III.

CASTLEHILL WOOD DUN, STIRLINGSHIRE.

By R. W. FEACHEM, M.A., M.Sc., F.S.A., F.S.A.Scot.

I. Introduction.

The county of Stirling includes most of the isthmus which unites the regions N. of the River Forth with the rest of Britain. Although this interesting piece of land measures some 30 miles in width from Loch Lomond in the W. to the mouth of the River Forth in the E., most of it is occupied by a mass of inhospitable hills once generally known as the Lennox Hills, which includes the Campsie Fells and the Fintry, Gargunnock, Kilsyth and Touch Hills. Lateral routes of communication lie N. of the massif along the valley of the River Forth and S. of it along those of the River Kelvin and the Bonny Water, while another route traverses the centre along the valleys of the Endrick Water and the River Carron. The only route to the N. crosses the River Forth at Stirling and runs thence up Strath Allan to Strath Earn.

Numerous monuments which can be broadly assigned to the Iron Age exist, or have existed, along these routes (fig. 1), among them several of the class known as the dun. The word dun has long been applied to structures consisting essentially of a comparatively small enclosure surrounded by a proportionately thick stone wall. The name is used to distinguish works that are smaller than hill-forts but stronger than farmsteads or homesteads, and among such works are great variations both in size and shape and in dates of original construction. One of these, which forms the subject of this paper, was discovered [1] in 1952 on the east slopes of the Touch Hills when air-photographs were being examined during the preparation of the Inventory of Stirlingshire by the Royal Commission on Ancient and Historical Monuments (Scotland).[2] As nothing was known

[1] A record dated 1841 (*New Statistical Account*, VIII (Stirlingshire), 321), speaking of a supposed Roman road running W. in the vicinity of Cambusbarron, ends by saying "but whether this road led to the ford at Few (*sic*), or to the Roman station, or the Castle hill above Touch, is altogether uncertain." As it stands, this passage might be thought to refer to an otherwise unspecified Roman station *and* to a fortification on the Castle hill above Touch. It is possible, however, that the second "or" is a misprint for "on," and that the passage should end "or to the Roman station on the Castle hill above Touch." In either case, a structure on the Castle hill above Touch—almost certainly the dun which forms the subject of this paper—seems to be implied. In addition, other structures, now known to be native works, are referred to as Roman stations in the ensuing paragraph of the record quoted. The last two so named are the hill-fort on Sauchie Craig and the dun, now ruined, at Touchadam, Castlehill (see forthcoming R.C.A.M. *Stirlingshire* for descriptions of these).

[2] 106G/SCOT/UK 85, 4411–2.

about the date or affinities of this or of any other dun in Stirlingshire, the Commissioners decided that a suitable example should be examined.[1] The Castlehill Wood dun was chosen because it was threatened by the use to which the enclosed ground on which it stood was then put—the testing of repaired military vehicles. Permission to excavate was readily granted by the Military Authorities through the kind offices of the Command Land

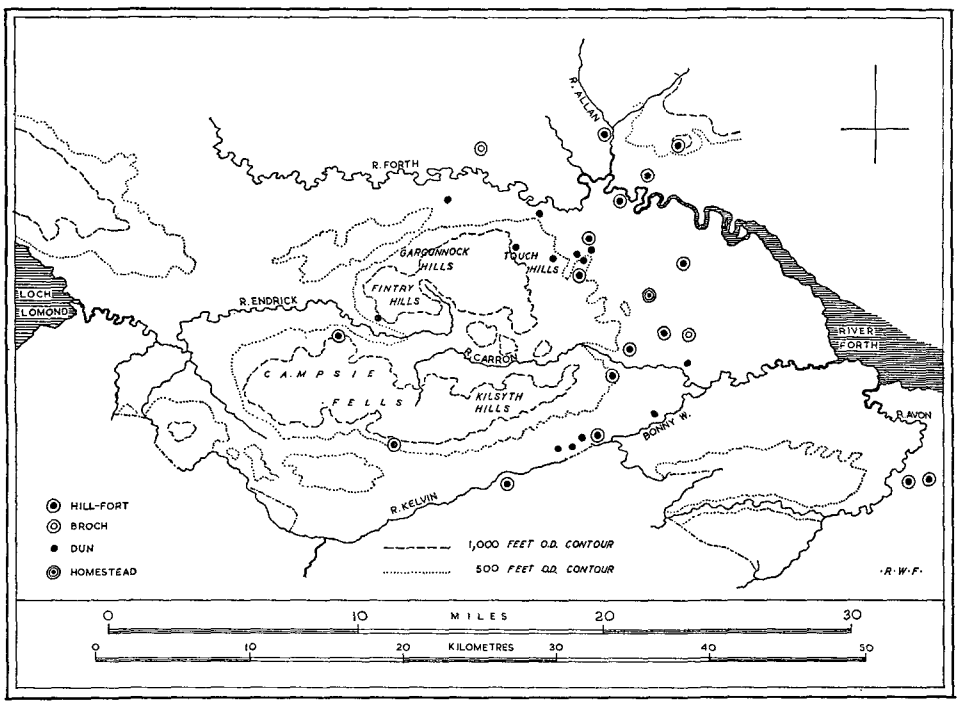


Fig. 1. Distribution of Iron Age Monuments in Stirlingshire.

Agent. Additional financial support, and tools, were generously provided by the Society of Antiquaries of Scotland, and tents and certain other equipment were kindly lent by Mr R. J. C. Atkinson. The work of ten voluntary helpers enabled the excavation to be carried out.[2] Reports on the finds, and other technical information and assistance, are gratefully acknowledged from Dr A. S. Clarke (bones), Mr R. J. A. Eckford (stones), Dr D. B. Harden (Roman glass), Dr E. M. Jope (Medieval pottery), Dr E. M. Knox (charcoal and minerals), and Professor Stuart Piggott and Mr R. B. K. Stevenson. The finds have been deposited in the National Museum of Antiquities of Scotland.

[1] I am indebted to the Commissioners for permission to use unpublished material in this paper.

[2] Mrs R. W. Feachem, Miss C. H. Mailer, Miss S. Morrison, Mrs A. Rae, Messrs E. Henderson, A. MacLaren, A. Rae, D. B. Taylor, J. C. Wallace and R. Winter.

II. The Site before Excavation.

Castlehill Wood dun stands just S. of the wood on one of the numerous rocky knolls [1] which diversify the east slopes of the Touch Hills. It stands at a height of 650 ft. O.D. and is distant 3 miles SW. of Stirling [2] (fig. 2). The nearest reach of the Bannock Burn lies about 300 ft. below and two-thirds of a mile SE. of the dun (Pl. I). When discovered, the remains appeared in the form of a low, grass-covered oval mound from which a few

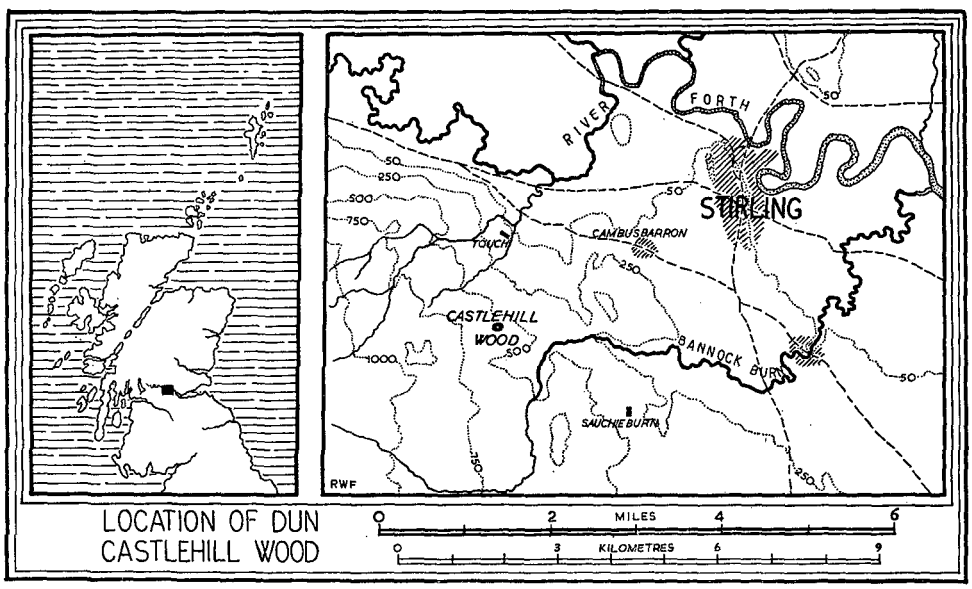


Fig. 2.

boulders protruded which seemed to represent the foundations and debris of a substantial wall enclosing an area measuring 70 ft. from NE. to SW. by 50 ft. transversely. A depression in the east arc marked the probable location of an entrance. Over a considerable area of the interior the smooth, naked surface of the basalt rock appeared, but between this and the mound lay a broad band of coarse grass, rushes and bracken. Certain traces of recent damage were apparent; a small trench had been cut in the south-west arc of the mound, while at least one heavy armoured vehicle had been driven in over the north arc and out through the depression marking the entrance. Mr P. R. Ritchie, visiting the site early in 1955, picked up the incomplete upper stone of a rotary quern (fig. 10, ii) which had been torn from the mound among other debris by the tracks of a vehicle.

[1] The name Castlehill is now applied to the farmhouse, at present a ruin, which is situated two-thirds of a mile ENE. of the dun. The ruins lie just SE. of a small, isolated eminence which attains a height of a little over 400 ft. O.D. and which might be thought to have been the original "Castle Hill," but no traces of structure can now be found on this feature. [2] National Grid Reference NS/750909.

III. The Excavation.

1. *The Wall* (fig. 3).—A rectangle measuring 13 ft. in length by 7 ft. in width was laid out at a distance of about 35 ft. NW. of the entrance so as to include a boulder protruding through the turf which seemed to belong to the inner face of the wall. This proving to be the case,

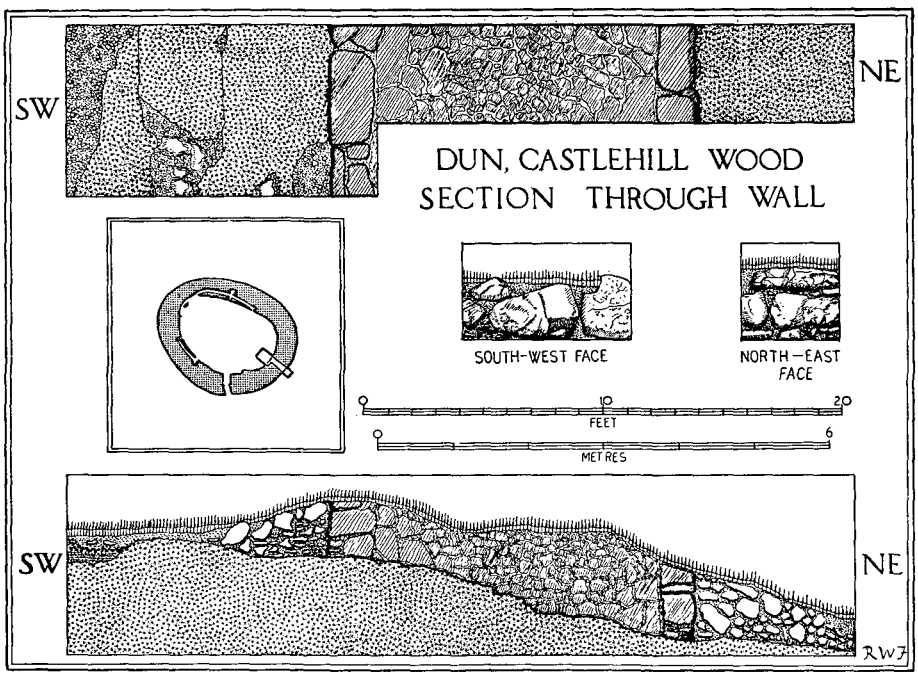


Fig. 3.

an extension 4 ft. in width and 20 ft. in length was carried northwards from the north side of the rectangle right through the wall. This operation revealed that the wall here measured 15 ft. 6 ins. in width and was constructed with an inner and an outer face of large boulders and a core of rubble (Pl. II, 1). The rubble immediately behind the faces included some very large boulders, while that in the centre was made up of smaller boulders and earth. No traces of internal faces within the wall were revealed in the section, and no relics discovered. The facing stones had been laid on the surface of the ground without a prepared trench or bed. Where cut, the difference in level between the bases of the inner and outer faces was 3 ft. 2 ins.

2. *The Entrance* (fig. 4).—The thin turf was removed from a series of contiguous rectangles, covering altogether an area measuring 16 ft. in width

by 22 ft. in length, which were laid out so that they covered the depression which had been assumed to mark the site of the entrance. Facing stones of the entrance passage and of the adjacent stretches of the inner and outer

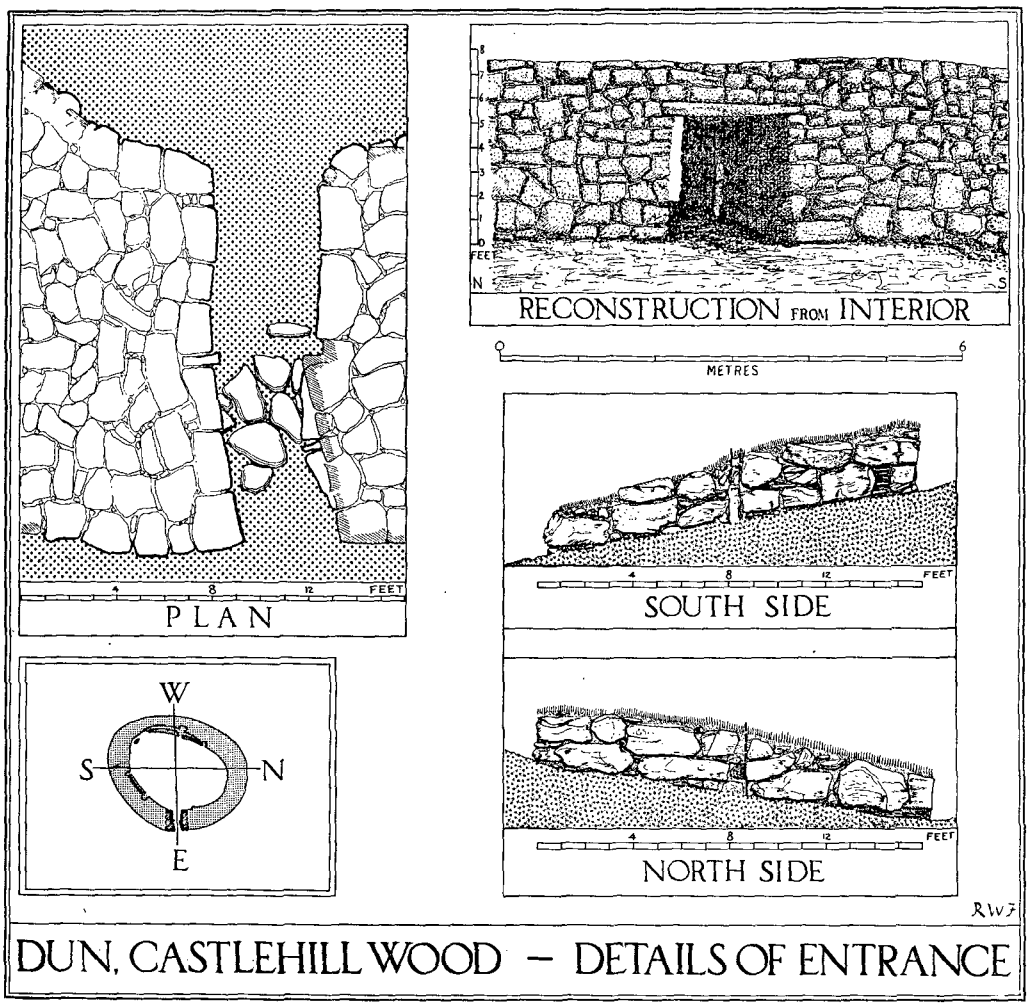


Fig. 4.

faces of the wall were immediately apparent, but the passage was choked up to the level of the turf with stones and boulders. Cleared of this filling, the entrance was found to measure 16 ft. in length and to run at a slight angle through the wall. The walls of the passage and the faces of the immediately adjacent stretches of the wall stood at best three courses in height, and it was noticeable that the stones forming the faces of these

parts of the structure had been chosen with more care than had those of other parts, being more regular in shape and apparently more closely and carefully laid (Pl. II, 2). The two walls of the passage differed considerably in detail. The south wall followed a very gentle convex curve; the door-check, only one course in height, which was located at a point 7 ft. 6 ins. from the inner corner, consisted of a narrow stone slab protruding some 6 ins. from the otherwise featureless face. The check in the north wall, however, was formed not by a protruding stone but by a change some 6 ins. in depth in the line of the face itself. On the inner side of this, the north wall stood at a distance of 4 ft. 6 ins. from the south wall, but outside it the passage between them was only 3 ft. 9 ins. in width.

The floor of the passage sloped 2 ft. 8 ins. down from its inner to its outer end. For the most part it was formed by the surface of the natural rock, worn smooth except close to the walls, but a few slabs of paving remained in position immediately outside the door-checks, and one immediately inside them. The walls of the entrance have not survived to a sufficient height for the bar-holes to have been preserved, supposing these to have existed.

3. *The Staircase* (fig. 5).—When the inner face of the wall between the excavated areas described above was cleared, a divergence in the line of the lowest course of facing stones was revealed. For a distance of 8 ft. from the corner of the entrance passage the facing stones followed the expected course, but the next stone lay as much as 3 ft. out of this line. The next six stones beyond this lay successively nearer the true line of the face, and the seventh and succeeding stones were once again on it. Investigations within the thickness of the wall adjacent to the protuberance revealed that the core here, as in the section already described, was composed of rubble and contained no internal structure. There was no doubt that the divergent facing stones had been laid in the positions in which they were found. It is suggested that this irregularity might have been due to the presence of a flight of steps which originally ran up the inner face of the wall at this point to give access to the upper surface of the wall, and that the first irregularly-placed stone was the bottom step. The absence of an internal stair, or any other such device, may support the supposition.

4. *Mural Structures* (fig. 6).—Two sets of chambers were discovered within the thickness of the wall. No traces of these had been visible before excavation, as their remains had been entirely filled and the turf above them showed neither depressions nor any other irregularity. The larger of the two structures, located in the west arc of the wall, was discovered when an attempt was being made to establish the inner face of the wall at a point opposite the entrance. A rectangle 10 ft. in length and 5 ft. in width laid out for this purpose happened to include the entrance of a passage.

Eventually the structure A in fig. 6 was revealed. Standing to a maximum of three courses in height, it consisted of an entrance passage, a fire pit, a nearly-circular chamber and two long, narrow passages which will hereafter be referred to as flues. The entrance passage measured 2 ft. in width at the opening in the wall face and 6 ft. in length. The pit lay between the

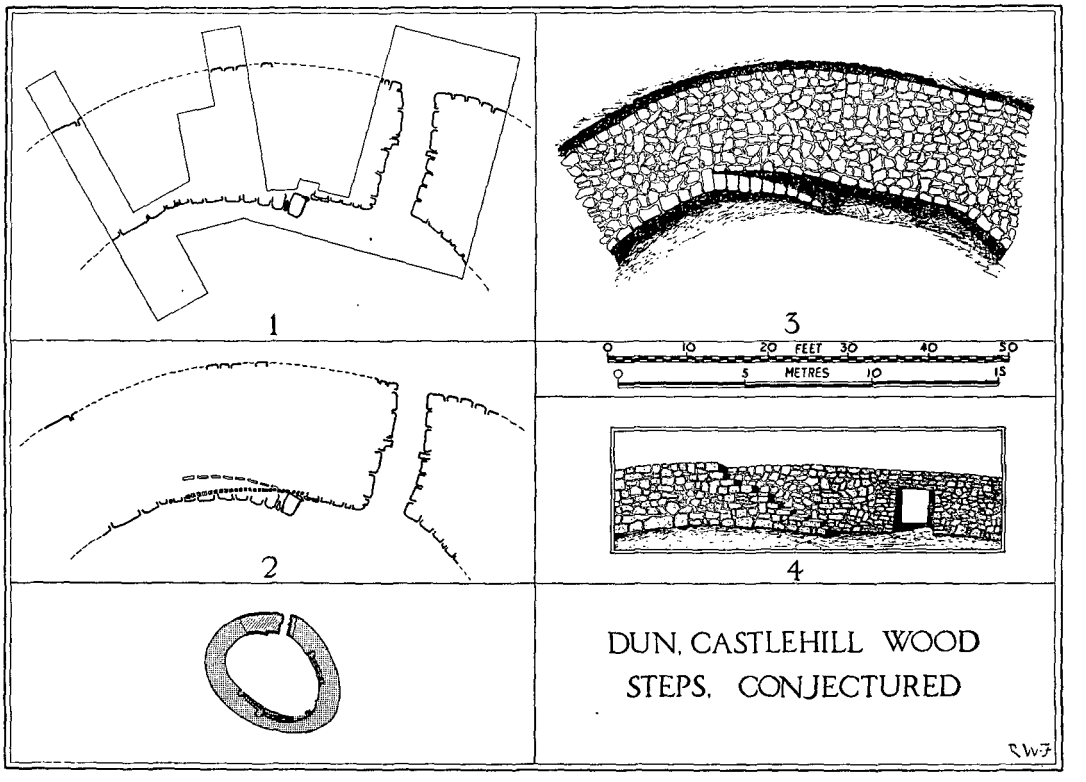


Fig. 5.

mouths of the flues; it measured about 3 ft. across the top and 17 ins. in depth and, when found, was full of red ash. Immediately beyond the pit was the entrance, 3 ft. in width, of a chamber which measured about 4 ft. in diameter across the floor of hard-packed soil. The lowest two courses of the wall of the chamber were complete, and some stones of a third course remained in the north arc. From these it was demonstrable that the chamber was, at least at its lowest level, shaped like a funnel, and that the side-wall rose with an ever-increasing diameter.

The east wall of the north flue had partially collapsed, but the west wall was comparatively well preserved up to three courses in height. Its far end opened into a little apse the east side of which gave into the interior of

the dun. This flue measured about 19 ft. in length and may originally have been about 18 ins. in width. The south flue was not entirely excavated; about half of it, at the south end, was cleared, and this was found to be of similar character to the north flue.

The flues and the entrance passage contained both red ash and a fused, clinker-like substance, very light in weight. Analyses of these, together

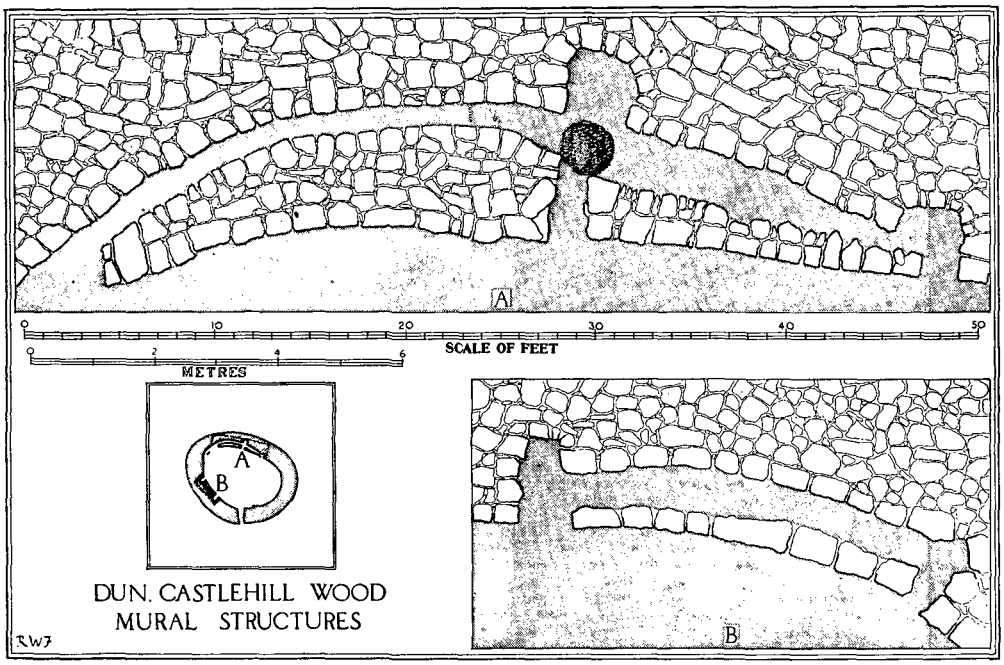


Fig. 6.

with a suggestion on the probable function of the mural structures, are set out in Sections IV (h) and V below.

The other mural structure (B in fig. 6) was situated in the south arc of the wall. Its presence was suspected when a deposit of clinker similar to that found in the other structure was discovered below a stone that had at first seemed to belong to the face of the wall. On clearing this stone [1] and its neighbours, however, it was seen that it and one other adjacent to it rested on a deposit of ash and clinker, while the stones on either side were bedded on earth, at a slightly lower level. The two stones were removed and found to be blocking the entrance of a passage of similar proportions to the entrance passage of the other mural structure. This led into the base

[1] As this discovery was made on the last day of work at the dun, it was followed up later, on 15th October 1955, when Professor Stuart Piggott kindly assisted at the investigation.

of a small chamber the wall of which stood only one course in height. A flue ran W. from a point close to the entrance of the chamber to emerge after a distance of 19 ft. through the inner face of the wall. The exit, furnished with a little apse similar to the one at the end of the north flue of the other structure, was cleared, and a section was cut at a point in the flue distant 7 ft. E. of this. No complimentary flue led off from the opposite side of the entrance passage. Ash and clinker were found in the entrance passage and in the mouth of the flue up to a depth of 8 ins.

Between the exit of this flue and that of the south flue of the other mural structure—a distance of 30 ft.—the modern trench mentioned in Section II above had been dug partly into the core and inner face of the wall and partly between the wall and the isolated block of walling standing near by. Owing to the disturbance thus caused, no interpretation of the latter can be offered.

5. *The Interior* (figs. 7 and 8).—Part of the interior of the dun was occupied by outcropping rock, and over much of the rest the covering of soil and crumbled rock was very slight. As much of this was investigated as time permitted. A few informal fireplaces were found near the wall, and small lumps of daub showing wattle impressions were recovered in their vicinity. The presence of solid rock so near the surface may have debarred the dwellers in the dun from excavating post holes; and no post stances or traces of stone walling were found. It is probable that huts and shelters within the dun were of wattle and daub. The general depth between the grass roots and the underlying surface of the rock was never greater than 12 ins.

IV. The Finds.

The numbers shown in heavy type in brackets refer to the find-spots shown on fig. 7.

(a) *Pottery.*

1. *Native Pottery.*—Two sherds were found in the material of an informal hearth which was exposed in the north sector of the interior **(1, 2)**. They are small and include no rim or base portions, but the coarse and impure paste, with large grits, is typical of native wares from a great number of Early Iron Age sites such, for example, as the dun at Castlehill, Dalry, Ayrshire.[1] Other relics from this dun, including Roman pottery and glass and a Dragonesque fibula,[2] were assigned to the 1st and early 2nd centuries A.D. Such pottery disintegrates so easily that too much significance must not be attached to its scarcity.

[1] *P.S.A.S.*, LIII (1918–19), 123–4: National Museum of Antiquities of Scotland Catalogue No. HH 346.

[2] *Ant. J.*, XXXI (1951), 32–44.

2. *Roman Pottery.*—One small abraded fragment, $\frac{1}{8}$ in. in thickness, was found in the south arc **(3)**. One face was light fawn in colour, the other dark grey. The fragment was too small and decayed to be identified more closely than "probably Roman."

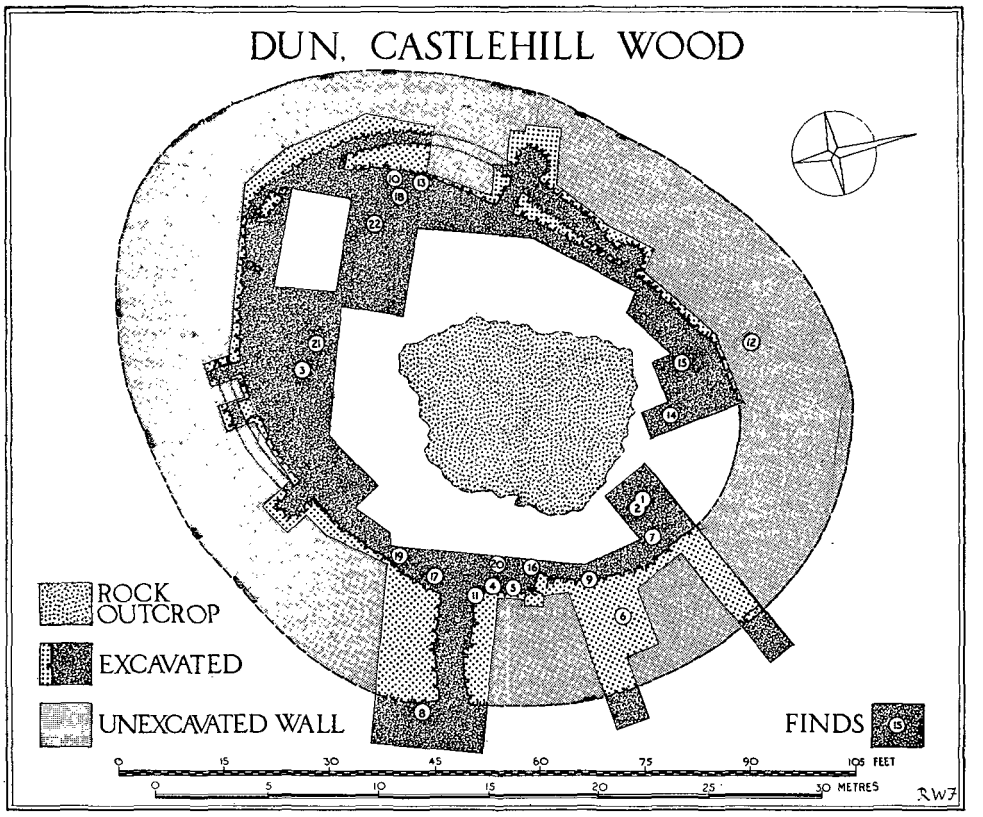


Fig. 7. Plan of dun and location of small finds.

3. *Medieval Pottery.*—Three pieces of medieval pottery were found. One fragment **(4)**, $\frac{1}{4}$ in. thick and measuring 2 ins. by $1\frac{1}{2}$ ins., was of grey ware with olive glaze. Dr E. M. Jope states that fabric such as this, very common in Scotland and northern England, was being produced at Carlisle early in the 14th century. A second fragment **(5)**, $\frac{3}{4}$ in. thick and measuring 1 in. by $\frac{3}{4}$ in., was of grey to red paste with yellow-green glaze. Dr Jope identifies it as having formed part of a round jug with a moulded rim, such as has been found, for example, at Castledykes, Kirkcudbright,[1] and can

[1] *P.S.A.S.*, XLVIII (1913–14), 381–94.

be dated between 1290 and 1308. The third fragment (**6**), $\frac{1}{4}$ in. thick and $\frac{3}{4}$ in. square, was of unglazed reddish ware with a little notch suggesting a shoulder decoration. Dr Jope sees no reason why this piece should not be part of a cooking pot of late 13th- or early 14th-century date.

These three pieces of medieval pottery, found in the north-east sector of the dun among the grass roots, seemed to represent fragments of three

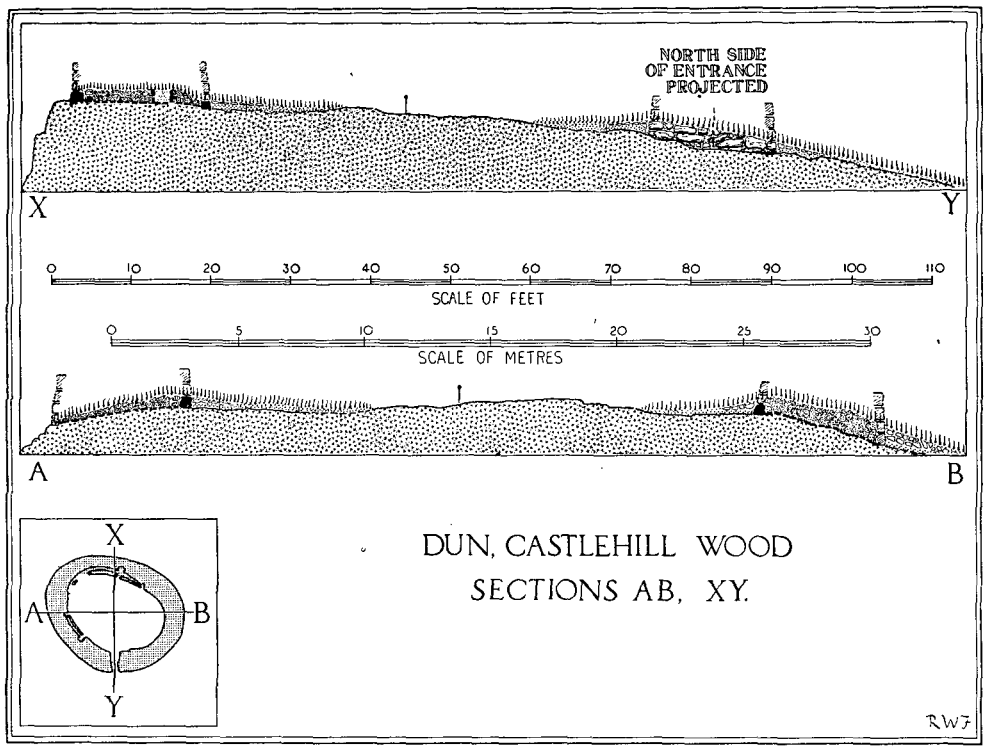


Fig. 8.

different vessels all of late 13th- or early 14th-century date. It is not impossible that the sheepfolds and ruined structures lying close to the SW. of the knoll upon which the dun stands may mark the site of a settlement occupied at this period from which such remains could have originated. But it may also be remarked that there must have been a good deal of movement in the countryside in this vicinity in the year 1314, at the time of the battle at Bannockburn, the site of which lies some 3 miles to the E. During the course of the movements of men before and after the engagement it is not impossible that relics such as these might have found their way to such a place.

(b) *Metal.*

Fragments of an iron ring (**7**) were found in the same cutting and on the same level as the native pottery. They consist of two small curved pieces of circular section which measure about $\frac{3}{16}$ in. in diameter and form part of a ring about $\frac{3}{4}$ in. in internal diameter (fig. 9, iv).

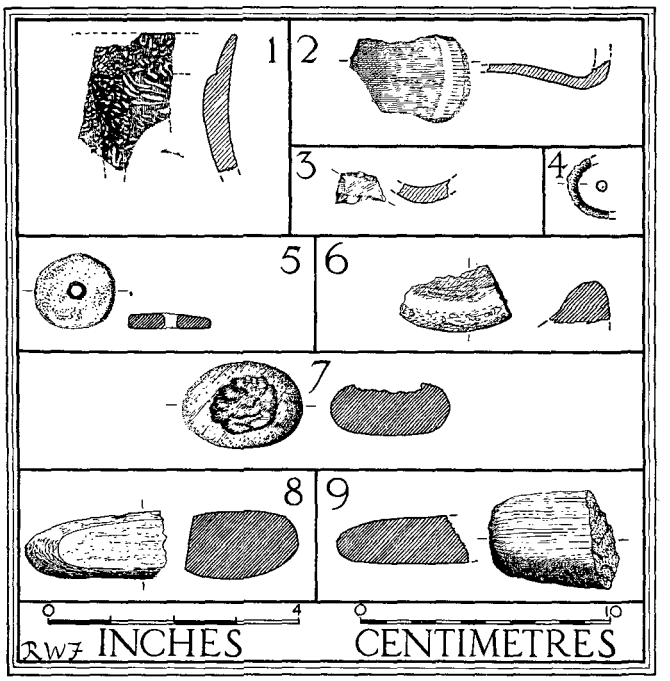


Fig. 9. Small finds.

(c) *Glass.*

Three pieces of Roman glass, the identity of which was kindly confirmed by Dr D. B. Harden, were recovered. One (**8**), a piece of purple glass flecked with white, measuring $2\frac{1}{5}$ ins. by $1\frac{3}{5}$ ins., formed part of the rim and side-wall of a pillar-moulded bowl.[1] It was found on the surface of the bedrock at a point 2 ft. 6 ins. outside the south corner of the outer end of the entrance. Such pillar-moulded bowls date from the 1st century A.D. (fig. 9, i).

[1] *British Museum Guide to the Antiquities of Roman Britain* (1951), pl. xi, 5. Pieces of similar glass were found at Dod Law, Northumberland and at Traprain Law, East Lothian—*P.S.A.S.*, LXXXVIII (1954–6), 209, 216.

A piece of clear blue-green glass **(9)** forming part of the bottom and the side-wall of a large cylindrical bottle was found in the south-west sector, and another piece **(10)**, from a similar vessel, came from the north-east sector. Such bottles were made in the 1st and 2nd centuries A.D. (fig. 9, ii, iii).

(d) *Stone Articles.*

1. *Quernstones.*—Part of a well-made saddle quern **(11)** of mica garnetiferous schist of Grampian or erratic origin was found protruding from beneath the boulder forming the north cornerstone in the lowest course of the inner end of the entrance. It was possible to remove it without disturbing the boulder, but it seemed probable that it had been laid by the builders of the wall as an eke-stone in the position where it was found. It may, therefore, either have been among the belongings of the builders when they started work or have been picked up by them on the site (fig. 10, i).

About half the unfinished upper stone of a rotary quern **(12)** of foliated quartzite of Grampian origin was found on the surface (see Section II, *supra*) among debris from the core of the north arc of the wall. It is evident from the condition of this object that its maker had first selected a suitable small boulder and then roughly dressed the face destined to be the grinding surface. Before shaping the outside of the stone to conform to a circle or finishing the upper surface into a regular dome, and before finally smoothing off the grinding surface to more uniform degree of roughness, he had begun to make what was intended to be the central hole, boring from either side on slightly different axes. The grain of the stone suggests that it must have broken quite easily while these borings were in progress, while the profile of the fragment indicates that the finished article would have measured about $4\frac{1}{2}$ ins. in height and 36 ins. in circumference (fig. 10, ii).

Two other fragments of upper quernstones were recovered. One **(13)**, representing about one-sixth of the whole stone, came from the west sector. It is of flattened form, increasing in thickness from $1\frac{1}{4}$ ins. at a point 1 in. from the outer margin to $2\frac{3}{4}$ ins. at a very slight collar round the lip of the central hole and originally measuring 17 ins. in diameter. The other fragment **(14)**, though very much smaller, was from a generally similar quern. Both these pieces were of Grampian foliated grit (fig. 10, iii, iv).

Two upper stones and one lower one, probably of very similar date but belonging to a different people, were found in the broch at Torwood, $6\frac{1}{2}$ miles to the SE.[1] They are shown for comparison in fig. 11.

2. *Anvil Stones.*—Three sandstone slabs, each marked with groups of

[1] *P.S.A.S.*, VI (1864–6), 263.

pecked hollows on one surface, were found (fig. 12). On one **(15)** the marks form one group measuring $5\frac{1}{2}$ ins. in length by $2\frac{3}{4}$ ins. in breadth and $\frac{3}{4}$ in. in

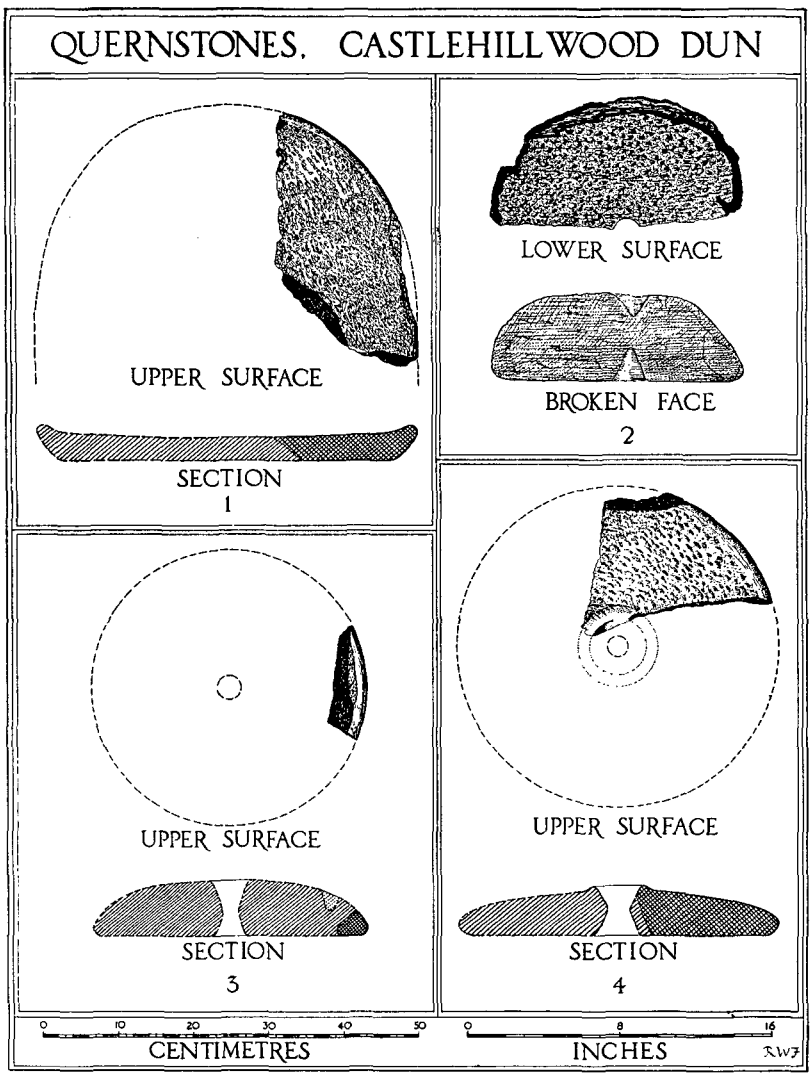


Fig. 10.

depth. On another **(16)** there are two groups, each a little over 1 in. in diameter and $\frac{1}{4}$ in. in depth. The third **(17)**, a much smaller stone, has one group of similar proportions to those on **(16)**. A few individual pecked depressions appear outside the main groups on the larger stones; each

measures about $\frac{1}{4}$ in. in diameter and about $\frac{1}{10}$ in. in depth. No explanation has been discovered to account for these marks, which must be the effects

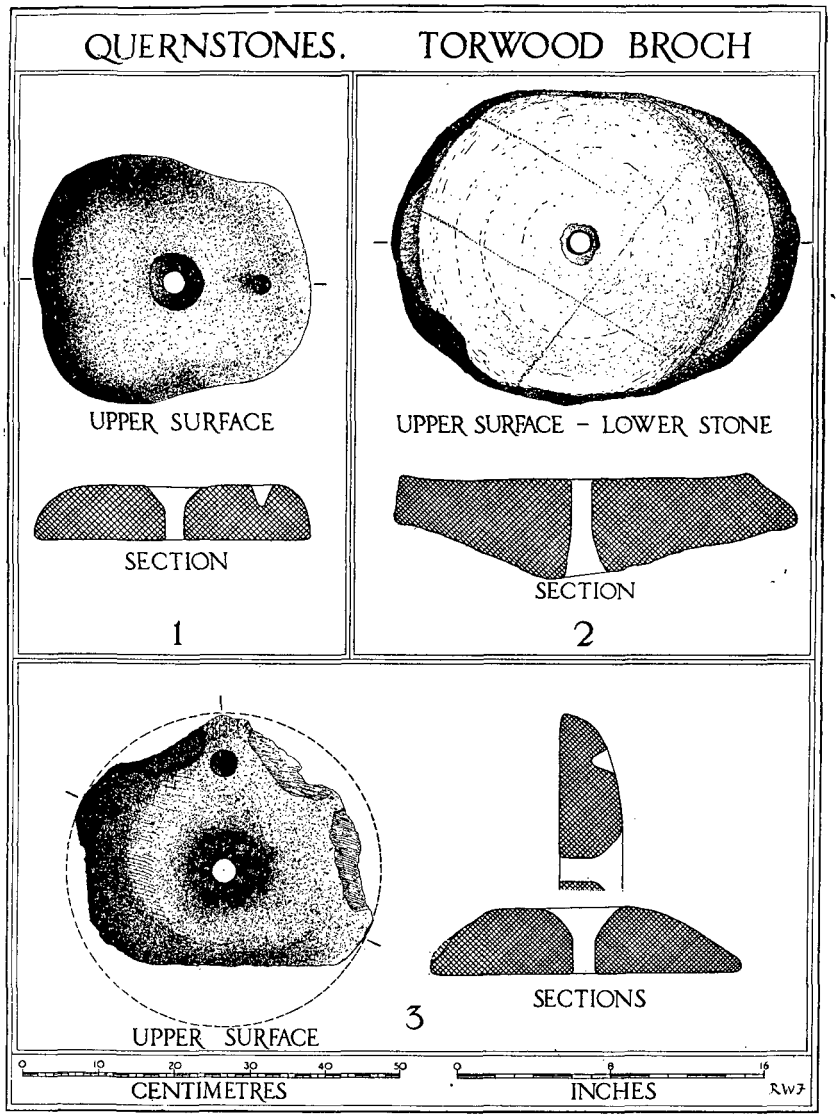
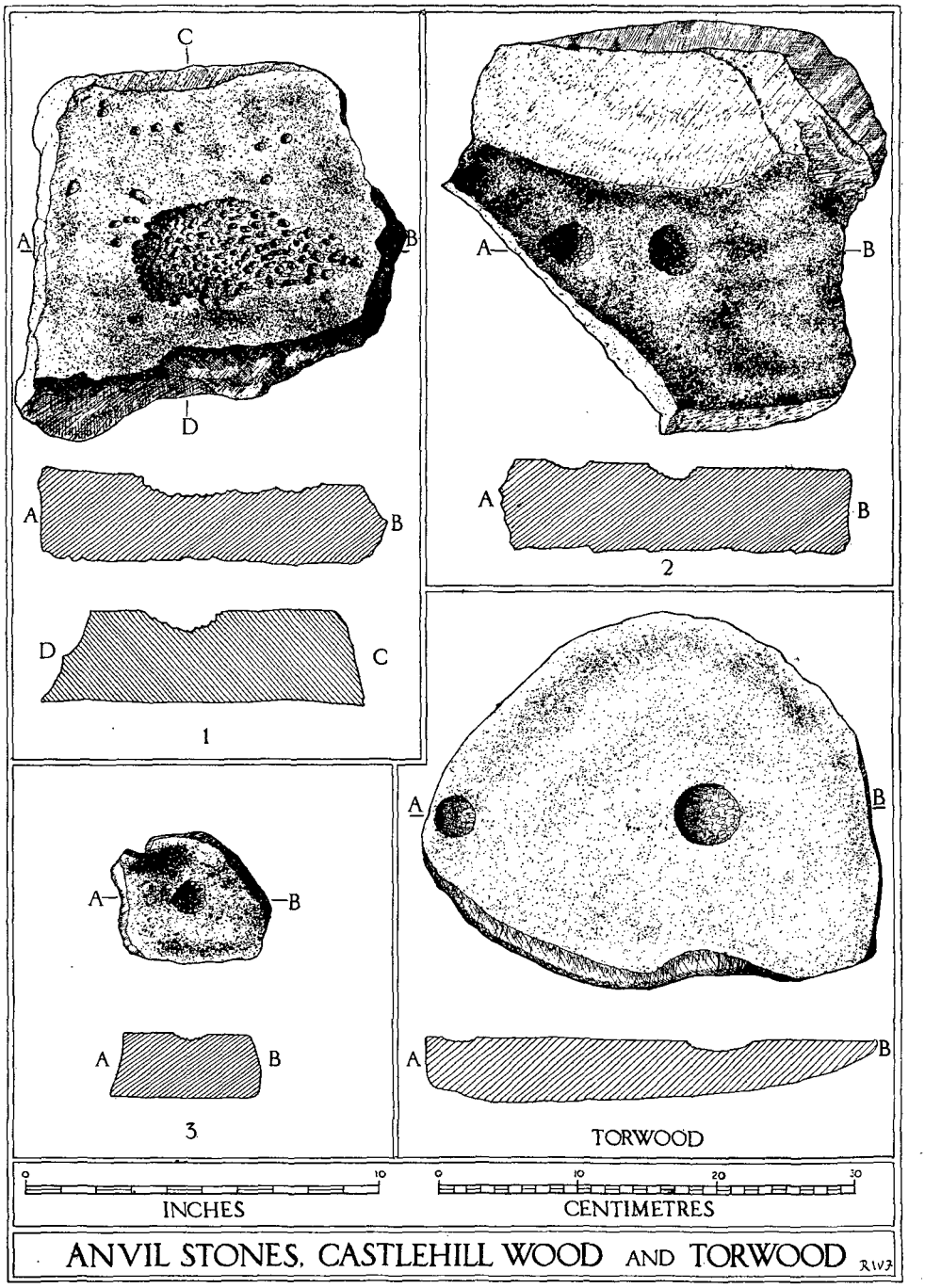


Fig. 11.

of percussion formed during some process of manufacture. Similar anvil stones have been noted from many other places, including one from Torwood broch (fig. 12, iv).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TORWOOD
INCHES
CENTIMETRES
ANVIL STONES, CASTLEHILL WOOD AND TORWOOD

Fig. 12.

3. *Small Stone Relics.*

(1) Whorl (**18**), irregularly circular, measuring about $1\frac{1}{4}$ ins. in diameter and $\frac{3}{8}$ in. in thickness, with a central hole $\frac{1}{4}$ in. in diameter: Greywacke (fig. 9, v).

(2) Whetstone (**19**), probably a little less than half a stone of etiolated grit of oval section (fig. 9, ix).

(3) Rubbing stone or polisher (**20**) of D-section: silicious grit (fig. 9, viii).

(4) Small anvil stone (**21**), a flattened ovoid pebble of volcanic ash (fig. 9, vii).

(5) Part of the rim of a hollowed stone of foliacious grit (**22**) used for some such purpose as a cup or lamp (fig. 9, vi).

In addition to these recognisable artifacts, numerous stones that had been used as pot-boilers were found throughout the interior of the dun.

(e) *Animal Bones*

All the small fragments of animal bones that were found in the vicinity of fire places were stated by Dr A. S. Clarke to be sheep bones.

(f) *Charcoal*

All the samples of charcoal from the occupation layer were identified by Dr E. M. Knox as Birch.

(g) *Coal*

Pieces of coal were found in the occupation layer in the south and south-west sectors. Dr Knox reported that the coal had been burned and thus yielded no spores on analysis. Outcrops of coal occur in the east and south Stirlingshire coalfields.

(h) *Ash and Clinker*

Ash and clinker were found in the mural chambers (Section III, 4 above). Deposits of ash were comparatively solid and compact when found but powdered freely when dry. The clinker was found in deposits which appeared to have been laid down gradually and to have accumulated into extensive masses from which pieces could be dug out or broken off. Analyses of these ashes show very similar results, indicating that they consisted largely of material such as straw mixed with earth. A possible explanation of their origin is submitted in Section V below.

	Analysis of ash.	Analysis of clinker.
SiO_2	59·82	64·12
Al_2O_3	14·80	14·98
FeO	1·36	0·96
Fe_2O_3	6·84	8·21
TiO_2	2·12	2·14
MnO	0·12	0·10
CaO	1·10	1·46
MgO	1·52	1·43
K_2O	1·45	1·67
Na_2O	2·26	2·62
H_2O −105° C.	2·60	0·38
H_2O +105° C.	5·40	1·97
CO_2	..	..
P_2O_5	0·74	0·11
	100·13	100·15

V. The Mural Structures.

(a) *Function.*

It is evident that fires were lit within the short entrance passages in each of the two structures; the irregularly-shaped pit in the larger one (A) may have been formed by the heat of the fires incidentally cracking the surface of the rock. That the structures were not used for work requiring high temperatures is shown by the absence of signs of fire on the wallings and by the fact that the ash was largely straw ash. Further, no slag or wasters were found, as must have been the case had metals or glass been smelted or worked, or pottery manufactured. In the absence of any other clue, the possibility presents itself that the structures may have been corn-drying kilns. A general account of such kilns is given below (Appendix I). Originally, the short entrance passages may have stood to a height of about 3 ft., to admit the attendant whose task it was to light and serve the fires. The chambers, of funnel form, may have opened out on the broad upper surface of the wall, where racks to support corn to be dried would have been laid. The flues or air ducts may have been no higher than their width—about 1 ft. 6 ins.—and have been used to assist and direct the flow of warm air from the fires up the funnels. A damper of wood or stone might have been used to block a flue in accordance with the direction of the wind.

(b) *Period.*

The question may arise, were the mural structures built at the same time as the wall in which they are situated or were they installed at some time when it was in a ruinous condition. The answer is provided by the

fact that the floors and the lowest courses of the walls of the chambers, passages and flues are on a level with or of one build with those of the interior of the dun and of the inner face of the dun wall. This could not have been the case if the mural structures had been built later than the period of construction and occupation of the dun, for debris and the accumulation of relics of occupation would by then have obscured the lowest courses of wall stones and the floor.

As stated in Appendix I below, arrangements for drying corn—an essential provision in the climate prevailing in Britain—have been recorded from many places and periods, from Skara Brae onwards, in northern Britain, and it cannot be matter for surprise that such installations should be found in such a place as the Castlehill Wood dun. It is only their occurrence in this form that is at present unfamiliar.

(c) *Clinker.*

The clinker appeared to be made up of carbonised straw fused with mud. A possible explanation of its formation is that the embers of successive straw fires were contaminated with earth, and that each successive fire served to harden and to increase the deposit. The earth may have been thrown in to damp down the fires after each operation, or may have seeped in with rain water. A comparable but much more recent deposit was found in a kiln in Aberdeenshire (Appendix I, 4).

VI. Conclusions.

The Castlehill Wood dun stands on a natural eminence to the contours of which its plan may be said to be accommodated. The well-built, massive wall, composed of an inner and an outer face and a rubble core, contains structures within its fabric and is probably equipped with a built-in flight of steps. It surrounds a comparatively small area the entrance to which is fitted with door-checks.

Thus far, the dun may be said to conform to the class of structure described by Childe as the "castle" [1]—the form of residence developed by scattered families, splinters from larger units dispersed by the effects of the Roman conquests in Gaul and Britain at the end of the 1st millennium B.C. and the start of the 1st A.D.

All known Early Iron Age monuments in the region except crannogs are shown in fig. 1.[2] The homestead at West Plean may be pre-Roman, while the forts must be either pre-Roman or post-Roman or both. No signs of forts occupied during the Roman period have yet been recognised

[1] Childe, V. G., *The Prehistory of Scotland* (1935), 197 ff.
[2] 1956.

here.[1] The brochs at Coldoch and Torwood may presumably be related to the period early in the 2nd century A.D., between the departure of the forces of the first Roman local occupation and the arrival of those of the second, during which interval it has been established that the comparable broch at Torwoodlee, Selkirkshire, was built.[2] At Castlehill Wood, the finds and structure present no features inconsistent with the date late in the 1st or early in the 2nd centuries A.D. suggested by the fragment of pillar-moulded bowl and supported by the other pieces of Roman glass. It may, therefore, be concluded that this dun, and possibly many, if not all, the others in the vicinity either originated in the 1st century A.D. and survived into the interval of 40 years between the two Roman incursions or that they originated, like the Lowland brochs, during that interval. In either case, destruction evidently followed hard upon the return of Roman forces to the neighbourhood at or about 139 A.D.

The area containing the main part of Stirlingshire and including all the Stirlingshire duns lies in the debatable land between the north extremes of the territories of the Votadini and the Damnonii and that of the Picts to the N. (fig. 13).[3] All the known or presumed duns in the former territories are shown on the map referred to, including the group in Galloway which may belong to the same period. It is clear that most of them lie in Damnonian lands. Although so few have yielded any dating evidence, the two that have been excavated have both yielded evidence to suggest that they were in occupation from at least the middle of the 1st century A.D.[4] If, as seems likely, therefore, Castlehill Wood dun and its immediate neighbours are Damnonian, they may represent the settlements either of original Damnonian settlers in the early or middle parts of the 1st century A.D., or those of Damnonians who seized the opportunity to expand into territory abandoned by the Romans early in the 2nd century A.D., just as did the builders of the Lowlands brochs. The finds at Castlehill Wood comprise the remains of objects that might have been acquired by trade or as loot from Roman camps, together with native relics; and no object among them would have been out of place among the finds at Torwoodlee. Further, the tearing down of that broch, as witnessed by the manner in which its ditch was packed with wall-stones, may be paralleled in the jamming of the entrance passage at Castlehill Wood. The fact that the fate of the dun seems to have corresponded to that of the admittedly intrusive brochs may suggest that this dun, and presumably some, if not all, of the others in the vicinity, were the homes rather of 2nd-century than of 1st-century settlers. Querns and mutton bones suggest that they were independent agriculturalists; the mural structures, whether built for corn-drying or for

[1] *Cf.* Hownam Rings, *P.S.A.S.*, LXXXII (1947-8), 193 ff.
[2] *P.S.A.S.*, LXXXV (*1950–1*), 92 ff.
[3] *Cf.* Richmond, I. A., *Roman Britain* (1955), 41, fig. 2.
[4] *P.S.A.S.*, XXX (1895–6), 291–308 (rotary querns, etc., 296); *ibid.*, LIII (1918–19), 123 f.

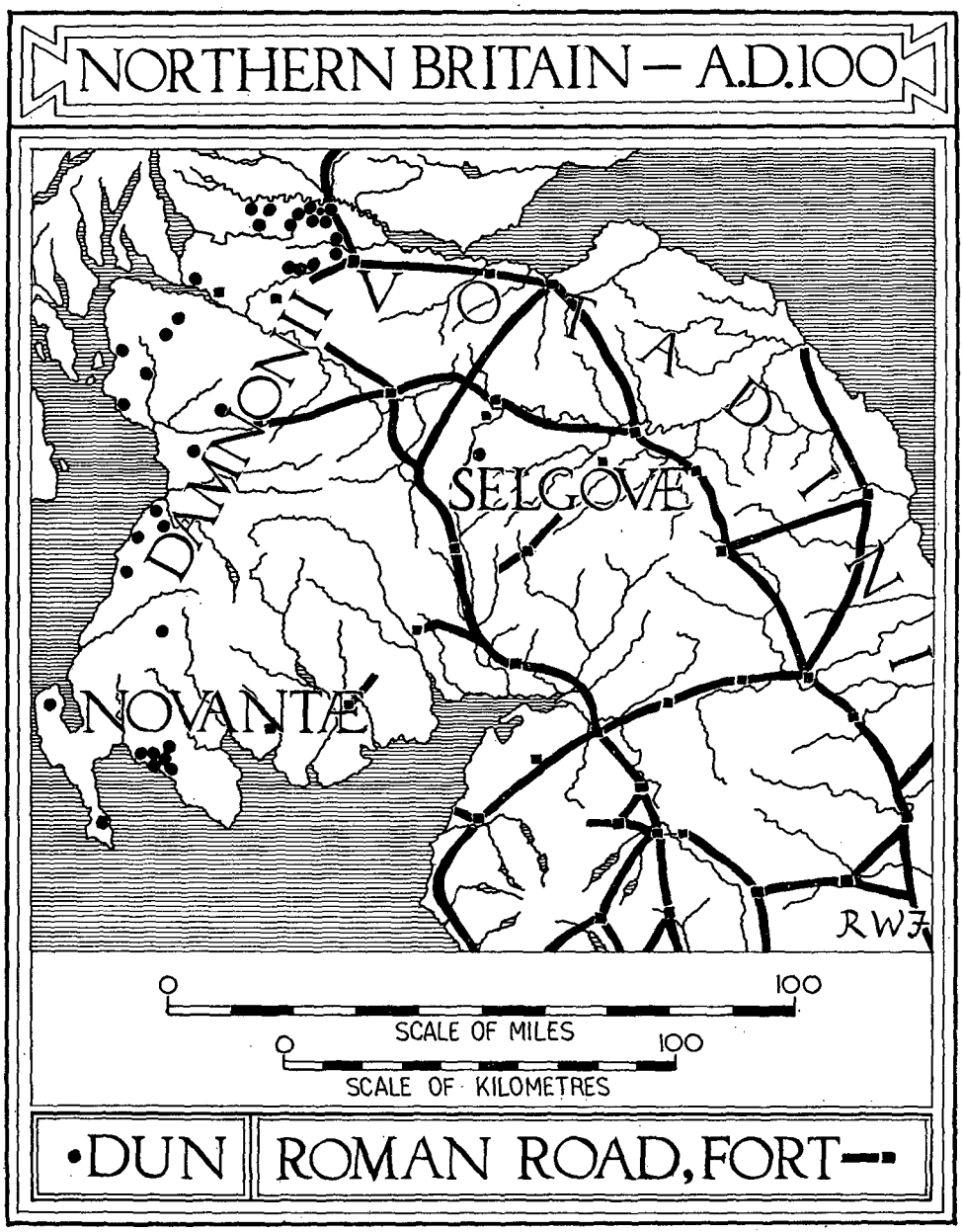
NORTHERN BRITAIN — A.D.100
DAMNONII
VOTADINI
SELGOVÆ
NOVANTÆ
RWJ
0
100
SCALE OF MILES
0
100
SCALE OF KILOMETRES
•DUN
ROMAN ROAD, FORT

Fig. 13.

some other purpose, indicate a creditable degree of accomplishment and of adaptability in the designers and builders.

In addition to the duns shown in the area included in the map, a great many others exist in Argyll, Inverness-shire and the Western Isles and a few elsewhere: no full account has yet been given of the number and distribution of these. Among the very few that have been excavated, evidence has come to light which shows that some of them were occupied during the Early Christian period, but until a great many more have been

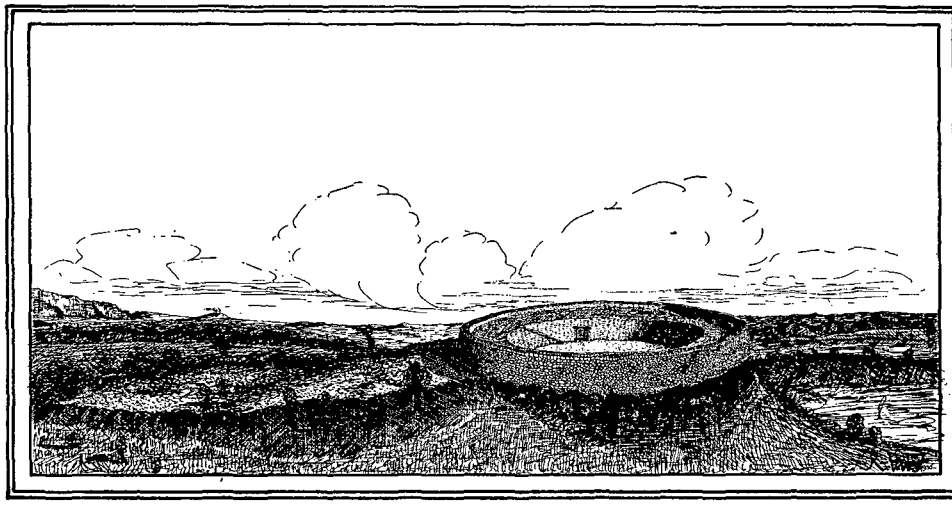

Fig. 14. Conjectural reconstruction, Castlehill Wood dun.

examined it will not be possible to say whether such occupation was generally primary or whether it represented the use during that period of defensive walls originally built in the 1st or 2nd centuries A.D., as the occasional relic such as a piece of Samian [1] may be thought to insist.

APPENDIX I.

Corn-drying Kilns.

In a paper devoted to describing the structure and distribution of various types of corn-drying kilns [2] Scott cited as pre-Roman examples Hut 8 at Skara Brae, Orkney, as a certainty, and one of the houses at Rinyo, Orkney, as a probability. He also listed the barn devoted to the purpose at the Iron Age

[1] *P.S.A.S.*, LXXIII (1938–9), 185–228.
[2] *Antiquity*, XXV (1951), 196–208.

farm at Unival, North Uist,[1] and the similar structure at the comparable steading Tigh Talamhanta, Barra.[2]

In his general discussion, Scott established three main types of corn-drying kilns to which most examples belong. The first type consists essentially of a barn in one part of which corn is piled on a shelf or a rack, the heat for drying it being provided by a fire built elsewhere within the barn. The fire may either be at some distance from the corn, as when the latter is placed on a solid shelf or platform, or almost underneath it, when it is on an openwork rack. No flue for directing the flow of warmth is involved in this type of structure. The prehistoric examples mentioned above are all varieties of this type, as are recent and contemporary examples from the Faröe Islands, northern Shetland and Wales described by Scott.

In the second type, the heat from the fire is conducted along a short flue which opens either below a rack or at the base of a low, funnel-shaped chamber. This contrivance removes the fire from the immediate neighbourhood of the corn and so promotes safety, even though the fire is still within the barn. Scott shows modern examples of varieties of this type from southern Shetland, Orkney, the Hebrides and Ireland.

The structure of the third type consists of a tall funnel across the mouth of which a rack was placed to hold stems of corn in the flow of warmth introduced through a flue, the inner mouth of which is situated in the lowest courses of the side-wall of the funnel. The fire was built at the remote end of the flue; and, as flues measuring up to 30 ft. in length have been recorded, it is clear that this arrangement tends to reduce the risk of the corn being burnt. In some varieties of this type there is no covering such as a barn, and only a light shelter—if any at all—was placed over the corn drying at the mouth of the funnel. Scott cited examples from the Western Isles, Wales and Ireland, and further stated that it appeared probable that such structures had been used in other parts of Britain, quoting "a vague description" of one in Banffshire as an example.

That this type was, however, in general use up to the time when mills began to undertake the necessary drying of corn is now becoming increasingly clear, and numerous detailed descriptions and actual ruinous structures have been found.[3] Either in connection with a barn or in its simplest form "like a huge tobacco pipe,"[4] it has now been recognised from many widely-scattered localities, as the following examples will serve to show.

1. *Balmuildy*, Cadder, Lanarkshire (I SW.: NS/581717). Two corn-drying kilns were recorded among the ruins of the Roman station at Balmuildy,[5] and no suggestion was made in the report that they were anything but contemporary with the rest of the Roman buildings. In one, situated in the Commandant's house, the funnel, when excavated, stood to a height of three courses, expanding in diameter from "less than 4 ft." at the bottom to "over 5 ft." at the top. It had been heated through a flue 16 ft. in length which opened in a chamber in the west range of the building.[6] The other kiln, in the granary E. of the Headquarters building, had a flue 12 ft. in length.[7]

In connection with these examples it can be noted that two such kilns were

[1] *P.S.A.S.*, LXXXII (1947–8), 3, 4 and fig. 1.
[2] *P.S.A.S.*, LXXXVII (1952–3), 88 and fig. 3.
[3] *Cf.* Hamilton, J. R. C., *Excavations at Jarishof, Shetland* (1956), 192.
[4] *P.R.I.A.*, XXVI (1906–7), Section C, 265 ff. and pl. xx, 6.
[5] I am indebted to Dr K. A. Steer for kindly bringing these examples to my notice.
[6] Miller, S. N., *The Roman Fort at Balmuildy* (1922), 31, pl. xii A, and fig. 8.
[7] *Ibid.*, 27, pls. x B, and lviii.

found in the ruins of the Roman fort at Housesteads, Northumberland. One, in the east tower of the south gate, was considered to be undoubtedly of post-Roman date,[1] while the other, located in the south granary, might have been in use in Roman times.[2]

2. *Craignavar*, Glenalmond, Perthshire (LXXXIII NE.: NN/877318). This structure is situated in a deserted village near the left bank of the River Almond

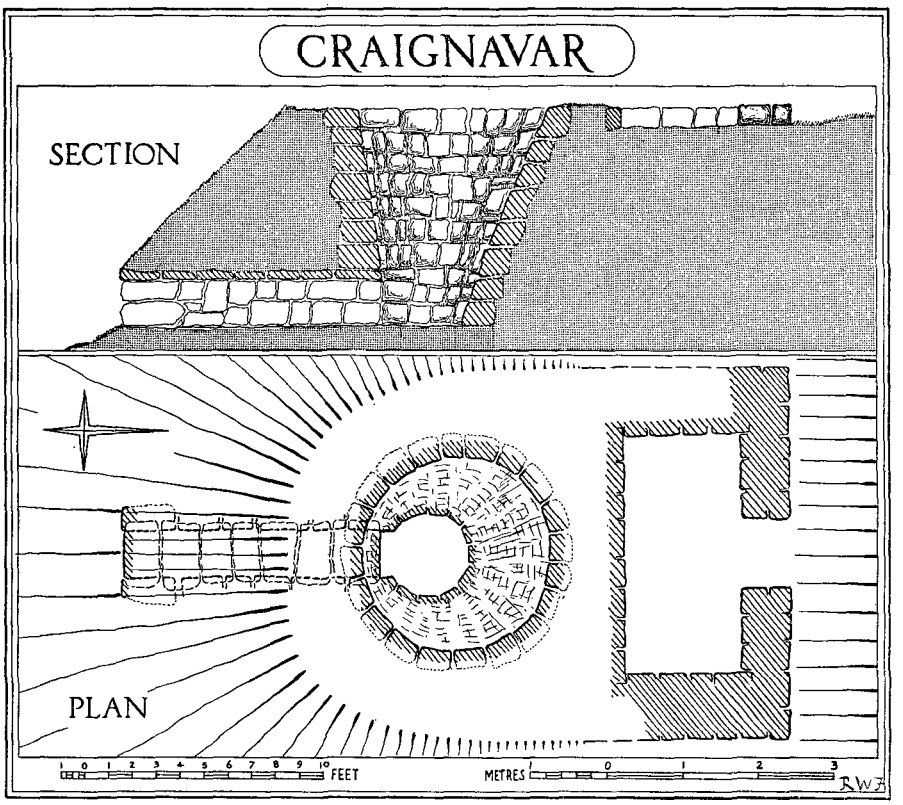

Fig. 15. Corn-drying kiln, Craignavar.

half a mile above Newton Bridge. It is built, as are many examples of this type, on sloping ground so that the flue lies at a level of 9 ft. below that of the mouth of the funnel (fig. 15). The latter, over which the corn was placed on a wooden rack, lies within a barn of which it occupies about one half. The rest of the covered space was doubtless used for storage. Similar kilns have been noted, for example, at *Big Bruach* and at *Little Bruach*, deserted villages situated on a tributary of the Duchray Water, Buchanan, Stirlingshire [3] (VII NE.: NN/420010).

3. *Cairn of Milduan*, Rhynie, Aberdeenshire (XLII NE.: NJ/477301). The ruins of a small agricultural settlement lie on level, open ground two-thirds of a

[1] Birley, E., *Housesteads* (1936), 13. [2] *Ibid.*, p. 16. [3] Forthcoming R.C.A.M., *Stirlingshire.*

mile NW. of the Tap o' Noth. They include the foundations of houses, enclosures and clearance cairns, and among them stands a stony mound, generally similar in appearance to a burial cairn, which is named Cairn of Milduan on the O.S. Maps.

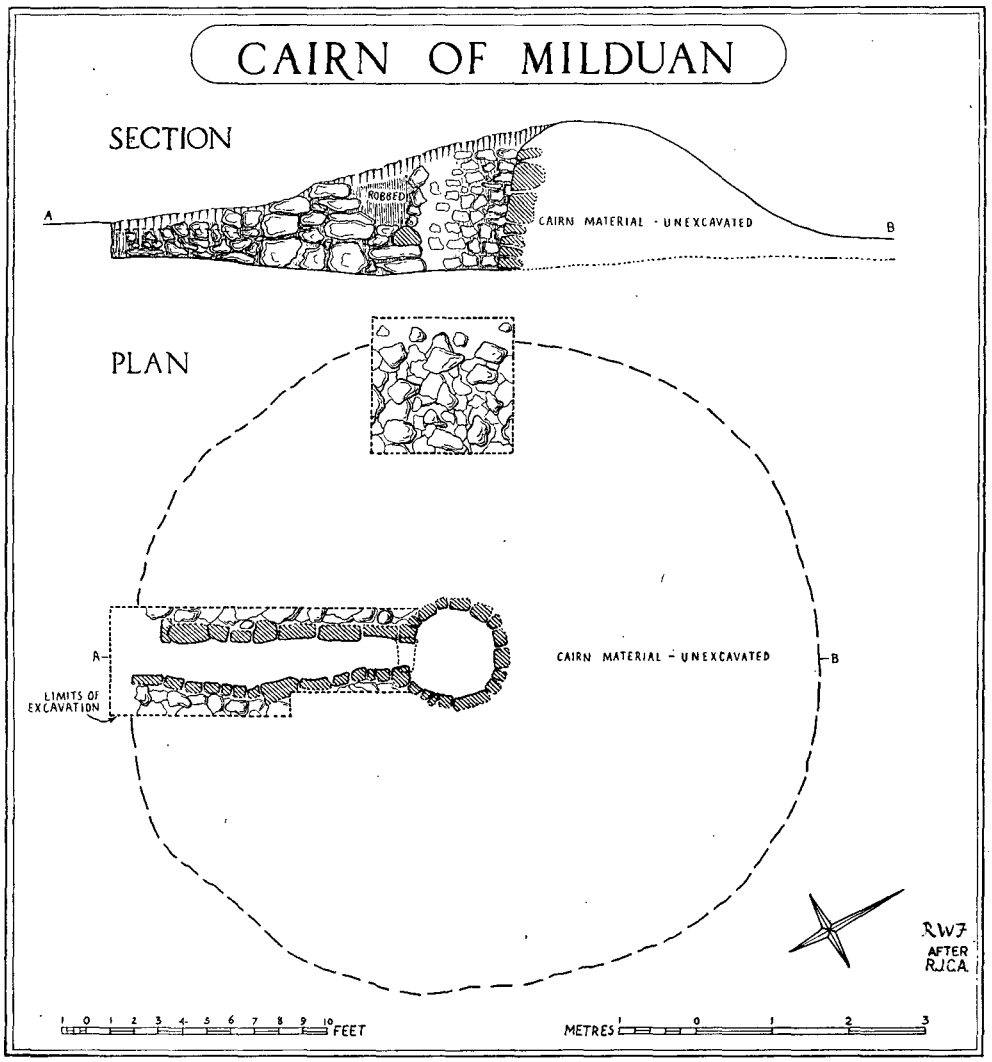

Fig. 16. Corn-drying kiln, Cairn of Milduan.

The mound was excavated by Mr R. J. C. Atkinson in 1952 [1] when a kiln was discovered within it (fig. 16). As the whole of the surrounding land is flat, and such a kiln needs to be built either in a slope or a mound, it is probable that the mound was raised purely as a seating for the kiln. The possibility that the kiln was constructed within a burial cairn of much earlier date cannot, however, be

[1] I am indebted to Mr Atkinson for kindly placing the results of his excavation at my disposal.

overlooked. In 1952, when the kiln was cleared of rubble, a single lintel stone of the flue—the innermost—was found *in situ* in the wall of the funnel, and it was recorded that the floor of the flue was in part covered with a deposit of decayed burnt matter in which carbonised straw could be distinguished (*cf.* Section V above). This deposit did not spread into the bottom of the funnel. There is a record [1] that in 1859 the mound was opened and "a stone cist found within a well-built chamber," but no relics were reported. It may be considered certain that the "chamber" was in fact the funnel of the kiln and probable that the "cist" was actually the inner mouth of the flue, the single lintel stone giving this appearance of a cist when viewed from within the funnel. The kiln must have been long disused by 1859: indeed, the very type of structure, once so familiar, must by then have become unknown, or it would have been recognised for what it was by the excavators.

Two structures that may also represent kilns built into mounds contrived for the purpose have been noted in Ayrshire. One, described and illustrated by Smith,[2] is *Hut Knowe*, Bonshaw, Stewarton (XII SE.: NS/375441), and the other [3] is close to it, on the east side of the road in front of *Bonshaw* farmhouse (NS/378443).

4. *Langlands*, Dunipace, Stirlingshire (XXIII NE.: NS/822854). After excavating the broch at Torwood,[4] Dundas turned his attention to a neighbouring knoll on the farm of Langlands which is crowned by the denuded remains of a small hill-fort.[5] At first disregarding the main structure, Dundas excavated a corn-drying kiln situated some 60 ft. N. of the fort, and he gave a brief report of the work, together with an excellent drawing, the latter by Captain Carey, R.E., who was then in the vicinity engaged upon the original Ordnance Survey. The fact that Dundas reported the kiln as a house suggests that he and his associates, like the earlier excavators of the Cairn of Milduan, were unfamiliar with this type of structure.

The following extracts from references to small corn-drying kilns may illustrate their very general use in northern Britain in the 18th and early 19th centuries A.D. on farms and holdings which, in some particulars, were circumstanced similarly to those of the Iron Age—for example, in that small quantities of corn were grown for local use and would require to be stored for some time, and that the climate demanded a degree of drying to ward off rotting and sprouting.[6]

"Formerly kilns for drying victual were miserable hovels covered with thatch; every farmer had his own kiln; the grain was placed upon rafters covered with straw, and innumerable accidents happened by fire." (*A General View of the Agriculture of Stirlingshire* (1812), p. 117.)

"Up to the middle of that century (18th) things were so backward that we may almost believe they had gone on in the same groove for the preceding 200 years. The very modes of tilling the ground were clumsy and ineffective. When attention was at last directed to agricultural improvement . . . the 12-oxen plough was thrown aside. . . . In 1795 a kiln was built, which cost for building the shell, the bricks, and laying the bricks, 36s. This was an improvement; previously the kiln had been a straw kiln, as was long the way on small places. In the straw kiln, the rafters of the kiln floor were pretty thickly laid, and when corn had to be dried, they were covered with a thin even coating of thatch, on which the grain

[1] Macdonald, J., *Place Names in Strathbogie* (1891), 277.

[2] Smith, J., *Prehistoric Man in Ayrshire* (1895), 85 and fig. 163.

[3] I am indebted to Dr K. A. Steer for information about this structure.

[4] *P.S.A.S.*, VI (1864–6), 258–65.

[5] *Ibid.*, 265 and pl. XV, 7, 8.

[6] Mr Angus Graham has brought to my notice an apposite reference concerning corn-drying in the Middle Ages: Major, John, *A History of Greater Britain*, 1521, *S.H.S.* (1892), Book i, Ch. ii, 8.

was laid. Great care had to be taken in turning the grain, lest the turner should put his foot through the rafters, and also great care lest the straw should catch fire. With all care, much of the grain fell through, and every now and then it had to be gathered out of the kiln mathie or empty space at the back of the fire. This half-charred mass was the kiln-logie, or simply the Logie, a term sometimes used yet for the charred tobacco in the bottom of a pipe." (*Transactions of the Banffshire Field Club*, 31st October 1889, pp. 53 and 61.)

". . . 50 years ago . . . Every farmer had his own kiln for drying his corns. A common kiln is now erected near each miln, where every farmer gets his grain dried at 6d. per boll." (*Statistical Account*, XVIII (1796), Kilsyth, 309.)

". . . almost every farmer was accustomed to have a kiln of his own, which not only required frequent reparations, but was extremely likely to accidents by fire." (*Statistical Account*, XVIII (1796), Kippen, 349.)

APPENDIX II.

LIMEKILNS, STONE-LINED PITS AND FOX-CONDUITS.

Certain features of various types of limekilns, stone-lined pits and fox-conduits resemble those of corn-drying kilns, and a short account of them will, therefore, not be out of place here.

1. *The Limekiln* takes the form of a steep-sided, stone-lined funnel, often about 6 ft. in height, constructed either in a mound prepared for the purpose or, more rarely, in a suitable low but steep slope. The limekiln has no flue: instead, there is a low opening in the wall at the base of the funnel through which the fire could be lit within the funnel and the burnt stone raked out. Limestone to be burnt was shovelled into the open mouth of the funnel in alternate layers with brushwood, and the whole ignited from below. Well-preserved examples may be cited at a point 130 yds. SSE. of *Garrique* farmhouse, Gargunnock, Stirlingshire (XVI: NS/661926) and in a steep bank near the ruined farmhouse of *Broomhole*, Fintry, Stirlingshire (XXII NW.: NS/644859). A particularly interesting example stands close to the N. of the Presbytery and Church of St Michael at *Ardkenneth*, South Uist (Inverness XLVIII: NF/759459). In July 1956, the Reverend John Morrison, S.L.T., stated that this had been constructed at the time when the Presbytery and Church were built, in 1827, for the sole purpose of providing lime for the builders. This is the only example of which the date of construction and use is known to the author.

2. *The Stone-lined Pit* such as that mentioned by Scott [1] belongs to a class of structure which, though closely resembling them in some particulars, is quite distinct in design and function from either the corn-drying kiln or the limekiln. No provision is made for introducing heat into it. The example mentioned by Scott was situated "on the hill near *Skelpick Burn Wood*," in Sutherlandshire (XXVII: *c.* NC/750525), and was said to have been used for cooking deer. A more recent note on some other similar examples, found near Kinloch Rannoch, suggests that they may have been used for storing meat, the carcasses, possibly salted, being insulated by bracken.[2] It is possible, too, that such a pit, suitably lined, would have been used as a tan pit, or even as a wolf-trap.[3]

[1] *Antiquity, loc cit.*, p. 201; *P.S.A.S.*, VII (1886–8), 272, 273.

[2] Eleventh Report, Scottish Regional Group, Council for British Archæology; *Discovery and Excavation in Scotland*, 1956, pp. 19, 20.

[3] *T.I.S.S.*, II (1880–3), 111.

3. *The Fox-conduit.* While the limekiln and the stone-lined pit may be thought to resemble the funnel of a corn-drying kiln without a flue, the fox-conduit may at first sight appear like a flue or duct without a funnel. It consists of a straight trench, measuring about 2 ft. in width and 3 ft. in depth and perhaps 20 ft. in length, the ends and sides of which are lined with drystone walling. The tops of these lining walls are nearly or quite level with the surface of the ground, so that when lintel stones are placed over them these may lie level with the turf or be partly or wholly covered by it. One lintel near the end of the row is omitted, leaving the only opening into the stone-lined trench. The structure is so designed that a fox, whose nature it is to creep into a cave or crevice among rocks, will find its way within either by chance or tempted by bait securely fixed near the closed end of the conduit and so be found cornered by the gamekeeper and his dogs.[1] Two examples of "fox-cundies" may be mentioned; one lies within the small vitrified fort of *Craigmarloch Wood*, Kilmacolm, Renfrewshire (VI NE.: NS/344718) and one on the upper western terrace on *Traprain Law*, Prestonkirk, East Lothian (XI NW.: NT/581746). That the latter was built subsequently to 1923, the year in which the Curle–Cree excavations ceased, is suggested both by the fact that no mention of it has been found in the Reports of those excavations and that the upper stone of a rotary quern was observed built into the wall of the fox-conduit when this was visited in April 1956.

[1] I am indebted to Mr Andrew Lorimer, Mossfennan, Peeblesshire, for an explanation of the function of the fox-conduit. See also Worth, R. H., *Dartmoor* (1953), 157–62.

[*Photo: K. A. Steer.*

1. Altar of the *vikani*, Carriden.

2. View of the site from W. before excavation.

I. A. Richmond and K. A. Steer; R. W. Feachem.

1. Outer face of wall, NE. arc.

2. Entrance passage from E.; ranging poles in door checks.

R. W. Feachem.