

II.

EXCAVATIONS OF IRON AGE DWELLINGS ON THE CALF OF EDAY IN ORKNEY. BY CHARLES S. T. CALDER, A.R.I.A.S., F.S.A.Scot.

In an earlier report to this Society on the excavation of some prehistoric constructions on the Calf of Eday,¹ I finished up with a brief note on a building which then had only been partly opened up and hurriedly examined. It was referred to as Structure No. 3, and the theory was propounded that it had been in use as a "Potter's Workshop" in the last stage of its occupation, which, according to Dr Callander's report on the pottery, was ascribed to the Iron Age. Last summer I revisited the site, and laid bare the whole of the structure along with the remains of several chambers, presumably later, which lay adjacent on the south-east. The result of this investigation enables me to produce a complete plan of all that remains (fig. 1) and to furnish a complementary account of the buildings.

Originally the "Potter's Workshop" was a dwelling, and though there has been little structural alteration, evidence of its later phase as a workshop presents itself in details here and there, such as the building of a secondary piece of walling or the spread of peat-ash over a layer of black earth accumulated on the original floor. It is suggested also by the pottery and the rude stone implements, all of which are assumed to belong to the later occupation. If some of these relics are earlier, they could not be distinguished from the rest as all exhibited the same coarse quality or rudeness of workmanship. Many of the implements lay immediately under the foundations of a still later wall or dike surmounting the mound,² others lay just below the grassy surface, and even on top of the ruined wall of the dwelling itself. The remainder, with pottery in great profusion, was found throughout the infilling of stones and earth almost down to the original floor. But in the disturbed and churned up state of the interior, due to earlier investigations, none could be grouped according to definite levels.

The first-mentioned building is roughly circular on plan (fig. 1), and measures from 38 feet to 41 feet in diameter. There is only one chamber contained within the wall, which, where best preserved, is from 7 to 8 feet thick,³ but the walling is much destroyed and its faces in many parts

¹ *Proc. Soc. Ant. Scot.*, vol. lxxi. pp. 115-54.

² *Proc. Soc. Ant. Scot.*, vol. lxxi. p. 116, fig. 2.

³ In the first report a maximum thickness of 14 feet 6 inches was stated, but this measurement is now found to include the size over a compartment built against the interior face and not then discovered.

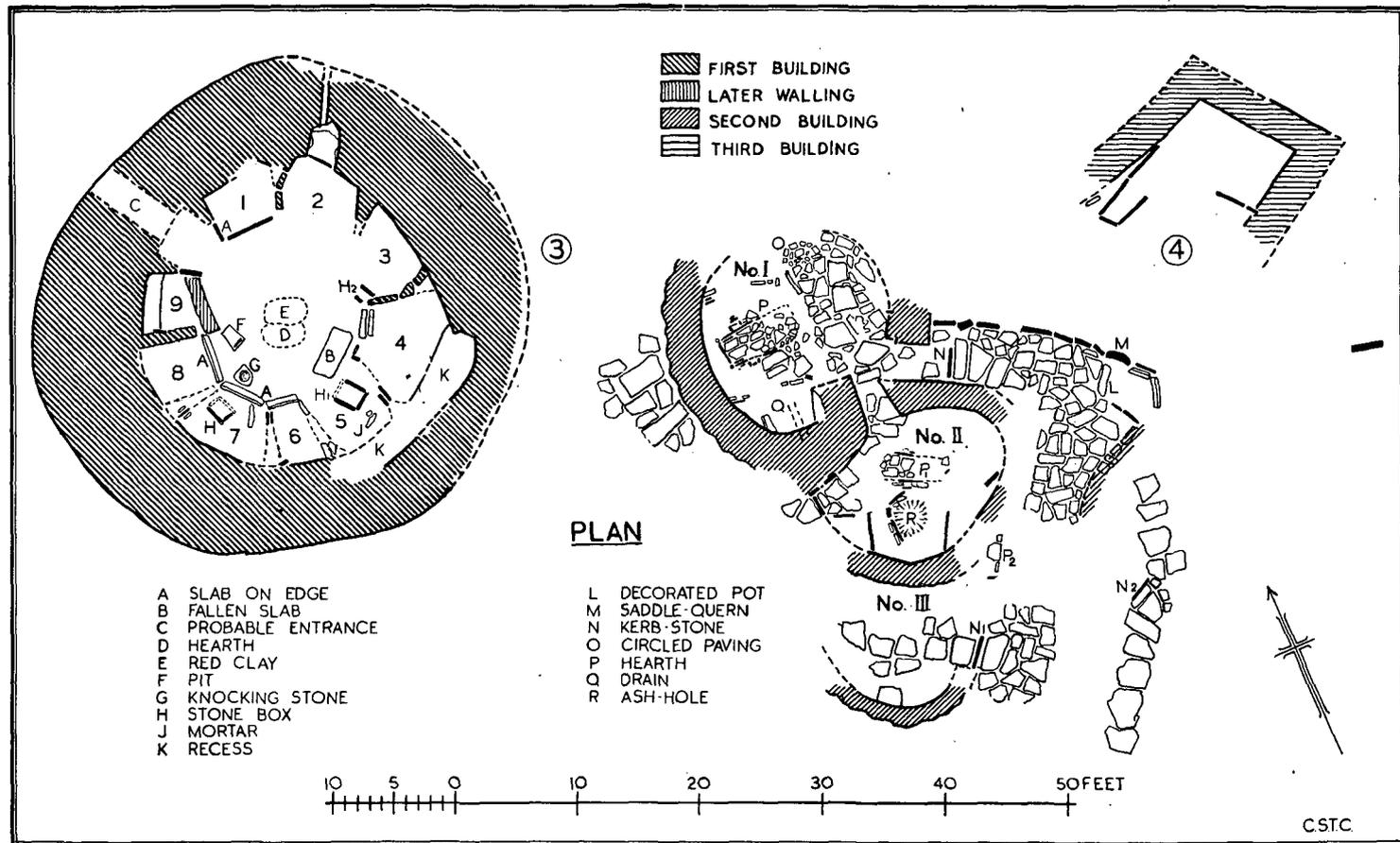


Fig. 1. Calf of Eday: Plan of the "Potter's Workshop" (Structure No. 3), later Iron Age Dwellings and Structure No. 4.

have disappeared altogether. Surviving portions on the outside do not exceed 1 foot 6 inches in height, and on the inside 3 feet 6 inches. The over-all diameter of the interior is some 24 feet 6 inches, but a series of nine small compartments, arranged round the wall-face, reduces this dimension to 14 feet 6 inches. These compartments, numbered 1 to 9 on the plan, are in a very dilapidated condition, but, from the evidence of stones remaining either set on edge or laid on bed, each has been separated from the other by radially set partitions. Four of them, Nos. 1, 6, 7 and 8, have been divided off from the central space by long low-set slabs (marked A in fig. 1), set on edge across the fronts of the compartments, and rising from 1 foot 3 inches to 1 foot 10 inches above the original floor.¹ These slabs are now loose and inclined inwards to the compartments. Another slab, B, which had fallen out of position, may have closed off Compartment 5. There is a suggestion of walling across the fronts of Nos. 3 and 4, and No. 9 has been entirely closed off by a wall obviously built in the later period. In general the compartments, which vary in size and shape, average about 5 feet 6 inches in breadth and from 4 to 5 feet 6 inches from back to front, with the exception of Nos. 4 and 6, which are respectively narrower and broader than the others. The placing of the slabs is reminiscent of primitive bed construction, especially in No. 1 Compartment, but certain features in others show that not all have been used for sleeping accommodation.

A narrow space, not closed in as a compartment, is left between Nos. 1 and 9, and this is the only conceivable part where an entrance to the chamber could have been situated, since the main wall is defined elsewhere by either an inner or an outer face. Dotted lines at C indicate the probable course of its penetration, but no distinct trace of the entrance was actually observed in the broken-down wall.

The central space and each compartment was very well laid with close-fitting paving-stones, the floors in the compartments being just slightly higher than that in the centre. An exception is made of the floor of Compartment 4, which was of clay, but it is thought that the paving here had been removed.

In the previous account mention was made of a pavement slab serving as a hearth, D, a quantity of red clay, E, a stone-lined pit, F, and a knocking-stone, G, all situated in the central area. Two recesses, referred to as R₁ and R₂, were also recorded, but in the light of the subsequent investigations these are now figured as Compartments 1 and 8. Two stones in the latter were then stated to be the stumps of upright slabs, but only one of them is so, and it probably formed part of a radial partition. The other, actually in Compartment 7, is now seen to be the side of a stone box, H, of which one end also remains, as well as its bottom, consisting

¹ *Proc. Soc. Ant. Scot.*, vol. lxxi. p. 131, fig. 13.

of several flat stones sloping from the sides to a level one in the middle. The box measured approximately 1 foot 8 inches long by 1 foot 6 inches wide, and from 6 to 10 inches deep, and it had been made perfectly water-tight by the application of clay-luting to the joints. Another of similar type, H₁, but with only a single flat stone for a bottom, was sunk in the floor of Compartment 5. One end was missing, but the box had measured 2 feet 2 inches by 1 foot 9½ inches and 13 inches deep. A very careful luting of red-tinged clay filled and covered the joints, and inside the box there was a large lump of yellow clay besides two rude stone implements and some fragments of pottery.

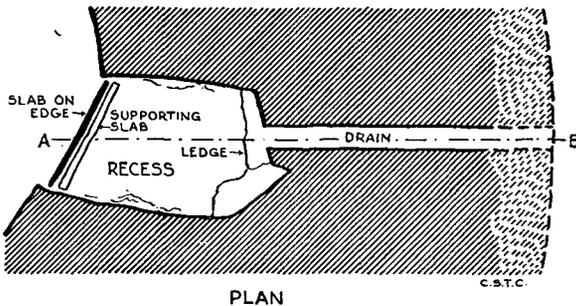
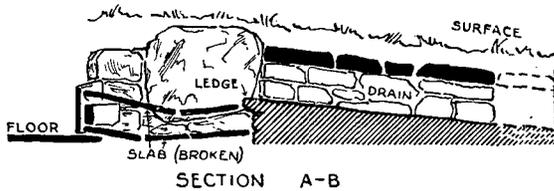


Fig. 2. Calf of Eday, "Potter's Workshop": Plan and Section of Recess in Compartment No. 2.

measures 2 feet 6 inches wide by fully 3 feet deep from front to back, and 1 foot 7½ inches in height to the top of its broken-down walls (fig. 2 and Pl. LXVII, 1). The back is irregular in shape, and it possesses a rough ledge like a scarcement, 5½ inches above the floor, from which level a well-constructed covered drain pierces the main wall. The drain is 7½ inches high by 4 inches wide, and has a fall of 6 inches from inside to outside in its present intact length of 4 feet. Jammed across the front of the recess a thin slab, 10 to 12 inches high and ¾ inch thick, stood on edge on top of the paving which constituted the floor. Close behind it a lower thin slab on edge only 5 inches high, acted as a frontal support to a horizontal slab filling the recess in line with the scarcement, and seeming to have rested on a stone projecting slightly from each side wall. The horizontal slab had caved in to the hollow space left between itself and the floor. It had been fractured by the weight of well-built masonry, superimposed later but now removed, which filled the remainder of the

measures and some fragments of pottery. There was also a small quantity of yellow clay outside the box end, and just south of it two pieces of the same stone, J, reused on edge, were found to be parts of a broken bowl or mortar. Two ill-matched slabs on edge, H₂, lying parallel to one another at the south front angle of Compartment 3, resemble the sides of a box, but may be nothing more than the lowest stones of a former partition across the front.

An outstanding feature in the main wall of Compartment 2 is a recess which

recess and covered the opening to the drain. The outlet of the drain being above the floor suggests that the recess had contained some form of a raised sink, but there was no sign of clay-luting anywhere to suggest a water-tight receptacle.

In the back wall of Nos. 4 and 5 there has been formed one or perhaps two large recesses measuring 3 feet 6 inches from back to front and having a bottom raised 1 foot 2 inches above the floor. Otherwise it is very much ruined and featureless. At the western corner of No. 4 a thin slab rising only 3 inches above the paving is earthfast on edge in the floor, and through it a hole of $1\frac{1}{4}$ inch diameter has been pierced as if for the attachment of a tether. A lump of prepared clay was found in the corner diagonally opposite. The face of the back wall of Compartment 9 is reduced to a height of only 1 foot above the floor, and at this level the edge of a broken shelf sticks out of the masonry. Three rude stone implements were found lying on the southern corner of this shelf.

Ashes from peat fires, already noticed to have covered a large part of the centre of the chamber and abundant in Compartment 8, were present in most of the other compartments on the east. In parts the ashes extended well over Nos. 5, 6, and 7 in a fairly regular layer from 1 foot to 1 foot 6 inches above the floor on which, in the space between, there was an accumulation of black earth. Amongst the ashes were pieces of calcined bone and bits of pottery, and it may be mentioned that a rim piece of the only shouldered vessel came from a point high up in No. 4 compartment, and two pieces of steatite vessels were picked up between Nos. 6 and 7, also high up (Pl. LXXI, No. 2, and fig. 4, Nos. 18 and 19).

In the first report on the pottery Dr Callander stated that an extraordinarily large quantity of this material, some 42 lbs. in weight, had been obtained. To that amount has now to be added another 28 lbs., which brings the total yield from this single chamber up to 70 lbs., and still further strengthens the idea that here was the workshop for its manufacture.

Lumps of pumice-stone, smoothed by rubbing, and probably used in the manufacture of bone tools, were again present in the ruins, and stone implements practically doubled themselves in number, while saddle-querns were more numerous.

A detailed list of the implements, in addition to those previously enumerated, is appended at the end of this paper. Altogether there is a formidable number, comprising, as represented by whole or broken relics, one knocking-stone, one bowl or mortar, six or seven boat-shaped saddle-querns,* six holed stones for tethers, fifty-seven various tools

* Since writing the above, Mr Edwards, Director of the National Museum of Antiquities of Scotland, has informed me that "sharpening stones" approximate very closely to small boat-shaped or saddle querns, so that some of the objects so described may really have served as sharpening stones.

including hammer-stones, pounders and club-like implements; eleven pot-lids or probable lids, twenty-three pieces of pumice-stone,¹ one stone with pecked-out cup-like hollow, and about one hundred and fifty unworked chips of beach-stones sometimes referred to as knives.² There were also two thin flat stones, notched at the sides (Pl. LXX, No. 6), which are almost identical in size and shape with objects of cetacean bone found at Foshigarry, North Uist.³ Many of the implements are somewhat similar to those found by Dr Curle at Jarlshof⁴ and at Wiltrow⁵ in structures definitely associated with the Early Iron Age. All these relics, therefore, like the pottery, may be assigned to this period; this agrees with the evidence of the original structure itself. The character of the building, with its radial partitions, is reminiscent of the pre-broch chambers of this type at Jarlshof,⁶ and also of the post-broch chambers at the same site, as well as of some of the Hebridean wheel-houses like that at Foshigarry.⁷

To judge from the examples at Jarlshof alone it will be apparent that structures with radial walls had been a common type of dwelling for several centuries, and a comparison of the plans (fig. 3) shows that the lay-out of the one on Eday most closely resembles that of the later post-broch buildings at Jarlshof. The main function of the radial partitions seems to be to achieve an increase of the floor space together with a reduction of the main span to more workable dimensions for roofing over in dry-stone. The lesser dome brought about by this method is an economy of both material and labour, and the radial walls, by acting to some degree as buttresses and bearing part of the weight of the roof, strengthen the fabric and relieve the main walls of much of the thrust that would otherwise be wholly imposed upon them.

So far as could be ascertained, the building was not structurally attached to any other, but only 7 feet away there are the scanty ruins of presumably later dwellings on the south-east (fig. 1). Their masonry is entirely different, the walls being thinner and of an inferior standard of workmanship, while radial walls are absent and there are no close similarities in structural features. Two periods of occupation are represented, the earlier being recognisable only by the remains of two hearths and portions of paved floors. Consequently what is seen on the plan is mainly

¹ *Proc. Soc. Ant. Scot.*, vol. lxxv. p. 324. Forty-six pieces of pumice-stone were found in a dwelling at Foshigarry in N. Uist; *ibid.*, vol. xxiv. p. 461. Seven pieces of pumice-stone found at Howmae, N. Ronaldsay.

² *Ibid.*, vol. lxxiii. pp. 266-7; *ibid.*, vol. vii. pt. i. pp. 213-5.

³ *Ibid.*, vol. lxxv. p. 307, fig. 1 (1).

⁴ *Ibid.*, vol. lxxvii. p. 97, fig. 13, Nos. 1 and 3; p. 107, fig. 22, Nos. 2 and 3; *ibid.*, vol. lxxviii. p. 234, fig. 7; p. 300, fig. 61; p. 308, fig. 66, Nos. 1, 2, 3, 4, 5, 8 and 9.

⁵ *Ibid.*, vol. lxx. pp. 159-161, figs. 7, 8 and 9.

⁶ *Ibid.*, vol. lxxviii. p. 224 ff.; p. 225, fig. 1, Chamber III, with compartments *p, o, b, l and n*.

⁷ *Ibid.*, vol. lxxv. facing p. 356, pl. ii, Chamber A.

the lay-out of the walling of the later occupation. To it belong at least a passage and three chambers, numbered I, II and III. The outline of each is incomplete as a result of spoliation of the walls, which have been reduced in height to only one or two courses or else have disappeared altogether. In many places the floors were only a turf in depth below the surface, and almost all the principal features have been swept away (Pl. LXVIII, 1). The outside wall-faces do not appear to have ever

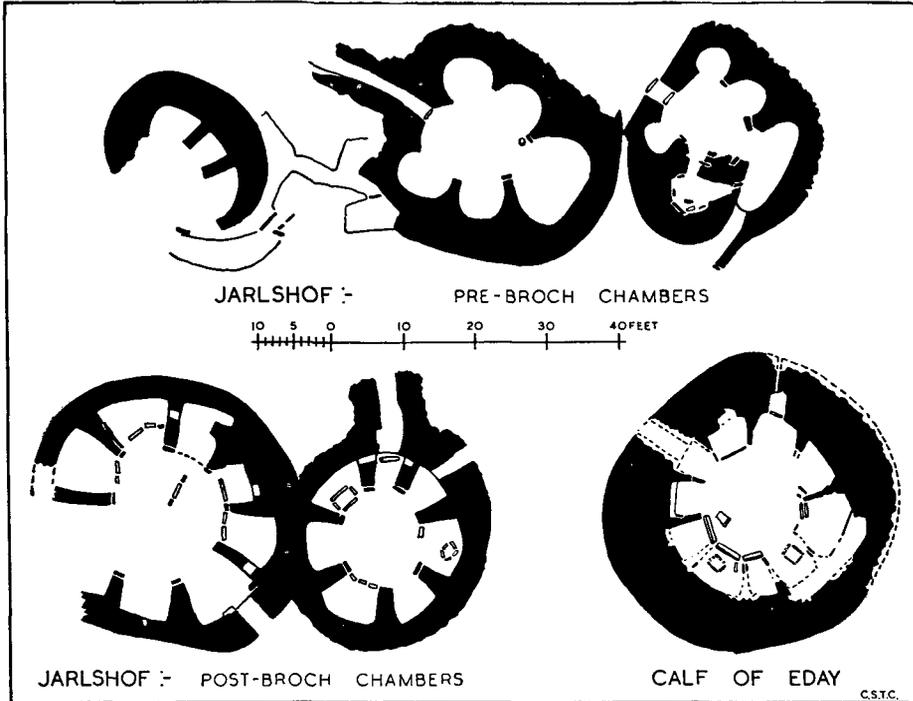


Fig. 3. Comparative plans of the "Potter's Workshop," Calf of Eday, and dwellings at Jarlshof.

been properly faced but to have been left rough and uneven. This condition tends to suggest that the lower courses at least had never been exposed but had been sunk into the debris of the earlier occupation, consisting of loose stones and black earth.

It is probable that the buildings had extended farther southwards where a grassy covering shows that the ground has been disturbed in contradistinction to the virgin growth of peat and heather surrounding it. Trenching in this area, however, yielded no satisfactory trace of actual building, although loose building stones and small burnt stones were everywhere met with.

The area occupied by the actual buildings measures some 50 feet by 40 feet. On the north-east it impinges on the low mound of Structure

No. 4, and on the north it extends into the hollow beside it.¹ The part next the mound is occupied by the passage which leads into Chamber No. I, but it is much broken down, and the main entrance at its outer end was not found. The passage may have taken a course round No. II Chamber before returning north-westward to the door of No. I, where it measures 19 feet long in this direction by 4 to 5 feet wide. The whole has been paved with rough flags (Pl. LXVIII, 2), which rest on an accumulation of black earth, 8 to 10 inches deep upon the natural clay. In this layer of earth at a point marked L on the plan, the only decorated fragments of pottery with small pit-ornamentation were found, and also some pieces of prepared clay. The pottery, however, being under the paving could not actually be associated with the dwelling, and it may indicate an occupation still earlier than any that has been discussed. The wall on the north-eastern side of the passage was poor and consisted simply of a row of stones set on edge, which were backed by fine rich black earth and small burnt stones. The stones ranged from 1 foot 2 inches to 2 feet in height, from 1 foot to 2 feet 7 inches in breadth, and from $1\frac{1}{2}$ to 4 inches in thickness. One of them, M, had obviously been reused in this position, having originally done duty as a saddle-quern (Pl. LXVIII, 1). It stood on the line, face side outermost, and the oval hollow worn in it to a depth of 3 inches by rubbing was of large dimensions, occupying almost the whole of the face and measuring 2 feet 4 inches by 1 foot 7 inches, the stone itself being only 4 or 5 inches thick. When the loose earth was cleared away from the underside of this row of stones, it was seen that they rested on what appeared to be the foundation of an earlier wall. The other side of the passage was badly damaged, but the short length which remained showed that it had served also as the wall of No. II Chamber. The north-western end of the passage was of built masonry, 4 feet thick and now 1 foot 4 inches high. At a distance of 1 foot 9 inches in front of the doorway in it to No. I Chamber a kerbstone, N, 2 feet long, rises 3 or 4 inches above the floor of the passage. The doorway measures 2 feet 10 inches wide in front, and towards the back it widens by a check on either side.

No. I Chamber (Pl. LXIX, 1) was of roughly circular form on plan, and may be taken as having measured approximately 15 feet in diameter. Its outline is defined on the west by a curvilinear foundation of masonry only one or two courses in height, and on the north-east only by the edge of the paving of the floor. The ruined wall of the chamber, which lay partly underneath the rough foundation of the long wall mentioned in the previous report, measures 3 feet 3 inches thick to its very irregular outer face. Two paved floors, one above the other, were discovered in this chamber, the upper varying from direct contact with the lower to

¹ Structure No. 4, and hollow shown in *Proc. Soc. Ant. Scot.*, vol. lxxi. fig. 2, p. 116.

a matter of a few inches above it, the interspace being filled with black earth. The upper was on a level with the existing wall foundation, and in its northern sector a semicircular setting of paving stones, O, suggested a specially constructed floor for a feature, the ultimate shape and purpose of which remains unknown. The lower, and of course earlier, floor was mainly 6 inches below the level of the existing wall-foundation which rested on black earth containing small broken stones. The difference in these levels is well illustrated in Pl. LXIX, 1. In this floor, but not centrally situated in the chamber, there is a hearth, P, constructed of flat stones within a raised kerb (Pl. LXVII, 2). It has been oblong in shape, but its eastern end is broken and part of its kerb missing. Exact dimensions were not ascertainable, though it seems to have measured 6 feet 8 inches long by 2 feet 5 inches wide inside the kerb. At its two surviving corners a rounded beach-stone, hammer-like in appearance, has been sunk end on into the floor, and on either side of the hearth, at a distance of 1 foot 8 inches from these corners, there is a small socket-hole formed of stones set on edge. Each measures about 7 inches long and 5 inches deep and $2\frac{1}{2}$ inches and $4\frac{1}{2}$ inches wide respectively on north and south. These socket-holes had held the upright props to carry a horizontal bar for the suspension of cooking pots or for use as a roasting spit. A small angular stone found in each hole had no doubt been used to jam tight the prop which seems to have been made of Scots Pine (*Pinus sylvestris*),¹ since a large piece of charred wood of this variety was found lying beside the northern socket-hole. Hearths incorporating the features described above are noted in connection with the intrusive post-broch building in the interior of Midhowe² and at Gurness,³ both in Orkney, while another with kerb and rounded stone at the corners but without mention of socket-holes is reported (likewise in later work) from the Broch of Mousa in Shetland.⁴

A few small stones on edge, one or two projecting from under the foundations of the present wall, have belonged to some feature of the earlier construction, but are now of indefinite purpose. There is a very doubtful indication of a drain, Q, under the paving in the south side of the chamber. It starts near the hearth and runs southwards under the wall, the lowest course of which may here be part of an older wall.

From Chamber No. I a doorway connects with Chamber No. II on the south. It has no door-checks, but the straight faces of its jambs diverge from a width of 1 foot 10 inches at the front to 2 feet 9 inches at the back. The outline of Chamber No. II may be considered as being

¹ I am much indebted to Mr M. Y. Orr of the Royal Botanic Garden for his examination of this charcoal.

² *Proc. Soc. Ant. Scot.*, vol. lxxviii. p. 456, fig. 7 (10); p. 465, and facing p. 514, pl. vii.

³ Seen during visit. Broch to be described shortly.

⁴ *Proc. Soc. Ant. Scot.*, vol. lvi. p. 180.

roughly oval with axes of 13 feet and 11 feet respectively. Parts of its wall are entirely lacking, and those that remain are rough and irregular on the outside (Pl. LXIX, 2). The wall varies in thickness from 2 feet 2 inches to 2 feet 6 inches generally, but increases to as much as 4 feet 9 inches at the entrance, and at most it stands to a height of only 1 foot 4 inches. In this chamber only one paved floor was observed; probably it had been in use during both periods of occupation. Approximately in the centre there is a hearth, P_1 , similar to that in No. I chamber, but not in such good condition. It seems to have measured 6 feet long by 2 feet 2 inches within the kerb and the socket-holes, traceable at 2 feet 2 inches from its western end are incomplete. Immediately south-west of it three stones set on edge with packing stones at their bases follow part of the brim of a small shallow pit, R, which has been scooped out of the floor down to the natural clay. The pit was filled with peat ash and both it and the stones, which stand 12 inches above the floor level, have evidently been intruded into a slab construction with a paved bottom. The latter feature had been boxed out from the wall-face by two large thin slabs on edge set parallel to one another at a distance of 6 feet 3 inches apart. Each slab measures 3 feet 3 inches long, the westmost being 12 inches high and $1\frac{3}{8}$ inch thick, and the eastmost 1 foot 3 inches high by $1\frac{3}{4}$ inch thick. Originally this feature may have been a box-bed.

Chamber No. III is situated to the south-west of No. II, but has not communicated with it. The entrance is indicated on the south-east only by a stone kerb, N_1 , 2 inches high above a sill-stone which is all that remains of the doorway. Access to this chamber may have been gained off the passage, if the latter had extended this far southwards. Only a short arc of the wall, 8 feet in length, and only a course or two in its height of 1 foot 2 inches remain on the south-east, while its thickness (again to a rough outside) is about 1 foot 9 inches. The inside face of this wall is 10 feet distant from the wall of Chamber No. II, but the actual dimensions of the chamber itself cannot be ascertained. Two floor levels with a 6-inch interval between them were again represented by paving. Of the upper and later floor only the door-sill, already mentioned, and another slab projecting from under the foundation of the wall, were in position, and of the lower, only a few paving-slabs in the centre of the chamber. Chambers seemingly of a similar character have been recorded from Howmae.¹

Three stones on bed, one on edge and a slight indication of a socket-hole, all at a point marked P_2 , bear a faint resemblance to part of a hearth. But a hearth at this position and at this level must necessarily belong to a later construction of which there is no other trace. On the extreme south-east, at a distance of 11 feet from Chambers Nos. II and III, there

¹ *Proc. Soc. Ant. Scot.*, vol. xix. p. 24, fig. 7; *ibid.*, vol. xxiv. facing p. 450, pl. xvi.



1. The "Potter's Workshop," Compartment No. 2, with recess in back wall.



2. Hearth in Chamber No. I of the later dwellings beside the "Potter's Workshop."
Calf of Eday.



1. General view from the S.E.

Note.—Saddle-quern built into wall of passage near the top right-hand corner.



2. Passage and door to Chamber No. I.

Calf of Eday. Later dwellings beside the "Potter's Workshop."



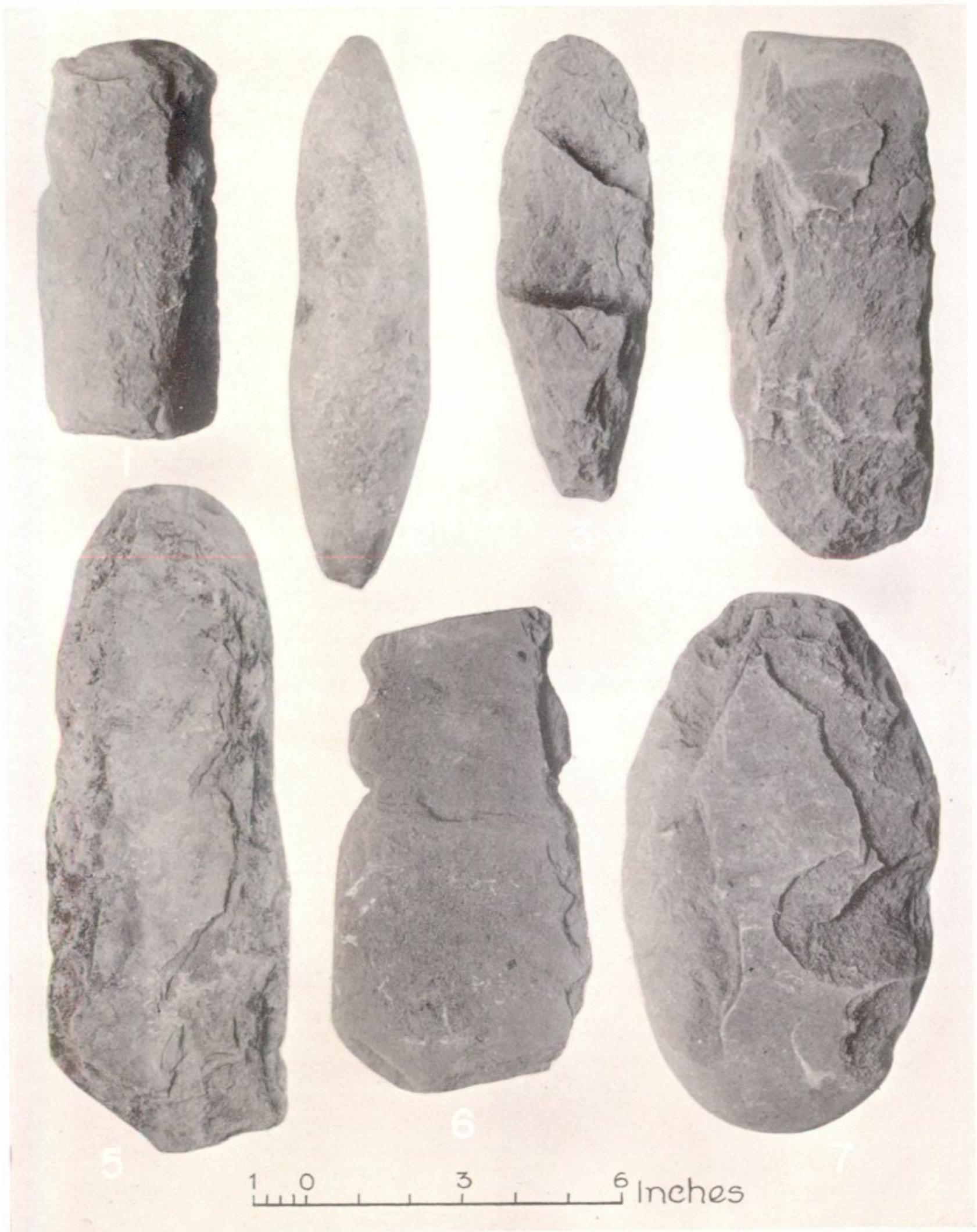
1. No. I Chamber from N.E.

Note.—Hearth in lower floor below level of foundation-course behind.

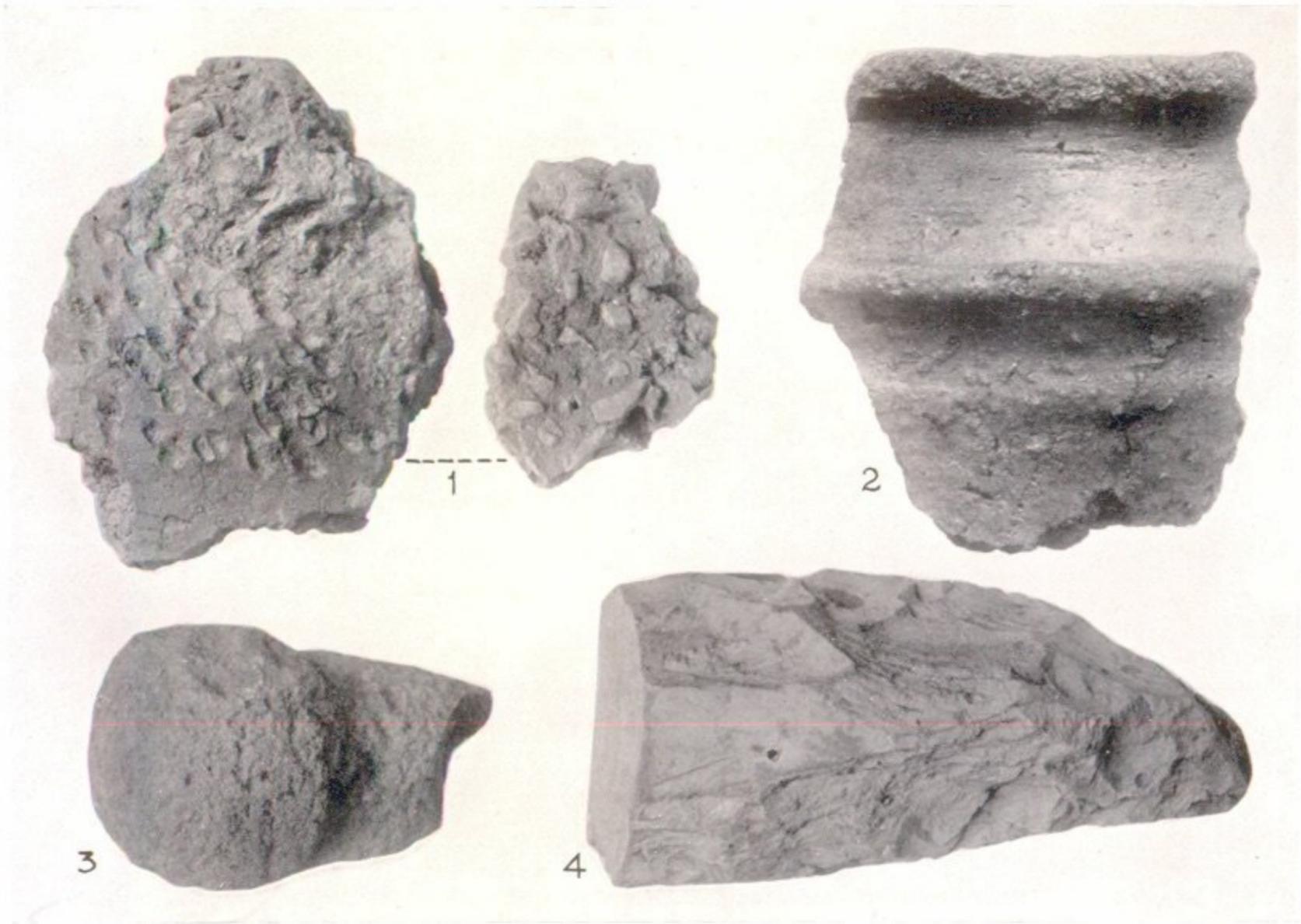


2. No. II Chamber from S.E.

Calf of Eday. Later dwellings beside the "Potter's Workshop."



Calf of Eday: Stone Implements from the "Potter's Workshop."



1.—1. Pottery found under pavement of passage of later dwellings. ($\frac{3}{8}$.)
 2. Fragment of carinated vessel from the "Potter's Workshop." ($\frac{3}{8}$.)
 3 and 4. Stone Implements from the "Potter's Workshop." ($\frac{1}{3}$.)



2. Small Saddle-quern or Sharpening-stone from the "Potter's Workshop." ($\frac{1}{2}$.)
 Calf of Eday.

is a single line of paving-stones 14 feet long which terminates at its northern end in a course of three stones laid on bed and rising 6 inches higher than the paving. The face of these curves in a line westwards to a stone on edge, N₂, which has all the appearance of the kerb of a door. Probably it is that of the main front door which has led to the passage, and the line of paving leading to it reminds one of similar paving outside the walls of present-day crofts in Eday. Beyond this on the north there are more scattered paving-stones, but these, and also a roughly paved area with what looks like a short wall-foundation on the west of Chamber No. I, are now unintelligible.

The investigation did not throw further light on Structure No. 4, which from its shape and position seems to be a later date than the others and of a different character. The low mound in which it lies has been formed chiefly by its own debris. Where it impinges on the passage and Chamber No. I, however, the mound seemed to consist entirely of small burnt stones and rich black earth in its depth of two feet. This material was found inside the chambers and spread outside them, turning up practically everywhere in the grassy area where digging was undertaken. Beyond the fact that it proves the use of heated stones for cooking purposes, it is impossible to identify it with any particular one of the occupational periods on the site. Burnt stones and black earth are a feature associated with a structure in the island of Sanday,¹ and I have observed quantities of a similar nature in the brochs of Jarlshof and Skelberry in Dunrossness, Shetland, but more usually this material is accumulated in isolated mounds.

Pottery and rude stone implements were scarcer in the dwellings than in the "workshop." The former was of a thinner variety and of a harder texture, but the latter were of equally rude manufacture, and in some cases of much the same pattern. Small flint scrapers, cores, and flakes, not referable to any particular occupation, were recovered from the infilling in all chambers, and some even outside the dwellings. Similarly, cores and flakes or scrapers of quartz, as at Wiltrow, and various pebbles were found, and not a few "hailstones" both whole and broken. The nature of the soil was not conducive to the conservation of bone relics, only one such—a pin—being picked up. Lumps of rounded and smoothed pumice-stones of various sizes, however, bore evidence, presumably, of the manufacture of bone implements. In addition to the pottery, noted further on, the finds included:

A beach-stone, shaped like a pointed oval and flattened on one side, with part of one end broken off; it measured $6\frac{1}{2}$ inches long by $3\frac{1}{2}$ inches wide and $1\frac{1}{2}$ inch thick, and was probably a quern-rubber. Half of a similar object of sandstone, 6 inches by $4\frac{7}{8}$ inches and $1\frac{5}{8}$ inch thick. A beach-stone, abraded at both ends and one side, which had been used as a hammer

¹ *Proc. Ork. Ant. Soc.*, vol. viii. pp. 55-6.

and measures $6\frac{1}{4}$ inches by $2\frac{1}{8}$ inches and about 1 inch thick. Another, slightly curved naturally and narrowing in its length towards one end which is abraded, 7 inches long and $2\frac{1}{2}$ inches by $1\frac{1}{2}$ inch at the thick end and $1\frac{1}{8}$ inch by $\frac{5}{8}$ inch at the other. A beach-stone hammer or pounder, roughly cylindrical in shape with a flattish side and abraded at both ends, 6 inches long and $3\frac{1}{2}$ inches by $2\frac{1}{2}$ inches on the axes. Another, probably of chert, irregularly shaped and abraded at one end, measuring $3\frac{1}{2}$ inches long and $3\frac{1}{2}$ inches by $2\frac{1}{4}$ inches thick. A rough implement of somewhat trapezoidal shape with a sharp edge all round made by chipping on both sides, $6\frac{1}{4}$ inches long by $4\frac{3}{4}$ inches and 3 inches at the respective ends and $1\frac{1}{4}$ inch thick. Another of sandstone, chipped as above to an oblong shape with rounded corners, 7 inches by 6 inches and $1\frac{1}{4}$ inch thick. Another as above but with rough flat sides chipped to blunt edges, 9 inches by $4\frac{1}{2}$ inches and $1\frac{1}{8}$ inch thick. Another similar but measuring $7\frac{1}{2}$ inches by $3\frac{7}{8}$ inches and $1\frac{1}{2}$ inch thick.

The last two are especially like the type of implement found in the "Potter's Workshop," as illustrated in Pl. LXX, No. 1.

A knife or cleaver of sandstone which was found in an isolated position, probably came from the dwellings. It measured $9\frac{1}{2}$ inches along a flat back and $4\frac{3}{4}$ inches across the widest part of the blade, which is curved from a point at one end to a handle, 3 inches wide at the other. One side of the stone was flat and the other rounded and chipped to a cutting edge.

Thirteen flint scrapers, twelve cores and many small pebbles and flakes of flint.

Five large and fourteen small pieces of broken "hailstones."

One piece of quartz, roughly $1\frac{7}{8}$ inch by $1\frac{5}{8}$ inch and up to $\frac{3}{4}$ inch in thickness, with one face smooth apparently by use as a polisher.

One large core of quartz measuring roughly 4 inches by $3\frac{1}{2}$ inches by 3 inches.

Sixteen small cores and chips of various kinds of stones.

Nine rounded pieces of pumice-stone.

One bone pin, $2\frac{1}{8}$ inches long and $\frac{1}{8}$ inch thick.

Almost in continuation of the grassy area in which the buildings are situated there is a smaller patch which extends for about 20 yards from the south-eastern side of the long cairn nearby, with a width of some 10 yards. Removal of the turf in the middle of it revealed stones of a size and appearance indicating that a building of some sort had formerly existed, but no actual walling was observed. A beach hammer-stone, abraded at both ends, was picked up out of the debris. It was roughly oval in section and measured $4\frac{1}{2}$ inches long by $2\frac{1}{2}$ inches in greatest thickness.

Clinging to the underside of a sod dug up there was a very fine small

flint arrow-head or borer measuring $\frac{7}{8}$ inch long and $\frac{1\frac{1}{6}}$ inch at its wide end. The back half of it was semicircular in shape, and the front half was thinned down to a fine point by two concave sides. The edges of the concavities were worked on alternate faces like an engineer's countersinking drill.

Appended below is the list of rude stone implements complementary to those previously found in the "Potter's Workshop."

A stone bowl or mortar, already mentioned, the cavity formed by pecking, and measuring 6 to $6\frac{1}{2}$ inches in diameter and 4 inches in depth.

Part of another, or more probably a saddle-quern, with shallow concave surface covered with small pit markings, the concavity judged to have measured 1 foot in diameter and over 2 inches in depth. A boat-shaped saddle-quern, pecked on upper and under surfaces, $10\frac{1}{2}$ inches long by $5\frac{1}{2}$ inches wide on concave face and 2 inches thick. Another, with a small piece broken off one end, upper surface smooth, under surface pitted, $8\frac{1}{2}$ inches by $4\frac{3}{4}$ inches by $2\frac{3}{8}$ inches (Pl. LXXI, 2). Another, with one side and one end broken, upper surface pitted and under surface rough, 9 inches by 4 inches by $2\frac{3}{4}$ inches. The larger part of another, upper surface pitted and under surface roughly smoothed, $6\frac{1}{2}$ inches by 4 inches by $2\frac{1}{4}$ inches (*cf.* footnote, p. 171). The above are all made of sandstone.

A beach-stone, flattened on one side and somewhat hog-backed on the other; it measures $5\frac{3}{8}$ inches by 3 inches by 2 inches thick, and has probably been used as a quern rubber. A rounded beach-stone 1 foot 7 inches by 7 inches on the axes and $2\frac{1}{8}$ inches thick, pierced at one end with a biconical perforation measuring $2\frac{3}{4}$ inches in outer diameters, but contracting towards the middle, and probably used at the end of a tether. Three fragments of beach-stones with evidence of similar perforations. A large beach-stone pounder, abraded at one end and broken at the other, oval in cross-section and narrowing towards the ends, 8 inches long by 3 to 4 inches on the axes. Another, roughened all over and pitted by hammering on ends and side, oval-shaped in elevation and section, $6\frac{1}{8}$ inches long by $2\frac{1}{2}$ to $3\frac{1}{2}$ inches on the axes. A third, finely abraded at both ends, oval in cross-section, also $6\frac{1}{8}$ inches long by $2\frac{1}{2}$ to $3\frac{1}{2}$ inches on the axes. A fourth, abraded at narrower end only, irregularly cylindrical, 6 inches long and $2\frac{1}{2}$ inches in greatest diameter. A rough spherical hammer-stone abraded all over, $2\frac{7}{8}$ inches in average diameter. A fine implement of oval section, pointed at both ends mainly by pecking, and one end later smoothed by use, $10\frac{3}{4}$ inches long and $2\frac{3}{4}$ inches by 2 inches on the axes at greatest. Another similar tool but of flatter section and pointed only at one end, formed mainly by chipping but pecked on one side of pointed end and rubbed smooth by use on the other side, also $10\frac{3}{4}$ inches long and $2\frac{3}{4}$ inches by $1\frac{1}{4}$ inch thick. Found with the one above on corner of shelf in No. 9 Compartment (Pl. LXX, No. 2). An elongated

club-like implement, flattened by fracture on one side, narrowing at one end and abraded at the other, $9\frac{1}{4}$ inches long by $2\frac{7}{8}$ inches in diameter at one end and $1\frac{3}{4}$ inch in diameter at the other. An oval-shaped implement made by chipping a flat beach-stone almost all round on both sides but one end left untouched, 11 inches by $6\frac{1}{4}$ inches on the axis and $1\frac{1}{2}$ inch thick (Pl. LXX, No. 7). A pear-shaped pot-lid, made by chipping, 12 inches by 9 inches by 2 inches. A circular pot-lid, $3\frac{7}{8}$ inches in diameter and $\frac{3}{4}$ inch thick. An oval pot-lid, $5\frac{1}{2}$ inches by $4\frac{1}{4}$ inches on the axis and 1 inch thick. A flat chipped stone like an oval pot-lid, $6\frac{1}{4}$ inches by 4 inches and $\frac{3}{4}$ inch thick. A flat stone, double-notched on each side, 10 inches long, 4 inches wide at a straight end, 5 inches wide at a curved end, and $\frac{5}{8}$ inch thick (Pl. LXX, No. 6). Another, single-notched on each side, 8 inches by $3\frac{1}{2}$ inches and 1 inch thick. A flattish cleaver, made by chipping, with notched shoulder under handle, which is broken off, 7 inches long by 4 inches wide by 1 inch thick. The half of a bulbous head, probably of a club, made by pecking, broken at the neck, 5 inches long and bulb $3\frac{1}{2}$ inches in diameter (Pl. LXXI, 1, No. 3). The pointed end of a pick-like implement of roughly oval section, made by chipping, $8\frac{1}{2}$ inches long by 4 inches and $2\frac{1}{2}$ inches on the axes (Pl. LXXI, 1, No. 4). A large flat implement made by chipping with one rounded end left smooth and untouched, the other end wider and obtusely pointed, 13 inches long, $4\frac{5}{8}$ inches at one end and $3\frac{1}{2}$ inches at the other and $1\frac{1}{2}$ inch thick (Pl. LXX, No. 5). Another of the same type but smaller, $9\frac{5}{8}$ inches long by $5\frac{1}{2}$ inches at widest and $3\frac{1}{2}$ inches at rounded end and $1\frac{1}{8}$ inch thick. A somewhat similar implement, also made by chipping, one end rounded and flatter end untouched, $10\frac{1}{4}$ inches long by $4\frac{1}{4}$ inches and $1\frac{1}{2}$ inch thick (Pl. LXX, No. 4). Another, more rectangular in shape and flat oval section, made by chipping, $7\frac{1}{2}$ inches long by $3\frac{1}{2}$ inches and $1\frac{1}{2}$ inch thick. A fine flat leaf-shaped tool made by chipping and found in the stone box in Compartment No. 5, 9 inches long, 3 inches at widest and $1\frac{1}{8}$ inch at thickest (Pl. LXX, No. 3). A flat implement, made by chipping, wider at one end than the other, $8\frac{7}{8}$ inches long, 3 to $3\frac{7}{8}$ inches wide and $1\frac{3}{8}$ inch thick. Another, somewhat leaf-shaped, pointed at one end and square at the other, $9\frac{1}{2}$ inches long by $4\frac{1}{4}$ inches at widest and $1\frac{3}{4}$ inch thick. An implement made by chipping, flat at one end and square at the other, $8\frac{1}{4}$ inches long by 4 inches wide at working end and $1\frac{1}{4}$ inch thick. The thin end part of another, $7\frac{1}{2}$ inches long by $3\frac{3}{8}$ inches across the broken end and $2\frac{1}{4}$ inches at narrower and rounded end and $1\frac{1}{8}$ inch thick. A stone knife, flat and made by chipping, the back straight and the edge curved, like a segment of a circle, 7 inches long by $3\frac{1}{2}$ inches at widest and $\frac{3}{4}$ inch at thickest. A knife-like implement made of a split beach-stone with straight back and rounded cutting end, chipped round edge of smooth

water-worn side, $8\frac{1}{2}$ inches by $4\frac{3}{4}$ inches at widest and 1 inch thick. A flat implement made from a beach-stone, chipped on each side and on the edges for half the length, 8 inches long by $5\frac{1}{4}$ inches wide and $1\frac{3}{8}$ inch thick. A pointed implement, rounded and thinned at one end and increasing to a rectangular section at the other which is broken, $9\frac{1}{4}$ inches long by $2\frac{3}{4}$ inches wide and $2\frac{1}{8}$ inches thick at the broken end. A very rough flat implement, made by chipping all over, flat pointed at one end, the point suggesting a borer for making or enlarging holes, $8\frac{1}{4}$ inches long by 4 inches and $1\frac{1}{8}$ inch thick. A heavier rough implement made by chipping all over and measuring 9 inches long by $4\frac{1}{2}$ inches wide at one end, $2\frac{3}{4}$ inches at the other and up to $1\frac{5}{8}$ inch thick. A spatulate implement made by chipping, blunt pointed at one end and squarely broken across the other, $7\frac{1}{2}$ inches long by $5\frac{1}{4}$ inches wide and 1 inch thick. Another, similarly broken, made from a flat beach-stone chipped more round the edges only, $5\frac{7}{8}$ inches long by 4 inches wide and $1\frac{1}{4}$ inch thick. Two broken pieces of club-like implements, one made by chipping and one finished by pecking. A beach-stone, worked by chipping at one square end only but may have been smoothed at the other end, which is pointed, is axe-shaped, and measures $5\frac{5}{8}$ inches long by $2\frac{1}{2}$ inches wide and 1 inch thick. Seventy or eighty stone chips (Skaill knives), bringing the total to about one hundred and fifty. A stone with a small pecked-out hollow on one side made of a rounded beach-stone, 5 inches in diameter, by 3 inches thick. A core of quartz chipped almost all over, 4 inches by 3 inches by 3 inches roughly. A few flakes of flint. Fifteen pieces of pumice-stone of various sizes, with signs that they had been smoothed and rounded by rubbing.

A small perforated bead of blue-coloured patinated glass was found just under the surface turf. The sides were flattened.

Twenty feet east-south-east of the "workshop" a large isolated saddle-quern lay on the surface of the ground. It measured 2 feet by 2 feet and 10 inches thick, and the oval hollow surface measured 1 foot 9 inches by 1 foot 2 inches and $2\frac{3}{8}$ inches deep.

Beside it there was a rounded beach-stone, 4 inches in diameter and $1\frac{3}{4}$ inch thick which was broken in half. On its flatter side a cavity had been pecked out measuring $2\frac{1}{2}$ inches in diameter and $\frac{7}{8}$ inch deep.

From the same spot came a nicely rounded sea-worn sandstone hammer, abraded at both ends and pitted slightly on the side. Cylindrical in shape, it measured 5 inches long by $3\frac{3}{4}$ inches in diameter.

I have to acknowledge my indebtedness to Major Harry H. Hebden, M.C., of Carrick House, for his continued interest in the excavations, to Miss Margery I. Platt, M.Sc., for her Report on the Animal Bones, to Mr R. B. K. Stevenson for his assistance in examining and reporting on the

pottery, and finally to the workmen for their keenness and pains-taking care.

REPORT ON THE POTTERY. BY ROBERT B. K. STEVENSON,
M.A., F.S.A. SCOT.

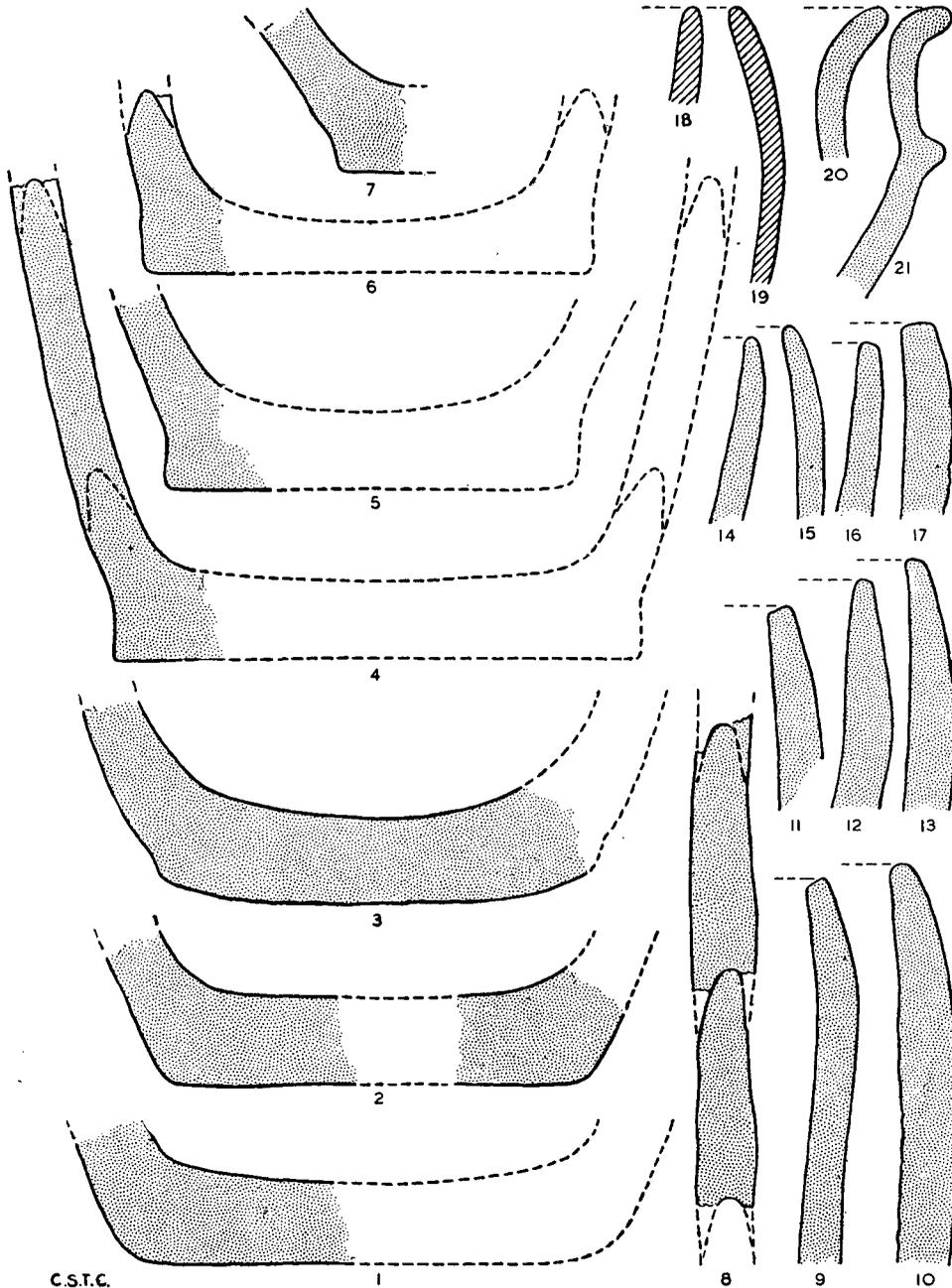
"Potter's Workshop."

Sherds previously found in the "Potter's Workshop" were described by Dr Callander in *P.S.A.S.*, vol. lxxi. p. 147. Of the recently discovered sherds (fig. 4), mostly buff or red except where blackened, which show additional features, that illustrated as fig. 4, 10, has been left rough on the inside so that a large number of small stones protrude (*cf.* Pl. LXXI, 1, No. 1), as they do also on part of the outside where the smoothing skin, possibly a true slip, has flaked off. In texture this sherd would be undistinguishable among the sherds from Rinyo; as would the rather finer and quite well smoothed fig. 4, 8, which shows how the strips of which it is made each mortice into the centre of the strip above, a feature that may also go to prove the long continuity of simple ceramic traditions in Orkney. Fig. 4 (9, 12, 13) show the common simple rim once more; 14-16 are examples of pots slightly thinner than the majority, but of similar quality. Some of the rims are flattened, a feature noticeable in some of the thicker rims previously published, and further exemplified by fig. 4, 11, which had been burnished. Fig. 4, 17, which is also flattened, is of quite a different texture from the rest, the body being rather smooth and free of stones. It is soft and more noticeably micaceous than the others. Fig. 4, 1-7, show bases with various profiles. Fig. 4, 4, which shows the lower building stages, is just as gritty as the other bases, but harder and well smoothed. The most important sherds are, however, those illustrated by fig. 4, 20 and 21. They belong to light brown or grey carinated bowls, or possibly one bowl as the rim diameter of both is 9 inches. They resemble closely the shapes introduced into Jarlshof at the second period of Dwelling III, and continuing in its third period. At Jarlshof this marks the beginning of the Iron Age. These Eday sherds are quite different in texture from the others just described, but are not unlike some of the Jarlshof sherds with very little steatite temper. The carination of fig. 4, 21, has been squeezed out to make it more prominent. The smoothing of the surface is so good as to be almost burnishing.

Fig. 4 (18, 19) show rims of steatite vessels.

Dwellings beside "Potter's Workshop."

Below the pavement of the passage at the point marked L on the plan (fig. 1) were found pieces of a pot closely resembling fig. 4, 10 (Pl. LXXI, 1, No. 1). Some of its outer surface had flaked off in the same manner, and the



C.S.F.C.

Fig. 4. Calf of Eday: Sections of Pottery Vessels from the "Potter's Workshop." ($\frac{1}{2}$.)

grits protruded on the inside. Part of the exterior is plain, but part has been decorated in a most unusual manner, by close-set dimples made with a rounded point. There seem to be no very relevant parallels, although pitting is prominent at All Canning's Cross.

From the dwellings to which the pavement belonged, and thus later than the dimpled sherds, and so presumably later than the sherds from the "Potter's Workshop," too, the pottery is completely different (fig. 5). It is more like that described by Dr Callander from Chamber B of the

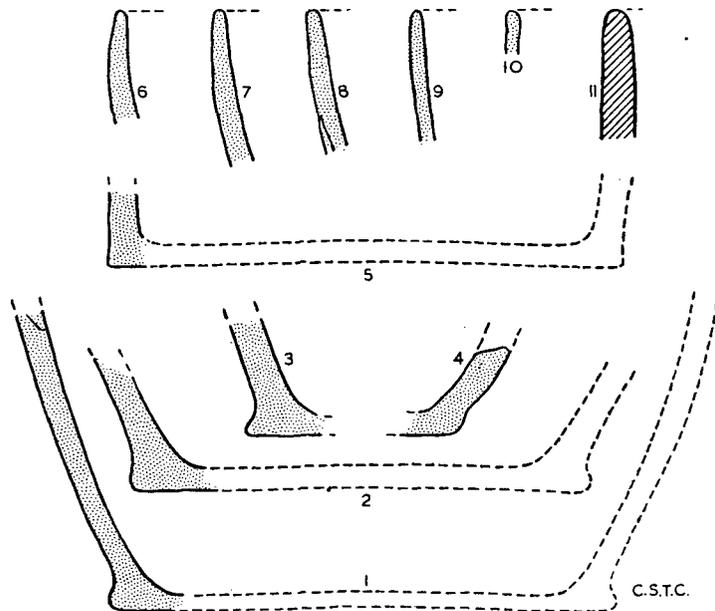


Fig. 5. Calf of Eday: Sections of Pottery Vessels from the Later Dwellings beside the "Potter's Workshop." (1.)

adjacent stalled cairn. But it lacks the surface finish, the rims are not everted (6-10), and the bases (1-3, 4) have a marked external concavity, while 5 has a nearly vertical side. So it all must be considered quite distinct. The thin walls are hard and sandy to the touch, and contain virtually no grit except for some particles of quartz. The colour is dark reddish brown to black outside, and black inside. The most complete base has vertical streaks caused by some smoothing implement inside and out.

Fig. 5 (1, 4 and 8) show traces of building-joints.

Fig. 5, 11, is a rim of steatite.

REPORT ON THE ANIMAL BONES. By Miss MARGERY I. PLATT,
M.Sc., Royal Scottish Museum.

Structure No. 3, "Potter's Workshop."

The remains here comprised part of a cannon and axis vertebra of a sheep. In addition was the proximal articulation of the tibia of a red deer (*Cervus elaphus Scoticus*, Lönnberg).

Buildings beside "Potter's Workshop."

Ox relics were most numerous here, and included part of the upper jaw with teeth, a fragmentary rib and scapula, cannon and phalanx bones, a fragmentary pelvis, tibia and distal articulation of a humerus. Both young and mature animals were represented. There were also a few molar teeth of an adult sheep, a pig's canine, and part of the rib of a dog. The only avine remains were a femur and two coracoids of cormorant (*Phalacrocorax c. carbo* (L.)) of widely differing sizes.