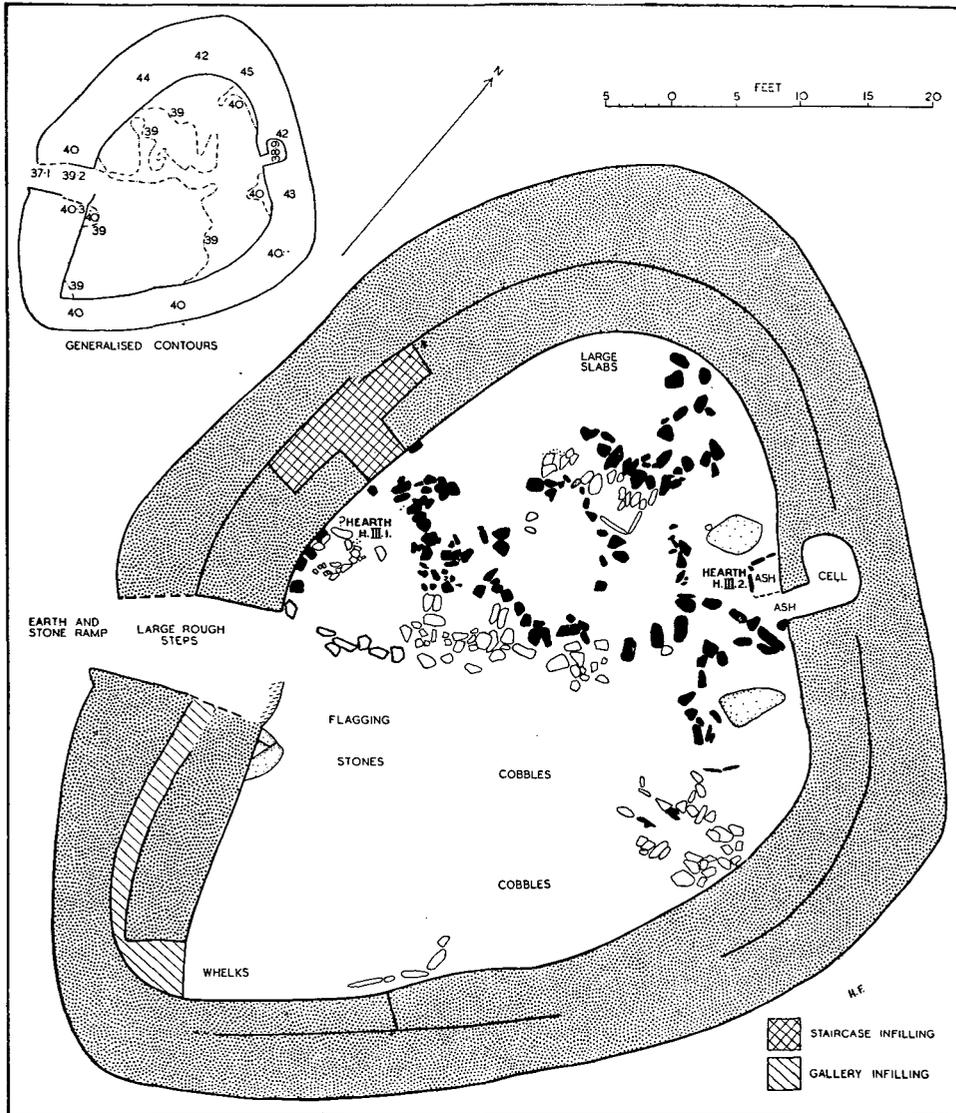


Fig. 8. The Kildonan Fort, Period III.

with brown ash, presumably from peat, which ran into the cell mouth, and was traceable on top of the earth floor of the cell chamber. The hearth itself was floored, as it were, by five large rounded pebbles, chipped with heat, measuring up to 5 or 6 inches across. Now stones of an exactly

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similar size and shape, showing signs of chipping, had been found at various levels within the fort, and had been classed as "hammer-stones," but this situation appears to show that their true purpose was in connection with cooking operations, possibly for providing heat for an oven; they were certainly not hammer-stones or pounders.

This hearth (H III 2) appeared to lie in a small hut enclosure around the cell mouth (see map, fig. 8), the shape of which seemed to be given by a line of stones running inwards from the south jamb of the cell entrance to another line of stones, parallel to the rampart and about 8 feet away; the north-western wall ran to the rampart, so far as could be made out, about 13 feet north of the cell mouth. Between the enclosures of hearths H III 1 and H III 2 there were traces of possibly two other dwellings or huts (see map, Period III), of which the western appears to have had two very small annexes, by the north-east wall of the enclosure immediately north of the entrance. Yet another structure appears to have existed against the rampart on the south side of the cell mouth, but the traces are so vague that the dimensions cannot be given; it was probably about the same size and shape as the enclosure around hearth H III 2.

Although the gallery was filled in at this period and the entrance altered, there is nothing to suggest that the rampart as a whole was extensively reconditioned; some rebuilding may have been undertaken, but we had no criterion by which to recognise masonry which was later than the original.

Judging by the half-dozen small huts and the comparatively large open yard, the inhabitants of the fort were few, even by comparison with the numbers living on the same site in the two earlier occupations. It would seem to be more in accordance with the facts to designate Kildonan III as a small fortified hamlet within the old rampart rather than to class it as a "castle" of late mediæval times, within which Period III clearly falls.

#### KILDONAN IV.

Immediately after the close of Period III, which cannot have lasted long, the whole of the interior was levelled to form a very roughly cobbled floor; this involved the almost complete destruction of the existing walls, though it was not carried out so thoroughly as when the walls of Period I were razed. No hearths, walling, or anything else suggesting building occurred on the more or less horizontal floor which resulted; the cobbles lay just beneath turf in many places, and a tangle of bracken, briar, and whin roots had formed an almost impenetrable cover. In view of the disturbance which these roots had caused, and the rough character of the pavement itself, it was very difficult to differentiate the cobbles



- .4 inch by .3 inch at the thickest at the junction of point and tang (Pl. LXXVII, No. 1).
2. Small tanged knife with curved back, portion measuring 2.8 inches long, .6 inch at the widest, and .12 inch thick at the back (Pl. LXXVII, No. 2).
  3. Knife, part of a blade, 2.2 inches long, with a curved back.
  4. Tanged knife, fragment, mostly tang, 3.6 inches long (Pl. LXXVII, No. 3).
  5. Small tanged knife with curved back, portion of blade 2.7 inches long (Pl. LXXVII, No. 4).
- These knives are similar to those obtained from Dunadd (see *Proc. Soc. Ant. Scot.*, vol. lxiv. p. 118).
6. Part of a large pin, or possibly the butt end of a chisel, measuring 3.5 inches long and .7 inch by .5 inch at the butt (Pl. LXXVII, No. 6).
  7. Spear head, fragment at the junction of blade and open socket, 1.7 inch long.
  8. Nail, head and part of the shaft, 1.2 inch long.
  9. Nail or rivet heads. Four examples, the heads being about  $\frac{3}{4}$  inch across, and the shafts not more than  $\frac{1}{2}$  inch long.
  10. Part of a metal plate (?), with a rivet at the edge, 1.0 inch by .6 inch.
  11. Hollow tube, .2 inch long and .5 to .7 inch thick.
  12. Needle-like object, 2.4 inches long and .05 to .07 inch thick.
  13. Seven thin lengths of iron, 1 to 2 inches long.
  14. Three curved lengths of iron 2.6 inches, 2.0 inches, and .9 inch long.

Iron slag occurred commonly, frequently in small pieces, but several flattened cone-shaped masses as much as 6 inches across were found. From the presence of the slag and the moulds there seems no doubt that the inhabitants of Kildonan I were iron-workers. Two fragments of limestone had been carried within the fort.

*Enamel or Paste.*—Half of a small disc, .6 inch diameter, of dull red material with dull yellow markings in two places on the upper edge. The bottom side is rough and flat, the upper side smooth and hollowed, so that the disc is .1 inch thick at the edge and .06 inch at the centre (Pl. LXXVII, No. 8).

*Spindle Whorl or Weight.*—A perforated disc of mica schist, thicker at one edge (.25 to .6 inch) and flattened at the thicker edge, with a diameter of 1.75 to 1.85 inch. The perforation, .25 inch diameter, is nearer the thickened edge. One surface suggests that the object may have been split diagonally, and was originally .6 inch thick (Pl. LXXVIII, No. 5).

*Whorl or Toggle.*—Thin disc of schist, chipped at one edge, 1.8 inch in diameter, .2 inch thick, with a small central perforation, .15 inch in diameter. Eight radial lines are traceable on one side. The perforation seems too small for a whorl, and possibly the object is a toggle or button, affixed by a single cord, knotted at one end (Pl. LXXVIII, No. 6).

*Stone Discs.*—Shaped discs of various sizes were found.

1. Mica schist, 3.4 inches in diameter and .4 inch thick.  
Fragments of two others of slightly smaller diameter.
2. (a) Shale, 1.9 inch diameter, .15 inch thick (Pl. LXXVIII, No. 1).  
(b) Shale, 2.0 inches diameter, .2 inch thick (Pl. LXXVIII, No. 4).  
(c) Schist, 1.5 inch diameter, .2 inch thick.
3. Schist, 1.1 inch diameter, .13 inch thick.

In addition, upwards of a dozen round flat beach pebbles of much the same size as 2 and 3 were found. The first group resemble pot-lids, but 2 and 3 are

too small and may have been used in a game; the smallest (3) will spin like a coin when tossed.

*Whetstones and ? Polishers* (Pl. LXXVIII, No. 8).—Whetstone of mica schist, 7·5 inches long, rectangular in cross-section (fig. 10, No. 1), with rounded edges, and tapering from 1·2 inch by 1·0 inch at the centre to 1·0 inch by ·7 inch at the end. ·5 inch from one end, which is broken a little, there is a neat perforation, ·2 inch in diameter.

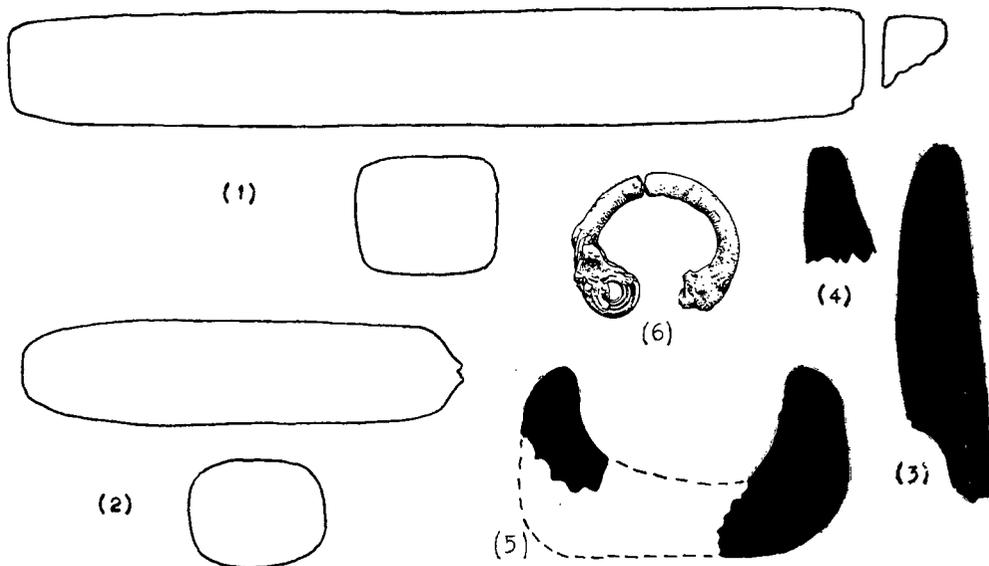


Fig. 10. Relics from the Kildonan Fort. (½.)

1. Sections along and across the Whetstone, Period I.
2. Sections along and across the Whetstone, Period II.
3. Rim, red pottery from beneath the pavement in front of the Cell, Period I (?).
4. Rim, fragment of pottery, Period II.
5. Cross-section of clay cup or crucible, Period I.
6. Bronze Brooch, Period I or II, drawn by H. E. Kilbride-Jones (see Appendix I).

There were found, both at this horizon and the other three, a number of elongated stones about the size of a whetstone; some were very rough, others smooth and rounded at the ends, and might be whetstones or polishers. At the completion of excavations we had a series grading from smooth bars down to rough stones and large pebbles. At Period I horizon they occurred in two sizes:

- (a) From 4 to 6 inches long, and up to 1·7 inch thick.
- (b) About 2 inches long, and up to ·7 inch thick.

Five examples of type (a) and three of type (b) may be classed as reasonably certain implements, while eight very doubtful examples are to be recorded.

*Flint*.—Chips and flakes occurred at all four horizons, and twenty-nine may be associated with Period I. They are usually grey or buff in colour, one or two were reddish, and two showed signs of heating. One may show secondary flaking (a scraper). The size varies from a grey flake, 2·8 inches by 1·9 inch by ·7 inch, to very small chips, and most are less than 1 inch. In all probability they were used as strike-a-lights, and examples showing signs of working are

probably the remnants of older implements found by chance and brought within the fort for strike-a-lights.

*Querns.*—Discussed under a separate heading.

*Bones.*—Many fragments were found, but only one showed signs of working—an antler from which a tine had been sawn (see Appendix III).

*Carbon.*—Occurred commonly (see Appendix IV).

In addition, pot-boilers, heated and cracked stones, occurred commonly, and sling stones were found. "Hammer-stones," or pounders, or perhaps they may be referred to as heating stones, were sometimes encountered. Quartz chips were scattered throughout the soil at this and the second and third horizons.

## PERIOD II.

*Domestic Pottery.*—Three sherds of thick, coarse, reddish brown ware, showing traces of a smoothly rounded rim (fig. 10, 4).

*Moulds.*—A dozen fragments of baked clay, probably from moulds.

*Lead.*—Two pieces of lead rolled into small tubes or cylinders.

1. From a piece .05 inch thick, rolled into a tube .2 to .3 inch in diameter and .7 inch long.
2. From a piece .08 inch thick, rolled into a tube .7 inch in diameter and .7 inch long. A similar fragment was found at Dunadd.

*Iron Objects.*

1. Knife with curved back, fragment 1.8 inch long (Pl. LXXVII, No. 5).
2. Hollow tube, .7 inch long and .5 inch in diameter. Parts of others were also noted.
3. Nail, broken at the point, 2.9 inches long.
4. Nail head with shaft .7 inch long.
5. Piece 2.5 inches long, .3 inch wide, and .1 inch thick at either end, and a third of the way along there is a sharp shoulder and then a gradual tapering to the other end. Mr A. J. H. Edwards suggested that it was part of a lock.
6. Curved length, 1.5 inch long and .3 inch thick.
7. Loop, much corroded, but apparently about 1.5 inch by 1.2 inch. Fragments of others were noted.

*Spindle Whorl.*—Of baked clay with no glaze, maximum diameter 1.1 inch, height .6 inch, perforation .25 inch in diameter. Lower side gently rounded, upper side rising markedly near the perforation.

*Whetstones and ? Polishers.*—*Whetstone*: Greater part of a perforated whetstone, now 4.5 inches long, smooth, oval in cross-section (see fig. 10, No. 2), measuring 1.2 by .9 inch. It is broken off at the perforation, but the other end is smoothly rounded and slightly flattened (Pl. LXXVIII, No. 9).

Smooth elongated stone, 5 inches long, which may represent a whetstone or polisher, and two doubtful examples of a similar nature.

*Stone Discs*, all schist.

1. 2.5 inches in diameter and .2 inch thick (Pl. LXXVIII, No. 3).
2. 1.0 inch            "        "   .15   "   "
3. 1.2   "            "        "   .3   "   "
4. .8   "            "        "   .2   "   "

Two round flat pebbles.

*Flint.*—Forty-one pieces were found, of which two may show signs of secondary flaking. Colour: grey, buff, or reddish. Twenty-one occurred together in a corner of the enclosure in front of the cell in a space of about

2 square feet, most of them being large flakes varying from 2·7 to 1·5 inches. Of the remaining twenty only three were more than 1 inch long. One was a small scraper. A small piece of pitchstone was found.

*Carbon.*—Occurred commonly (see Appendix IV).

*Bones.*—Fragments, usually small (see Appendix III).

Pot-boilers, heating stones, cracked stones, sling stones, quartz chips were frequently encountered.

PERIOD I OR II.

*Domestic Pottery.*—A large piece, 3 inches across and up to ·6 inch thick, coarse in texture, and reddish brown in colour; the rim is plainly rounded (see fig. 10, No. 3). Found under the pavement with pebbles. It strongly resembles the sherds of Period II, so that the pavement itself may be of Period II date.

*Hollow Tube or Neck of Pottery.*—A fragment, in colour bluish grey, red on the outside. About 1 inch across, ·2 inch thick, with a diameter of the tube about ·8 inch.

*Bronze Brooch.*—Found separately in two halves, forming a penannular brooch of the late seventh century A.D. (see Appendix I). From slightly above the level of the Ib floor, but below the IIb horizon; traces of walling in the neighbourhood may indicate some disturbance. While apparently belonging to the Ia horizon, it may in fact date Period II.

*Toggle.*—A light perforated disc of black shale, 1·2 inch in diameter, ·1 to ·15 inch thick, with a central perforation ·2 inch in diameter. Found at the same horizon as the brooch (Pl. LXXVIII, No. 2).

*Beads.*—Part of a dark-blue glass bead, ·3 inch in diameter, perforation ·2 inch in diameter; exterior slightly rounded and ·2 inch long (Pl. LXXVII, No. 9).

About a quarter of a thin cylindrical bead of vitreous paste. The complete bead was probably ·3 inch in diameter, ·35 inch long, with narrow dull yellow raised bands at the two ends, and a blue ground crossed by white bands in the centre (Pl. LXXVII, No. 7).

*Large Stone Objects.*—The following were found at the II horizon, but in each case appeared to have been incorporated in walling or pavement, and probably belong as artifacts to Period I.

*Bar Mould.*—Slab of schist, 12 inches by 9 inches by 3 to 7 inches thick. From one edge of the upper surface run two deep grooves, one  $3\frac{1}{2}$  inches long and 1 inch wide, the other  $1\frac{1}{2}$  inch by  $\frac{1}{2}$  inch. From the adjacent side runs another groove,  $2\frac{1}{2}$  inches by  $\frac{3}{4}$  inch.

*Mortars.*—

- (a) Slab of schist, 1 foot 9 inches by 1 foot 6 inches by 5 inches, with a hollow worn in the centre of the upper side, 10 inches across and  $2\frac{1}{2}$  inches deep, and another on the under side, 6 inches across and  $\frac{3}{4}$  inch deep. This stone was used in the trip step across the entrance in Period II.
- (b) Irregular piece of schist, 1 foot 5 inches by 1 foot 3 inches and 4 to 10 inches thick, with a deep hollow worn at one end, 8 inches across and 4 inches deep, but partly broken away. Found in the walling on the north side of the ladder passage in Period II.
- (c) Slab of schist, 1 foot 9 inches by 2 feet 7 inches, with a shallow hollow near one edge, 5 inches across and 1 inch deep.
- (d) Irregular piece of schist, 10 inches by 14 inches, with a large hollow on one edge where it is obviously broken across.

*Socket Stones.*—A slab of schist measuring 1 foot 5 inches by 1 foot 3 inches by 4 inches, split into two parts, and one end broken away. At the broken end there was a perforation,  $2\frac{1}{2}$  inches across, and near the opposite end there is a deep socket,  $1\frac{1}{4}$  inch wide at the top. Found in the secondary masonry in the entrance in Period II, and may be the socket stone for the gate in Period I; it could be held in place by a peg driven through the perforation.

Fragments of three other socket stones.

On two stones there were deep markings which may have been natural, but on another, 12 inches by 10 inches by 5 inches, there is a curious pear-shaped hollow, 2 inches by 3 inches across, and it may be another bar mould.

#### *Staircase.*

The rubbish in the twin staircase probably accumulated in Period I, but owing to the impossibility of establishing this the relics, such as they are, have been listed separately.

Bones in quantity; shells, including whelk, limpet, mussel, and oyster; some carbon in fragments; pot-boilers, heated and cracked stones, sling stones, quartz chips, limestone, and occasional slag.

#### *The Seaway.*

A very doubtful whetstone or polisher; three round flat pebbles; fragments of two discs, possibly pot-lids; bones in quantity; shells, including whelk, limpet, mussel, and oyster; pot-boilers; heated and cracked stones; baked clay; and quartz chips.

### PERIOD III.

*Domestic Pottery.*—Two wares found.

1. Light grey ware, upwards of 90 sherds. Found in the interior, in the cell, gallery, and entrance, and on the earth ramp sloping down from the entrance.
2. Light reddish ware, about two dozen fragments. One piece was found immediately under the IIIb floor, on top of the IIIc deposit; all the others came from the cell.

A report on this pottery by Mr G. C. Dunning will be found in Appendix II. He dates it to the end of the thirteenth or to the early fourteenth century A.D.

*Iron Objects.*—Much-corroded iron occurred occasionally. Only two pieces showed any recognisable shape after treatment.

1. Large roughly oblong piece, 2.5 inches long, 2 inches wide at one end,  $1\frac{3}{4}$  inch at the other, .5 inch thick at the wide end, .35 inch at the other.
2. Rather similar wedge-shaped object, 2.7 inches long; the thick end is 1.5 inch wide and .6 inch thick; the thin end is curved outwards, and is 1.8 inch wide and .2 to .3 inch thick.

*Iron slag* occasionally.

*Half-baked clay*, a few fragments.

*Stone disc*, a flat round pebble.

*Whetstones or ? Polishers.*—No indubitable examples, but two smooth elongated stones, 5 inches and  $6\frac{1}{2}$  inches long.

*Flint*, four small chips.

*Jasper quartz*, one fragment.

*Quern stones* (see separate heading).

Pot-boilers, cracked stones, heating or hammer stones, sling stones; bone and carbon in very small pieces, both relatively uncommon; quartz chips.

#### PERIOD IV.

Three pieces of very much corroded iron; seventeen pieces of slag; two flint chips; a very doubtful example of a whetstone or polisher; a few fragments of carbon and bone; a few shells, mainly whelk; some sling stones and pot-boilers, but comparatively rare; quartz chips.

A small piece of sandstone with two "cup-markings" was found in this pavement. Cup-marked stones are common in Kintyre, and this fragment is probably part of one of these old stones.

All this refuse may simply be overturned Period III material.

#### *The Cell.*

The relics are listed separately in view of the fact that the floor had apparently been disturbed in Period III.

*Pottery.*—Twenty-four small sherds of light red ware and about a dozen of light grey ware, both associated with Period III.

*Pear-shaped flint* with secondary working—a leaf-shaped arrow-head.

*Mould.*—A few fragments of baked clay.

*Slag.*—Fragments of iron slag and a piece of dark glassy slag.

Bones in quantity and large pockets of whelk shells.

#### *Quern Stones.*

A number of rotary quern stones were obtained, but owing to the fact that most of them had been incorporated into later walling or pavements after they had been worn out or broken, it is impossible to divide them into periods. The following list indicates the position in which each was found. Sections have been drawn of all the stones which are not too much damaged, *i.e.* 1, 2, 4 to 7 (see fig. 11).

1. Nearly complete stone of schist, with a central perforation, countersunk, and near the edge a handle hole, 1 inch in diameter, slanting upwards and inwards towards the centre. The under side at the handle hole was broken. Diameter 16 inches, thickness  $2\frac{3}{4}$  inches near the handle, and  $3\frac{1}{4}$  inches at the opposite side. Found in the Ic infilling, resting against the foundation of the inner revetment to the rampart and 5 feet below the Ib floor.

2. Complete stone of schist, 14 inches in diameter, 2 to  $2\frac{1}{2}$  inches thick, no handle hole. Found on floor Ib.

3. Circular stone of schist, 16 inches in diameter, but upper and lower faces too much damaged to estimate the thickness or shape.

4. About a quarter of a sandstone quern,  $3\frac{3}{4}$  inches thick, with a radius of about  $5\frac{1}{2}$  inches. The edge much less rounded than the above and smaller in diameter. Found at the IIIb level.

5. About a third of a sandstone quern stone,  $2\frac{1}{4}$  inches thick with a radius of about 4 inches, the central perforation apparently very wide—about  $2\frac{1}{2}$  inches; the edge scarcely rounded, and generally similar to No. 4. Apparently from level III.

6. A third of a stone of schist, radius about  $6\frac{1}{2}$  inches, and  $2\frac{1}{2}$  inches thick. Found in the IIIb pavement.

7. About a third of a stone of schist, radius 8 inches, 2 to 2½ inches thick. Found at turf-level.

8. About half of a much abraded quern stone of schist, diameter about 14 inches, and 2¾ inches thick. Found at turf-level.

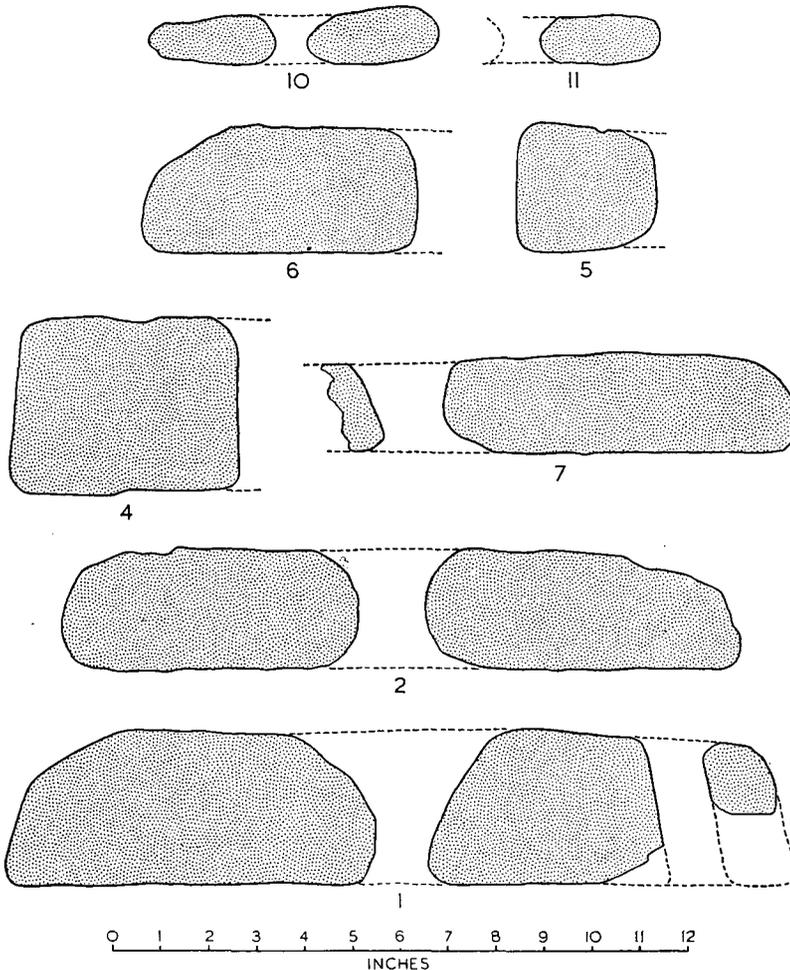


Fig. 11. Sections of Quern Stones and Weights (?) from the Kildonan Fort (see text).

9. About half of a stone of schist, much worn, but apparently about 18 inches diameter, and the hole for the pivot about 1 inch from the centre. Found in the IVb pavement.

These querns seem to fall into two types. Type *a*, 1 to 3 and 6 to 9, probably belongs to Period I; Type *b*, 4 and 5, may possibly be associated with Period III.

In addition, there were found at the Ib horizon two much smaller stones of schist, roughly circular, and perforated approximately at the centre.

10. Diameter 6 inches, thickness up to 1 inch. Countersunk in the centre

for a pear-shaped perforation, .55 to .7 inch across; both surfaces are very rough.

11. About a quarter of another, with a circular perforation, apparently .7 inch across, but the stone itself cannot have been quite circular as the radius varies from  $2\frac{3}{4}$  to  $3\frac{1}{2}$  inches. Thickness about 1 inch, and with smooth upper and lower faces.

Both may be net sinkers or, just possibly, the remnants of very small rotary quern stones.

A circular stone of schist, about 11 inches in diameter and 3 inches thick, found in the *Ib* floor, resembled an unperforated quern stone; another, 13 inches in diameter and 3 inches thick, was found in the *IIIb* pavement. Both may be unbored quern stones.

#### THE DATING.

One of the most striking facts revealed by the excavations is the length of time which elapsed between the construction of the fort and the final occupation. Within this span of many centuries there are four periods or phases to be distinguished and dated as nearly as possible. These four periods add to the interest of the site in many ways, but considering each individually the presence of the other three is a definite disadvantage, since the disturbance caused by successive reconditioning has destroyed much that would have been of great interest on the three lower floors, and, as regards the uppermost, where the chances of survival were better in this respect, we appear to be dealing with nothing more than a cattle-pen. The disturbance is doubly regrettable in that it has rendered the dating very problematical; this matter would have been less serious had relics been found in large numbers, but the poverty of the inhabitants during the whole time the fort was in occupation has been made only too clear in the foregoing survey of artifacts, and the total number of dateable objects is woefully small.

Period III alone can be placed with accuracy from the two types of pottery found at this level; this reconditioning occurred in the late thirteenth or early fourteenth century A.D. Period IV, if it may be so termed, apparently followed immediately, but there is no indication as to how long it lasted. The depth of the *IIIc* sterile loam would seem to show a comparatively long gap between Periods II and III, presumably of some centuries.

The difficulty of distinguishing the relics of Period I from those of Period II, and the absence of evidence on stratigraphical grounds for a lengthy gap between the two phases, makes it imperative to consider both together. There are but two objects whose manufacture can be dated with any accuracy, the *terra sigillata* and the penannular brooch. They merely indicate that the fort was occupied until after the seventh century A.D., and may have been built before the second century A.D.

The general similarity of the other material to that obtained from Dunadd, occupied perhaps until the ninth century A.D., is more striking than any vague resemblances to rubbish from early Iron Age sites where occupation ceased much earlier. Furthermore, the amount of rubbish and soil associated with the Ia and IIa-c strata is certainly not in such quantity as to suggest a continuous occupation from the second century onwards to perhaps the eighth century. Assuming that the *terra sigillata* had survived as an amulet for a long time, one is tempted to suggest on these grounds that Periods I and II covered approximately the seventh and eighth centuries A.D.

There are, however, a number of difficulties. In the first place, *terra sigillata* has been discovered on a number of Scottish sites which belong to the centuries about the beginning of the Christian Era, and it is barely justifiable to attach so little significance to the sherd from Kildonan. Secondly, the brooch may have been displaced from its true horizon, and date the second phase alone. Thirdly, whatever the relics alone may suggest, the general character of the fort considered separately would, on the whole, indicate an earlier date than the seventh century; this latter point must be considered in some detail.

The position, size, and general proportions of the dùn differ in no very significant ways from the small stone forts of the west of Scotland which Professor Childe has called collectively "Castles,"<sup>1</sup> and which appear to belong to the early Iron Age. Now the Broch type, which seems to be a specialised form of a "Castle," was normally provided with galleries, cells, a staircase, and an entrance with door-checks and bar-holes. The development of this specialised type has never been worked out, and at the beginning of excavations at Kildonan it was hoped to throw some light upon the problem, so striking were the superficial indications of a fort closely related to the Broch. It is quite clear, however, that Kildonan is too late to be of significance in this respect, since the round towers were fully developed by Roman times. Furthermore, the divergences from this highly specialised type are too great to establish a direct relation, and to find the true antecedents to the dùn at Kildonan we must look elsewhere.

It is to be remembered that cells occur in the "Castle" at Ardifuar, the south fort on Luìng, and at Druim an Duin, to quote well-known examples near Kintyre; galleries have been noted at Dunburgidale on Bute, at Castlehaven in Kirkcudbright, and in the "Galleried Dùns" of Skye and the Hebrides; staircases occur at South Luìng, Ardifuar, and elsewhere; an entrance with door-checks and bar-holes is quite a normal feature in a "Castle"; the "median face" may be far from rare, in view of the fact that so few of these stone-built ramparts have been investigated.

<sup>1</sup> V. G. Childe, *The Prehistory of Scotland*, p. 197.

It might be suggested that the parallels to the Broch are equally parallels to the parent "Castle" type. Since the specialised Broch form was fully developed by Roman times, there is a marked hiatus if we are to place this specialised Kildonan type as late as the seventh century. Again, emphasis has more than once been placed upon the fact that Kildonan is a carefully integrated or co-ordinated structure, with a singular freshness of the individual features, and it is hard to conceive of it as a late freakish survival, or to assign a date seven centuries after the "Castles," though appearances may be misleading.

Accepting, then, this rather obvious conclusion that the builders of Kildonan embodied in their dùn a number of traits current at the time of the "Castles," to turn now to the divergences from the ancestral type. The twin staircase is unusual, but not a startling development; the "median face" may be a comparative rarity, but is merely a simplification of the gallery; the overhanging door-check would seem to be abnormal, but in the present state of our knowledge it would be unwise to attach too much importance to it; the Ic infilling may be more reminiscent of a mediæval castle than a prehistoric fort, but it is an obvious expedient, and the absence of parallels in Scotland, though not in Ireland, may be due to lack of knowledge or faulty excavation in the past—the records of the excavations at Druim an Duin and King's Cross Point are regrettably vague on this point. In short, the divergences from the early "Castle" type are notable, but scarcely so marked as to suggest a long evolutionary period.

The obvious parallels to the "Galleried Dùns" have not been stressed, in view of the fact that these forts are an unsolved problem in themselves.

Summarising, all that the writer can say is that the fort at Kildonan may be as late as the seventh century, but that there are indications of an earlier date, though hardly before the second or third century A.D., since the relics as a whole are not typical of the normal early Iron Age sites in Scotland. It is within this period that the Scots from Ireland were crossing to Argyll, and Kintyre and Antrim became parts of the same cultural province. A consideration of the historical background allows several alternatives from which to choose:

1. That the fort was erected by the natives possibly as a defence against Scottic raiders or invaders; Period II was presumably a Scottic reoccupation.

It will be remembered that the dùn is fairly well hidden at the head of the bay, and it is one of the remarkable features of the site that from the rampart there is a magnificent view of the sea from near the Mull to a point far up Kilbrannan Sound; it is an almost uninterrupted sea horizon of nearly 180°. The bay itself is very rocky to act as a haven, and far better landing-places can be found within a mile; the products of trade or

piracy are almost non-existent: the inhabitants appear to have been agriculturalists and stock-raisers, and possibly longshore fishermen.

2. That the Scots themselves erected the fort, and Period II was a reoccupation about the time of the Norse raids, or merely a later phase of the Scottic period.

The "castle complex," Childe has suggested, may have been a cultural drift from the south, and the resemblances to the "Castles" may be more directly to those of Ireland than Scotland.

3. That the fort was erected after the Scottic migrations, and represents a blending of native and Scottic influences.

Neither alternative solves what is perhaps the major problem—that of the Galleried Dùns in general, and, in particular, why the inhabitants of Kintyre built a fort for which there are apparently no local parallels. Galleried Dùns certainly seem to be comparative rarities, and while excavation might reveal further examples, diligent search in Argyllshire has left the writer unrewarded, though one or two sites are suggestive. It was in the hopes that others might find the data valuable in this respect that the surface indications of the Kildonan dùn, before excavations commenced, were plotted with care.

#### CONCLUSION.

To draw conclusions from a site of such complexity is to skate upon extremely thin ice. The archæology of the Dark Ages is in its infancy, and perhaps in the future, after further excavations in the west of Scotland, the Kildonan site will assume its true perspective. Had a long series of relics been placed on record, the various occupation levels would have provided a most useful series for reference purposes; as it is, the fort must be taken as an earnest of things to come. Yet several points have emerged and must not be overlooked when an *impasse* with regard to the dating has been reached.

In the first place, the investigation has shown that the technique of fort construction could be more involved than our knowledge has on the whole led us to believe. The gallery and median face, the suggestions of a breastwork, the twin staircase and ladder, the entrance with its peculiar gate arrangements, the cell, the deep infilling below the primary floor, and the seaway, all occurring together, suggest a type of fort which might almost vie with the Broch as being one of the supreme achievements of the "castle complex," as Childe has named it. It appears to represent, not an epilogue to the Broch phase, but another specialisation and development of the parent culture. The fort was clearly occupied more or less in its pristine state until perhaps the eighth or ninth century, and this strongly

suggests that the "age" of the small stone forts of the west of Scotland must be prolonged until the beginnings of what is often thought of as the "age" of the mediæval castle. The first reference to a stronghold at Dunaverty near the Mull of Kintyre takes us back apparently to the eighth century, since when the site was occupied more or less continuously until the massacre of the Macdonald garrison in 1647. Clearly it is possible to envisage a gradual transition from the stone forts of the "castle complex" to the strongholds of the type of Kildonan, which continued in occupation until the period when authenticated examples of "mediæval castles" were founded. It seems a far cry from Early Iron Age fort to Edwardian castle in the south of England, but in the west of Scotland the connection between stone fort and mediæval stronghold may be much more direct.

Secondly, the study of types of ramparts is carried perhaps a stage further. The median face may not be a new discovery, but at Kildonan it is a prominent feature and a most illuminating example. Again, the gallery, in the writer's view, is to be considered primarily as a structural feature, and that the *structural* significance of a gallery was known and appreciated at this time may not be without importance in the study of the Broch.

Thirdly, the individual features of the fort, such as the entrance, cell, staircase, and gallery, hark back to the pre-Scottic period, yet it is at least possible that the fort at Kildonan was post-Roman by some centuries; we are on very uncertain ground, but there may be an indication that the irruption of the Scots into Argyll did not produce such a marked change as some of our history books would suggest.

Fourthly, the apparent poverty of the occupants of the dùn at Kildonan throughout its long history deserves comment in view of the magnificence of the rampart. It may be more than a coincidence that the archæology of the late pre-historic period and the Dark Ages in Scotland has so long remained obscure.

Finally, a fifth conclusion must be added to this speculative review. The two forts on either point of Kildonan Bay, within a quarter of a mile from the galleried dùn, provide a complementary study. If they are by some strange chance contemporaries, the excavation would throw some light upon Kildonan itself, and would carry interesting implications with regard to the density of population. If not, as is far more probable, then with the three occupations at Kildonan a long series of "cross-sections" of the cultural history of one locality would have been established—no small achievement in the present state of the archæology of the west of Scotland.

## ACKNOWLEDGMENTS.

Often during the last three years have I wished that the first excavations of which I have personally been in charge had been conducted on a site of less complexity than Kildonan, and I have asked and received help from so many quarters that a full list of acknowledgments would far surpass the limit of editorial tolerance. To his Grace the Duke of Argyll for permission to excavate; to the Members of the Kintyre Antiquarian Society, and especially Mr J. R. Cunningham, for their financial help, encouragement, and hospitality; to Professor V. G. Childe for his continued interest and most valuable help, advice, and financial assistance; to my numerous friends, especially Mr N. J. H. MacCulloch and Dr J. Orr, who have assisted on the site, and to Mr A. Wilson and Mr S. Galbraith, my workmen; to Mr J. H. Mackenzie, Curator of Campbeltown Museum; to Mr J. S. Richardson, Mr A. J. H. Edwards, Mr H. E. Kilbride-Jones, Mr G. C. Dunning, Miss A. S. Robertson, Miss M. I. Platt, Mr M. Y. Orr, for their help with the relics; to Mr and Mrs J. Semple of Ballochgair Farm, with whom I stayed; to those especially, and to all who have helped to make this report possible, I offer my most sincere thanks.

## APPENDIX I.

## REPORT ON PENANNULAR BROOCH FROM KILDONAN.

By H. E. KILBRIDE-JONES.

The brooch is in an extremely poor state of preservation, and the right half is considerably more weathered than is the left half. The brooch is also unusually small, measuring only 32 mm. in greatest diameter. Little remains to serve as a guide to its date except a small uncorroded portion of the left-hand terminal. The terminals were round, and they were ornamented with three concentric circles in relief, and done in the *kerbschnitt* technique, surrounding a slightly domed centre. The hoop, like the terminals, is flat on the reverse side, and midway between the two terminals there appear to be indications of the former existence of a small decorated panel. These details can be most nearly paralleled on the eighth-century brooch from Croy, Inverness-shire (*Arch.*, 65, 236, fig. 174). There is little doubt, however, that the Kildonan brooch is more closely related to a type of native-made brooch showing Frankish influence, and represented by a specimen from Co. Antrim (*B.M. Anglo-Saxon Guide*, 133, fig. 174), a type which, in Britain, probably does not long post-date the Migration Period. Perhaps it belongs to the early seventh century, in view of the technique employed in decorating it, and also since ornithomorphic fibulæ in the Frankish style produced no lasting effect on

contemporary art in Britain, although that effect tended to persist in Ireland. The Kildonan brooch is approximately the same size as the Co. Antrim specimen, but the hoop has thickened and the terminals have lost the beaks. Sparse though these data are, it would nevertheless probably be correct to say that the Kildonan brooch belongs to the latter half of the seventh century.

## APPENDIX II.

REPORT ON MEDIEVAL POTTERY FROM KILDONAN FORT,  
CAMPBELTOWN, KINTYRE. By G. C. DUNNING.1. *Cooking-pot from filling of Cell.*

Fig. 12.—Cooking-pot restored from fragments of rim and upper part of shoulder, and separate fragments of base. The ware is light red to buff in section, mixed with fine sand, and the surface is smooth and buff, discoloured grey by fire round the rim and on the base; the inner surface has a white coating, probably to render the vessel less porous. The pot is carefully wheel-turned, the sides are thin, and the outer surface on the shoulder is marked by horizontal rilling or fluting made whilst the pot was turning on the wheel. The rim is everted, thickened, and angular, and almost square in section; it has an internal bevel and a small beading on the inner edge. The base is deeply sagging and the base-angle is sharp. The pot is  $4\frac{1}{2}$  inches rim diameter, about  $6\frac{1}{2}$  inches shoulder diameter, and about  $6\frac{1}{4}$  inches high.



Fig. 12. Cooking-pot,  
Period III. ( $\frac{1}{4}$ .)

It is possible to date the pot within fairly close limits. In southern England cooking-pots of similar proportions and with similar angular rims are dated to the middle of late thirteenth century.<sup>1</sup> In Scotland the closest analogy is a small cooking-pot remarkably similar to the Kildonan vessel, but with green glaze on the shoulder;<sup>2</sup> it was found at Ayr, and contained coins of Alexander III., John Baliol, and Edward I. Cooking-pots of the same character found elsewhere in Scotland are referred to the thirteenth or early fourteenth century.<sup>3</sup> The period 1250–1350 may be suggested as the most probable date for the Kildonan cooking-pot.

<sup>1</sup> Rayleigh Castle, Essex, where occupation ceased shortly before 1277 (*Trans. Essex Arch. Soc.*, N.S., vol. xii. p. 182, fig. 7). Bungay Castle, Suffolk, pottery from layer dated 1294 (*Proc. Suffolk Inst. of Arch.*, vol. xxii. p. 334, figs. 1–9).

<sup>2</sup> *Proc. Soc. Ant. Scot.*, vol. lvi. p. 30, fig. 4, 3.

<sup>3</sup> *Ibid.*, figs. 1, 4, and 5.

2. *Jug from Level III.*

Fig. 13.—Jug restored from fragments of rim, neck, joined pieces of shoulder and side, and fragments of base. The ware is light grey in section, yellow or buff towards the outer surface, and mixed with fine dark-coloured grit which speckles the surface. The inside is grey and shows wheel-marks, the outer surface is yellow with buff tones and is discoloured grey in patches. The neck and shoulder fragments have well-marked external fluting, similar

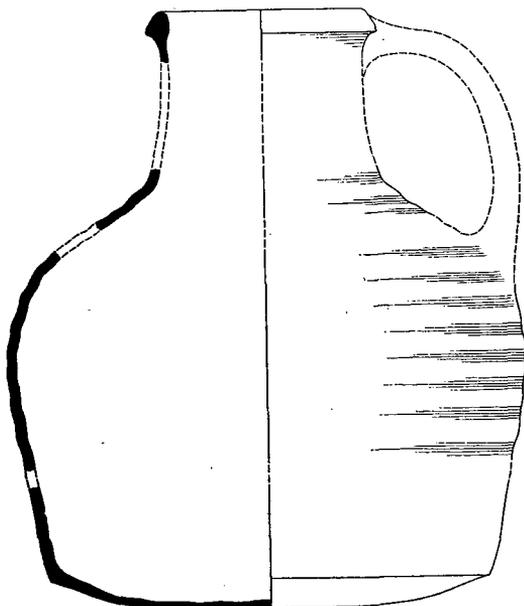


Fig. 13. Jug, Period III. (4.)

but more pronounced than on the cooking-pot from the cell filling. Moreover, glaze is present on a fragment of neck and the upper part of the shoulder; the glaze appears to be only in patches, but is rather decayed, and is fairly thick and even, dark brown in colour. The rim is vertical with rounded lip, and is thickened outside to form an angle. The neck appears to have been fairly cylindrical, passing gradually into a high rounded shoulder. The base sags deeply with sharp base-angle, of which there is sufficient to show that thumb-pressing was absent unless it was abnormally widely spaced. One large shoulder fragment has a thickening for the lower end of a handle, and the inside of the wall is pressed out by the potter's fingers in securing its attachment to the pot. It is possible to obtain rim, shoulder, and base diameters independently, so that the only approximate measurement is the height; the jug is  $4\frac{3}{4}$  inches rim diameter,  $10\frac{3}{4}$  inches shoulder diameter, and about  $12\frac{1}{2}$  inches high. The restoration could be made slightly taller, but not shorter.

The stratigraphical evidence at Kildonan indicates that the cooking-pot and jug are of about the same date, for sherds of both classes were found amongst the stones forming the pavement of Period III in the cell. This evidence is substantiated by the similar general character and technical finish (fluting) of both vessels. The jug is therefore referred to the same period as the cooking-pot—that is, to the late thirteenth or early fourteenth century. Analogous jugs of this date are known from Scotland. Com-

parison may be made with a jug found at Carsphairn, Kirkcudbrightshire,<sup>1</sup> containing coins of not later than the early fourteenth century. This vessel is similar in proportions to the Kildonan jug, and has a cylindrical neck, squat globular body, and partial thumbing of the base-angle. Close parallels for the rim-section of the Kildonan jug are provided by sherds from a mound at Kidsneuk, Irvine, Ayrshire,<sup>2</sup> assigned to the thirteenth or fourteenth century.

APPENDIX III.

THE BONES AND SHELLS.

Miss M. I. Platt of the Natural History Department, the Royal Scottish Museum, Edinburgh, very kindly undertook the laborious task of identifying the bones and shells which were obtained during the course of the excavations. Small fragments of bone, sometimes burnt, occurred at all four occupation levels, and larger pieces and sometimes whole bones were very common in the Ic filling, and in the filling of the cell, seaway, and staircase. Only one piece showed signs of working; it was a portion of red deer antler (found in the Ic filling) from which a tine had been sawn. One ox horn-core was found (in the seaway), and proved to be of the short-horn variety. One bone (Period I) was a phalanx of the common seal, *Phoca vitulina* L. The classified list below has been constructed from the data provided by Miss Platt.

	Ox.	Red Deer.	Sheep.	Pig.	Pony.	Seal.	Shells: <i>Littorina littorea</i> (L). "Whelk,"	<i>Helix aspera</i> , Müller.	<i>Patella vulgata</i> L. "Limpet."	<i>Ostrea edulis</i> L.	<i>Buccinum undatum</i> <i>littorale</i> , King.	<i>Gibbula cineraria</i> .
Period I	x	x	x	x	x	x	x	x	x	x	x	x
Period II	x		x				x		x			
Periods I and II	x		x	x			x		x			
Cell	x		x	x			x		x			
Seaway	x	x	x	x			x		x	x	x	
Staircase	x	x	x	x			x		x	x		
Period III			(fragments of bone)				x		x			
Period IV			(fragments of bone)				x		x			

<sup>1</sup> *Proceedings*, vol. xlviii. p. 398, fig. 2.

<sup>2</sup> *Ibid.*, vol. lii. p. 68, fig. 3.

## APPENDIX IV.

## THE CHARCOAL.

The fragments were submitted to Mr M. Y. Orr of the Royal Botanic Garden, Edinburgh, who has grouped them as follows:—

	Willow- Poplar.	Hazel.	Birch.	Oak.	Ash.	Lime.
Period I	50	12	6	4	1	1?
Period II	12	3	..	1	1	..
Periods I or II	34	3	..	2	..	..
Period III	3	..	..	..	..	..

Willow and poplar cannot be easily distinguished.

There is some doubt as to the authenticity of the fragment of lime of Period I, not to the identification.

The preponderance of willow-poplar is probably to be explained by the nature of the ground, which is badly drained on the south and west. Hazel, ash, oak, and birch grow on the hillside behind the fort.

MONDAY, 10th April 1939.

ALEXANDER O. CURLE, C.V.O., LL.D., Vice-President,  
in the Chair.

A Ballot having been taken, the following were elected Fellows: Charles B. R. Butchart; H. J. H. Drummond, M.A.; Angus MacLeod; F. Muirhead Moffat; Ferdinand Muller; Eric B. Porter; Daniel J. Sleigh.

The Accounts of the Society for the year 1937-38, which had been circulated amongst the Fellows, were approved.

Donations to the Museum and Library, as per lists at end of volume, were intimated and thanks voted to the Donors, and Purchases for the Library were announced.

The following Communications were read:—