

I.

NOTICE OF THE EXCAVATION OF A BROCH AT JARLSHOF, SUMBURGH,
SHETLAND. BY JOHN BRUCE OF SUMBURGH, F.S.A. SCOT.

In the various accounts and reports on the number of sites of pre-historic buildings noted throughout Shetland, no one seems to have supposed that the green mound near the present house of Sumburgh covered anything of importance to the antiquary; yet, after about five years' almost constant digging, an extensive and most interesting ruin, or rather a series of ruins have been laid bare.

These archaic structures have many features in common with such buildings in Shetland. The central broch around which the other structures have been built is just another of the same kind as are to be seen at Clumly and Levenwick, near by, and described by Mr Gilbert Goudie in *The Antiquities of Shetland*.

The broch, however, in this case, although the centre of the ruinous buildings, can hardly be called the centre of interest, as the structures surrounding it are quite uncommon, and perhaps unique in Shetland.

For a long time the mound near the shore, crowned by the ancient Jarlshof, had attracted my attention, more especially as during late years some violent storms tore away now and then a piece from its seaward side and laid bare evidences of built masonry. Although I had a shrewd suspicion that something of interest could be unearthed, I was slow to take action, as I thought it might prove to be merely cellars in connection with the Jarlshof.

In 1897 Mr E. M. Nelson, President of the Royal Microscopical Society, and Professor Günther were staying with me, and as they rambled about the shore their attention was drawn to the jutting-out ends of walls on the seaward side of the mound, and soon their interest and enthusiasm led them to cast off their coats and begin excavating. They were not quite prepared for what followed, as

their digging led them in a good way, and made it evident that ruins of some importance and of considerable magnitude lay beneath the mound. They then got a few hands engaged to dig, and continued with much enthusiasm for some time; but their holiday coming to an end, they resolved to stay operations meantime, and resume next year. They were, however, disappointed in their plans, and could not come back next year as they intended.

I now took the matter in hand, and having found three suitable men to dig, I began where Mr E. M. Nelson and Professor Günther left off, and have continued almost without intermission ever since. This will give some idea of the magnitude of the task.

My first work was to take steps to preserve the ruins from further inroads by the sea. The ground-level of the ruins is considerably—at least 15 feet—above the level of the sea-beach, and so I built a sea-wall. This served a double purpose—that of protecting the buildings laid bare, and also forming a guide in the subsequent digging as to whether the structures unearthed were on the average level, and showing if at any part we had underground buildings to deal with.

A preparation thus made, the men were started to the work of excavating, with very strict orders to go slowly and carefully about their work, neither displacing nor breaking built stones, and keeping a sharp lookout for objects of interest buried in the debris.

The walls were carefully followed inward, and stone by stone the plan was unfolded, all getting more amazed day by day, and wondering what next would turn up.

Having gone so far that the diggers were now near the walls of the Jarlshof, I thought it desirable to find out, if possible, some more details about Jarlshof itself. This ancient building had been built right on the top of these more ancient ruins, and evidently almost without a knowledge of their existence. To have entirely cleared out the ruins of the central broch would have been to undermine the Jarlshof, and so I began to clear away around the Jarlshof, to

gather what information I could, lest in any way this building should be endangered.

The history of the Jarlshof—known as The Lord's Houses before Sir Walter Scott wrote *The Pirate*—is not well known, but there is little need to refer in detail to it here. It is evidently of great age, and is supposed to have been the residence of the Norse earls; at all events it was used as a dwelling-place by Robert Stuart, who got the earldom of the Orkney and Shetland Islands from Mary Queen of Scots, and he refers to it in some deeds as "My Palace in Dunrossness." Being an ancient building it was soon abandoned, and Earl Patrick, his son, built a more suitable castle at Scalloway. The difference between these two buildings is very striking,—the one of poor style, built of unhewn stone, and without elaboration or ornament; the other of highly-finished stone and many evidences of fine workmanship. This would seem to point out that the Jarlshof must have been built at a date very remote from that of the Scalloway castle.

First of all, we cleared the courtyard of the old building and found it was entirely filled with graves, and that the place had been in comparatively recent times used as a burying-place. The fact of its being so used appears to have been very much lost sight of; yet interments seem to have taken place there within a period of about two hundred years.

The usual places of interment about that time were St Ninian's Isle and the graveyard at the Cross Kirk at Quendale Bay. The former place was at a considerable distance from the lower part of the parish of Dunrossness, and the latter was evidently disturbed by the drifting sand that now entirely covers both the remains of the kirk and the graveyard surrounding it. This may have been the reason why the deserted Jarlshof's sheltered and enclosed courtyard was used as a place of burial. The graves are rather irregularly placed, but were plainly marked by the head and foot stones, although no dressed or inscribed tombstone was found. This courtyard was cleared to its original level, with no disturbance of the graves. The resting-places

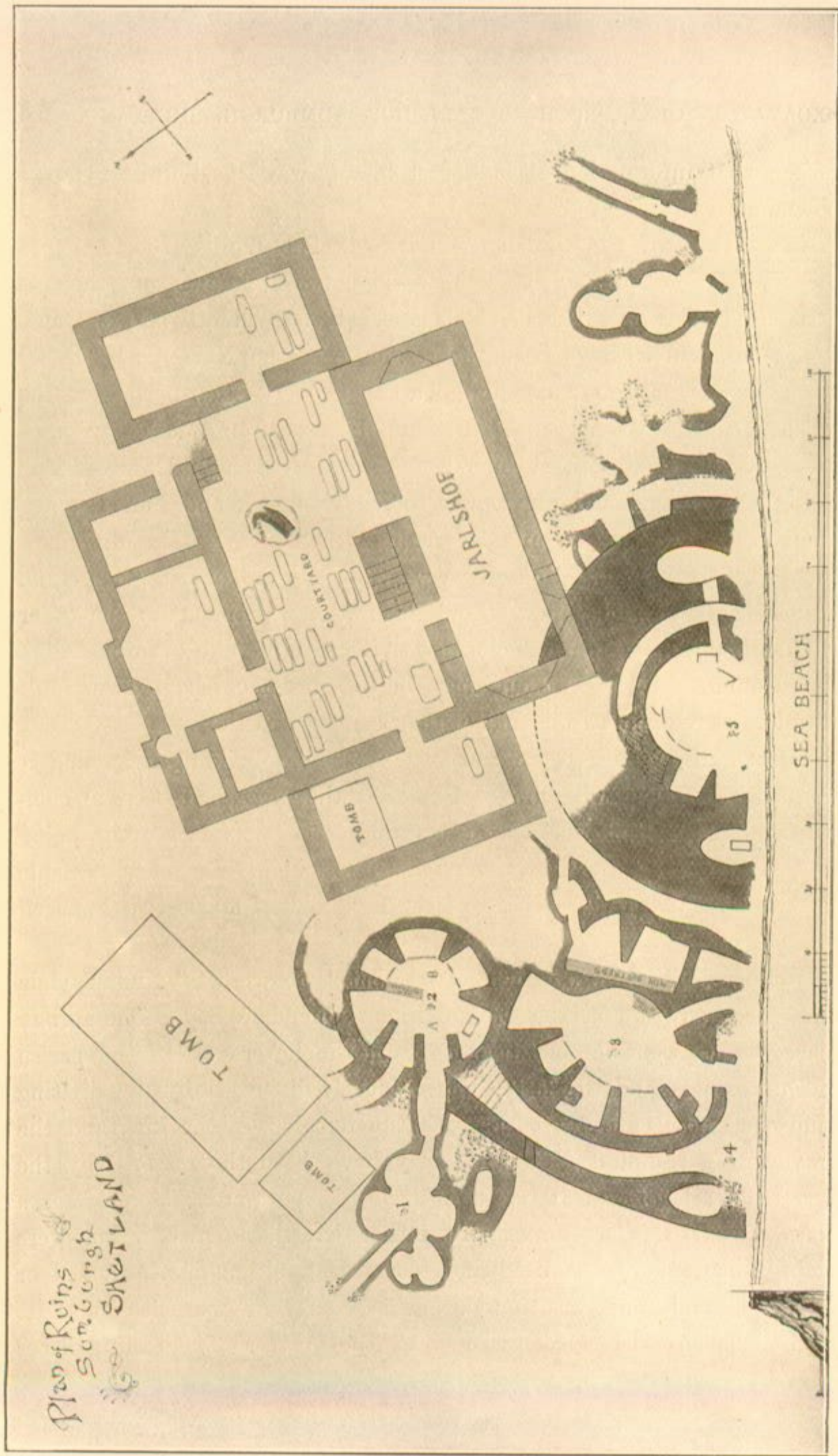


Fig. 1. Ground-plan of the Broch and its Out-buildings underneath the Jarlshof, Sumburgh, Shetland.

of the dead were reverently returfed with fresh green turf, and still. "there the rude forefathers of the hamlet sleep."

Beyond laying bare the walls surrounding the Jarlshof, and proving it to have been a much larger place than had been supposed, the clearing of the debris yielded nothing of note. It, however, seemed to suggest that Jarlshof and its outbuildings, resting as it does on the ruins underneath, had been built mainly of the stones that probably lay on the surface, and had at one time formed the broch.

To fully describe the ancient buildings underneath is a somewhat difficult task. It was first proposed that a ground-plan be prepared and sketches taken of various parts. Later it was thought that the camera would more faithfully portray this early architecture, if only its aid could be utilised, for it seemed almost impossible to get photographs taken, owing to the peculiar nature of the buildings and surroundings. After some trouble, however, a series of photographs were obtained, and these, with the ground-plan of the buildings (fig. 1), give a very good idea of the structure.

The ruins laid bare suggest that the whole of the buildings had been planned in a circle, with the broch for its centre; and evidently they were erected on high ground near the sea-beach. During the centuries the sea has encroached upon the shore, and about one-half of the entire buildings, with the ground they rested on, have been swept away, so that now the ends of the half circle of ruins are on the very edge of the steep wall against which the waves at times dash.

In the centre of the mound, partly underneath the Jarlshof, was cleared out part of the interior area of a broch (fig. 2) similar to other brochs found in Shetland. Almost one half of it had been swept away by the sea; the remaining half shows the usual broch structure. The highest part of the main wall, of which an exterior view is shown in fig. 3, is about 7 feet in height. It is pierced by a passage 3 feet wide, evidently leading to a staircase, and has in its thickness several chambers. The roof of the passage, however, is gone, and the chambers, with one exception, are partly

demolished. There are two recesses or chambers, one incomplete, opening on the interior of the broch, and measuring $4\frac{1}{2}$ feet by 4 feet.

There are other two chambers in the substance of the wall; each, however, has lost about one-half of its length by the action of the sea. In one of these is a cist-like construction, measuring 3 feet by 18 inches, which is on the level of the floor of the broch, and contained nothing but earth. On the floor of the broch are several stones, disposed

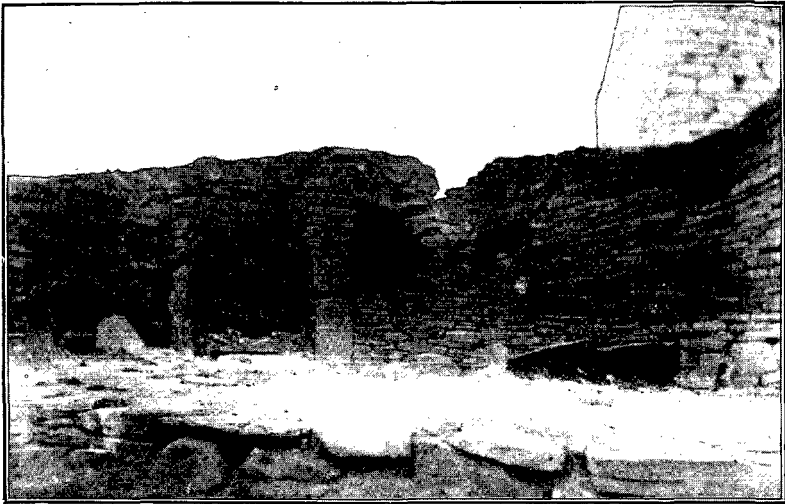


Fig. 2. Interior of the Broch.

as shown on the plan, marking probably a fireplace or something similar. A very large cist-like construction was also found here. As it occupies an evidently important place in the central floor of the broch, and is much larger and deeper than the others found, it may have served a more important purpose than the others. A careful examination, however, failed to find any object of interest in it. There seems no trace, however, of an inner projecting wall, sometimes referred to as the "scarcement," and found in the other local brochs.

The inner and outer faces of the wall are perfectly circular, of an outside diameter of 63 feet, of dry-built stone.

As I have already indicated, the more interesting parts of the out-



Fig. 3. Exterior View of the Main Wall of the Broch, looking from seaside,
7 feet in height.

buildings on both sides of the broch extend to about 60 feet on either side east and west.

The outbuildings surrounding the foot of the central tower or broch proper are usually described as being of a "hut-like character," and possibly houses for animals. This description might be applied to the buildings on the east side, as they are but poor remnants of walls built

of smaller stones, and evidently have been low, with very narrow passages and very small chambers. Nothing very distinctive has yet been found on this side, although all evidences of building have been followed with painstaking care.

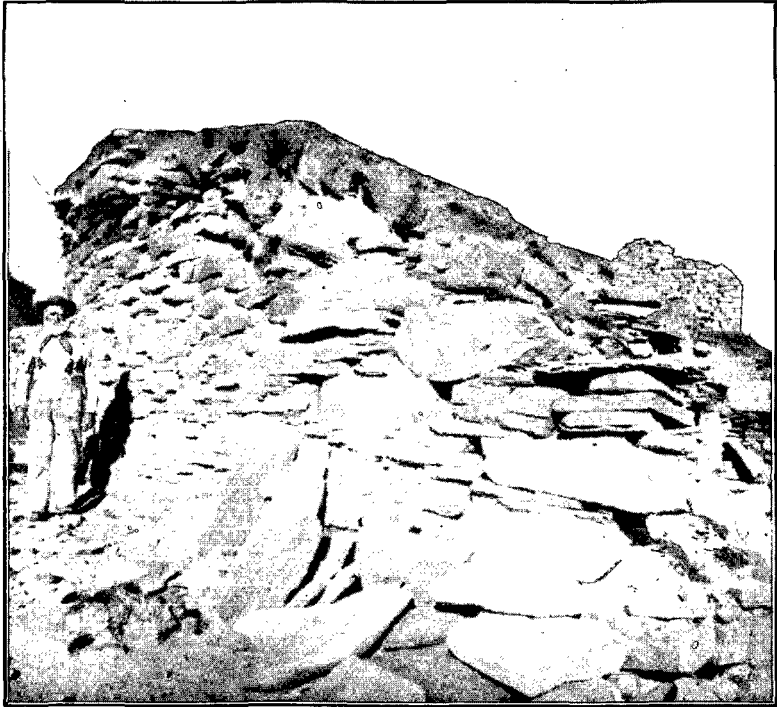


Fig. 4. Outer Main Wall, looking from seaside. Height 11 feet.

To the west of the central tower are found structures of important size and of substantial build, evidently not less in importance than the broch itself.

On the extreme west edge of the mound was unearthed a huge wall of dry-built stone (fig. 4), following the circle of the broch, but its

outside edge at a distance of 52 feet from it. The highest point of the wall is about 11 feet, it is at its thinnest part 10 feet thick, and in other parts several feet more, reaching at one part about 20 feet, as substantial and formidable in some parts as the main wall of the broch itself. This wall can be followed back for about 70 feet, and here it ends rather abruptly, being pierced transversely by a passage, on



Fig. 5. Opening of Gallery or Passage in the thickness of the Outer Main Wall.
From the sea-beach.

the other side of which a new wall evidently begins. This new wall is evidently a lean-to to the remains of the old one, and would seem to be of a different date. Close by here are the buildings marked "Tomb" on the plan (fig. 1), and these somewhat interfere with further excavating in this direction. This main wall is pierced lengthwise by a gallery or passage (fig. 5), which is perfectly preserved, and opens off the sea-beach with a substantial doorway. This passage is 6 feet high and 4 feet

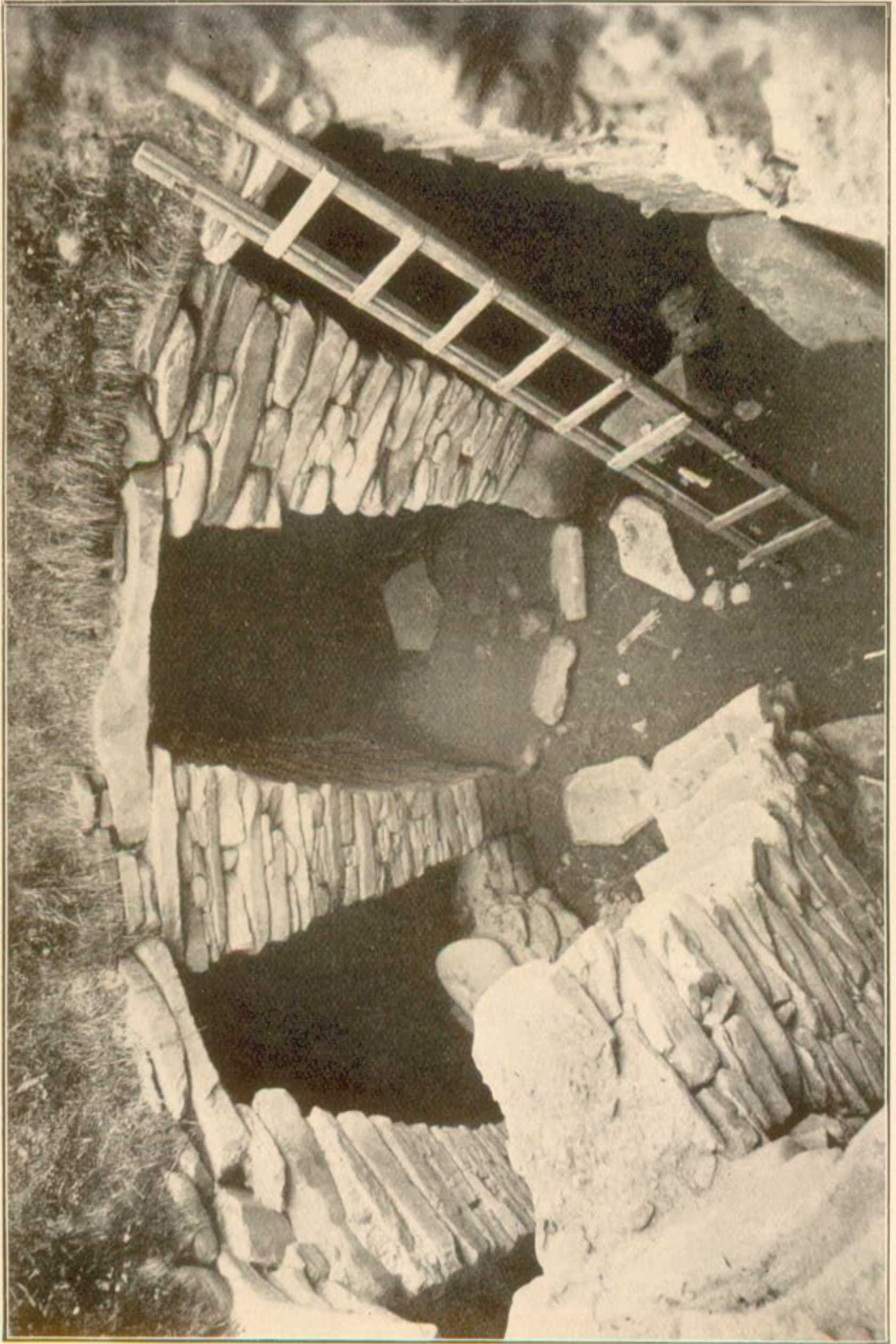


Fig. 6. Beehive Structure, looking down from north. (No. 2 B on plan.)

wide, roofed over by large flat stones, almost as they had at first been laid. The doorway is 5 feet high, sill to lintel, the lintel being a huge, very heavy stone, laid edgeways. It also would appear that a similar passage ran through the wall immediately above this one; but as the wall is quite broken down at this height, this is difficult to determine. This passage leads to a beehive structure (fig. 6), which seems to have been built on a bolder plan than any of the similar structures mentioned in Sir Arthur Mitchell's *Past in the Present*, as it is in very substantial proportions and very well finished indeed. This beehive is marked No. 2 on the plan (fig. 1). It is circular, of 20 feet diameter. Arching chambers are built out from its main wall; these are five in number, and their height and width mark the difference between these and the buildings found on the east side of the broch and elsewhere. These chambers are all regular in height, being 11 feet high, but slightly irregular in shape and size. They are, of course, somewhat triangular in shape, the entrance being about 5 feet and the wider back part from 7 to 9 feet. The chamber in which what appears to be an oven is placed is rather larger than the others. They are each arched like a beehive in the roof, of beautifully built overlapping stones, the centre gradually closing till it is covered by one single stone, evidently about 3 feet or 4 feet square. Possibly the centre of the whole was covered in like fashion, but there is nothing much to indicate that now.

A substantial doorway (shown in fig. 7), 5 feet high and 3 feet wide, leads through the great main wall to a similar structure further west, marked No. 1 on the plan (fig. 1). This, however, is not so well preserved, and evidently of less imposing dimensions.

As already indicated, in one of the chambers of the beehive is found what was thought to be a cist, but actually seems to be an oven. It is 3 feet long by $1\frac{1}{2}$ feet wide and $1\frac{1}{2}$ feet deep. Across the middle a partition of small stones is built; some burned peat ashes were found on one side of this partition, and it has been suggested that perhaps food could be put on one side and cooked by the heat of the fire on the other.



Fig. 7. Doorway of Passage leading from Beehive No. 2 to Beehive No. 1. (No. 2 A on plan.)

It was quite complete although choked up, and being protected by a cover, its arrangement was easily seen. The sides were formed of plain flagstones that show signs of the action of fire. This beehive, with the exception of one arch or pier and one or two of the chamber roofs, is in perfect preservation, and suggests a degree of comfort not to be despised, its chambers being large and high. It communicates with the passage in the main wall and with another similar beehive structure,



Fig. 8. Beehive Structure (No. 1 in Plan), looking down from east.

marked No. 1 in the plan (fig. 1), which had to be strengthened by a buttress in order to prevent its collapse when the earth was removed. This was done when I was from home, but the restored and added portions can be clearly made out.

The beehive marked No. 1 in the plan (fig. 1) need not be further described, as it follows the plan of No. 2, having five chambers, but of more humble proportions. A view of it is shown in fig. 8. It, however, is notable in that it lies outside the protection of the great main

wall, and has a long passage leading from it to the west, which extends to about 25 feet, and then crumbles to an end.

Nearer the sea, and forming the inner face of the main wall, is another beehive structure (fig. 9), which is marked No. 3 on the plan (fig. 1). It, again, is much larger than that marked No. 2 on the plan,



Fig. 9. Large Beehive Structure (No. 3), looking from east.

but it is not so well preserved, and is damaged at one end by the sea. The roofs and part of the wall are also destroyed; at one part it was found necessary to build a buttress to hold up the wall. Its highest point is 8 feet and it is rather oval in shape, being 34 feet long and 19 feet wide. It also has five chambers, more or less triangular in shape, and differing slightly in size, the largest being 5 feet 6 inches at front and 10 feet

6 inches at back. Unfortunately the roofs of the chambers are gone. Some big slabs of stone over 4 feet long and 3 feet wide show that the roofs have been made in the same way. It was also necessary to strengthen various parts of this by facing the rough side of the single wall with stone in order to prevent its total collapse when the earth on both sides was removed.

Between the beehive and the wall of the central broch is yet another chambered structure, but not so definite in shape, and which, as it was found, was built against and leaning on the main wall of the broch. Part of these walls had to be removed to gain access, and the rest of it is quite ruinous, although it shows pieces that indicate that it followed the general plan and size of No. 3 beehive.

The fact that these walls were built leaning on to the wall of the broch settles the question as to which was built first. It appears likely that these buildings were domestic in character, clustering round the central tower for protection; this tower would, of course, be built first.

The formidable outside wall on the westward side may, however, mean that the whole buildings were encircled by this strong defence, although all efforts to trace this wall at various points of its circle have as yet proved futile.

It will be noticed that the only building on the west side—that is, on the outside—is the very small beehive marked No. 1 on the plan. This is reached by a very small doorway, and leads out by a long narrow passage, much narrower than the passages and doorways in the buildings within the protection of the wall. This seems to suggest that its purpose was unimportant, and it may have been a kind of outbuilding for animals or unimportant stores.

If this great outside wall did encircle the whole buildings, as its shape seems to indicate, this, with the high broch in the centre, would make a defensive settlement of tremendous strength, well fitted to bear the onslaught of invaders who might gain a landing on this the extreme southerly point of the island, and large enough to provide a place of

protection for a very large number of the inhabitants who might repair to it in time of danger.

Before closing the paper, it is necessary to allude to the various articles found in the course of the excavations. These are many and varied, but we can only indicate a few of the more interesting.

A very large bowl-shaped vessel of steatitic stone, broken in many pieces, is the largest object found. This measures about 15 inches in diameter, and is about 9 or 10 inches deep. It is well cut, and finished with nicely rounded edges, the thickest part of its wall being about 2 inches.

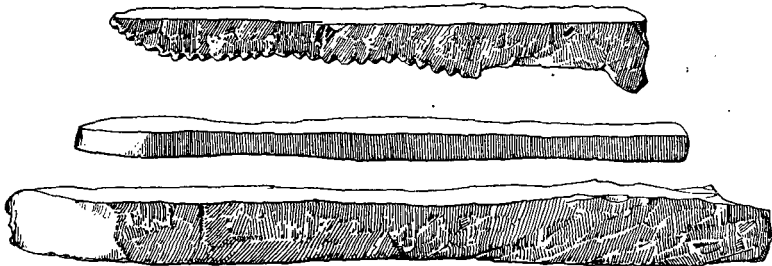


Fig. 10. Stone Saw and two Stone Implements, chisel-ended. ($\frac{1}{2}$.)

In a little cupboard in the wall of No. 3 beehive were found two stone tools, one a saw, 12 inches long (fig. 10), and another thin stone of similar length, with a line cut across the middle and two lines close together about 4 inches from the centre on each side.

Two long stones, shaped like small crowbars (fig. 10), were also found; they are chisel-shaped at one end, but what purpose they served seems difficult to determine.

A large number of stones, shaped by flaking of various shapes, and hammer-stones or pounders, were also discovered in considerable numbers.

The handle ends broken off from two of the club-like types of rude

stone implements of which so many have been found in Shetland, but not heretofore in connection with a broch.

More interesting are a large number of thin, round, flat discs of micaceous stone, of varying diameters up to 6 inches. The larger

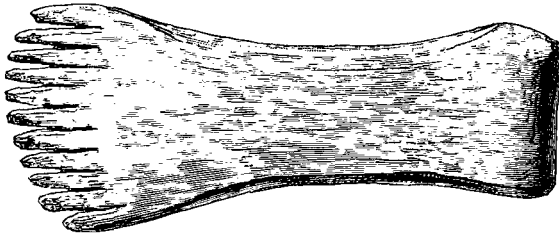


Fig. 11. Long-handled Weaving-comb of bone. (§.)

sizes are very roughly finished, and look like stones commonly described as "stone covers" or "pot-lids."

Other discs of sandstone, of smaller sizes, were well finished. One has on it a strange design, well cut, on one side; and another has, deeply scratched, two lines crossing each other at right angles.



Fig. 12. Bone Pin with flat perforated head. (§.)

Besides these stone implements were found many querns and rubbing-stones, both whole and broken, and portions of stone vessels, many whorls for spinning (one made of clay), and a long-handled weaving-comb of bone (fig. 11) similar to those so often found in brochs.

Of bone implements a number were found, including a bone pin (fig. 12) with an irregularly oval flattened head perforated in the centre, a

skewer-like instrument, an instrument made of a leg-bone of a sheep, ground to a flattened form slantwise at one end, a peg-shaped implement with a roughly cut notch near one end (fig. 13), and portions of vessels

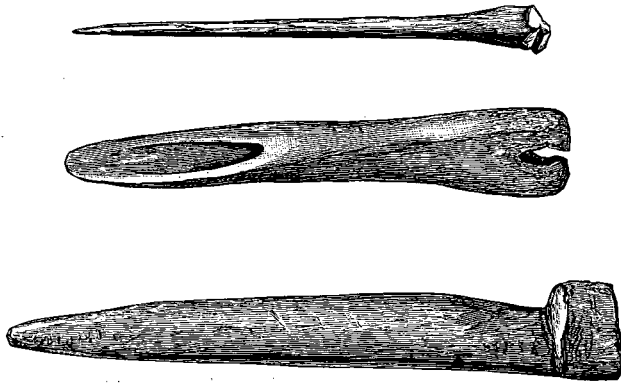


Fig. 13. Bone Implements. (3.)

made by scooping out the central portion of the smaller vertebræ of the whale.

Only two pieces of metal work were found, and one is a small pin of bronze about 3 inches long (fig. 14), shaped like a shepherd's crook. The



Fig. 14. Bronze crook-shaped Pin. (3.)

other is a stout pin of silver, 6 inches long, weighing almost one ounce, and may have been the pin of a large Celtic brooch.

It seems surprising that very little pottery of any kind was found, except in small fragments. Only one piece has any definite shape, and has evidently been a portion of the upper part of a vessel at least 6 inches in diameter, with a broad everted lip,

bordered on the under side by a bold buttress-like ornament, as shown in fig. 15.

We now close this paper, trusting that others more able will throw more light on these excavations. If any definite plan or purpose could be suggested the work might be continued, but meantime we call a halt, having laid bare a very large and extensive series of ruins—quite enough to enable those competent to form an opinion of the nature and date and purpose of those buildings.

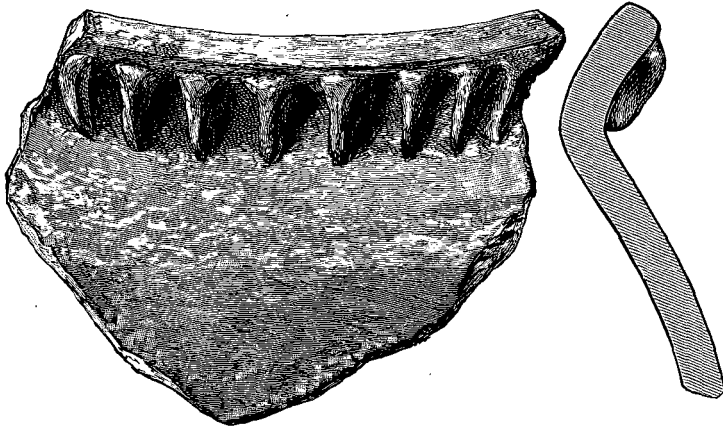


Fig. 15. Portion of Pottery Vessel with buttress-like ornament. ($\frac{2}{3}$.)

My state of health being so unsatisfactory that I was unable to undertake the work, the Rev. W. Fotheringham, Baptist minister of Dunrossness, has, at my request, written the above and taken the photographs.

It is possible that when the burials took place at Jarlshof the people knew that the ground was consecrated. Close to Jarlshof there were the remains of old walls, recently repaired, enclosing what might possibly have been the remains of an old pre-Reformation chapel, which had been used as a burying-place by the Sumburgh family for many generations.

It is possible that this old chapel may have been the Chapel of St Barnaby, known to have been somewhere in the parish.

The following notes supplementary to Mr Bruce's description are supplied by Mr E. M. Nelson :—

I have been asked by Mr Bruce to send a supplemental account of his excavations of the Jarlshof broch at Sumburgh as they appear from my own point of view. Having had an opportunity of closely following the work from its commencement to the autumn of last year, I am able to comply with his request

The position of the Jarlshof broch is lat. $59^{\circ} 52' 5''$ N., long. $5' 9''$ W. This broch is not contained in the lists of Sir H. Dryden, Dr J. Anderson, or Mr G. Goudie. Dryden's list¹ records a broch on "Sumburgh Head, where the lighthouse stands," and this is quoted by Anderson, and marked in that position on his map, but the Jarlshof broch is one nautical mile N.N.W. of the lighthouse.

A description of the broch itself need not detain us, for only one half of it exists, the sea having claimed the other half. The half that remains is very similar to Mousa and other brochs, which have been fully described in the *Proceedings* of this Society.

The chief interest in these excavations is centred in the "secondary constructions."

Excavators are all agreed that "secondary constructions" are composed of masonry inferior to that of the broch itself. In this instance there is a large wall (marked 4 on the plan), with a gallery inside (the entrance to this gallery is well shown in fig. 5), composed of masonry little, if at all, inferior to that of the broch itself. This wall is concentric to the wall of the broch. An examination of the plan shows that this wall has little to do with the secondary constructions. It obviously cannot guard them, for they are situated on both sides of the wall, neither does it form a covered way to any of them. The only hypothesis left is, that it is the remains of an exterior defensive rampart

¹ *Archæologia Scotica*, vol. v.,—"Brochs in Shetland," by Sir H. Dryden.

made by the builders of the broch. It is unfortunate that the presence of many graves in the courtyard of Jarlshof prevented the excavations proceeding in that direction; it is therefore unknown if this rampart extends farther eastward. Two pits were sunk to the south of Jarlshof, to the east of the broch, and at the proper radial distance from the broch, but with negative results. (A glance at the map of the district will show that the sandy bay of West Voe lies to the west; and as the prevailing winds are westerly, it follows that the blown sand would first strike and fill up the buildings on the west side of the broch, so that the builders of Jarlshof would have found the stones of the rampart lying to the east of the broch more accessible, and would have freely used them for their purpose. This accounts for the paucity of buildings on the east side of the broch.) Sir H. Dryden, speaking of the similar rampart of the broch of Clickamin, Shetland, says, "judging by the work, it is rather to be attributed to the builders of the tower than to those of the external chambers."¹

The bases of the piers, which form the alcoves in the secondary constructions, and which support the overlapping stone arrangement by which the roofing slabs are held, are of a peculiar construction. The base of the pier is faced with an upright slab, resting on this is a horizontal slab bonded into the wall, the end of this slightly projects beyond the upright stone. Dr Anderson alludes to this kind of construction.² It is unfortunate that in fig. 7 this feature is hidden by loose slabs resting against the piers, but the arrangement is well shown in fig. 9.

As there is no published account of the method of cooking in a stone pit or cist, a description of a very ancient form of kitchener may be of interest. Upon lifting a rectangular covering-stone, which lacked one of its corners, a well-built cist was found, 3 feet $\frac{1}{2}$ inch long, 16 $\frac{1}{2}$ inches wide, 22 inches deep; the angular joints were carefully luted upon the outside with clay. As the top of the cist was level with the floor, this luting was obviously for the purpose of keeping the interior

¹ *Archæologia Scotica*, vol. v. p. 207.

² *Op. cit.*, p. 136.

of the cist dry by preventing water welling up into it through the joints.

The cist was full of sedimentary deposited mould, which was cautiously removed by hand; this done, a partition about 9 inches wide was found, which divided the cist into two unequal compartments. The smaller compartment, 10 inches long, contained remains of burnt and partially burnt peat; the other, 17 inches long, a few fragments of bone. The key to the problem lay in the dividing partition, for it actually had a flue on either side.

The method of cooking in a stone pit or cist is then plain enough. A fire is lighted in the smaller compartment, the joint to be roasted being placed in the other. The cist is then covered by the stone lid, but not quite close up to the end on the fire side, so that a space may be left for air to enter. This air, heated by the fire, would pass through the side flues, enter the roaster, and finally escape at the aperture made by the missing corner of the lid. Three of these cooking pits were found.

The following contents of the broch are described at length only in those cases where the object has not been previously recorded.

The remains of animals found in the midden were those of the fauna of the islands; no antler horn was found.

A large saddle-backed quern, the top stone missing.

A stone lamp, similar to that from Okstrow, Orkney.

Two well-worked plates of stone, rectangular, with rounded corners, both unfortunately broken and incomplete.

A small curved piece of bone, about 1 inch long, pointed at each end. This corresponds to a bone barb of a fish-hook in the ethnographical department, British Museum.

It should be noted that the common beach stone on the shore in front of the broch is naturally shaped somewhat like a celt; there are two kinds, first a spindle-shaped stone, and secondly a flattish stone, oval, but having one end broader than the other. These stones were found in large quantities, and abrasions at the ends showed that

they had been used. Many of the oval-shaped stones had a chip knocked out of them on each face of their broader ends. Stones with this chipped edge varied in size from about 12 lbs. weight to a pebble hardly a thumb's-breadth. Five well-selected spindle-shaped beach stones were found in a recess in a wall, close to the kitchen just described. In another part of the excavations another set of five were similarly placed.

Two or three carefully-worked discs of stone were found; these



Fig. 16. Disc of Sandstone, with Pattern of diverging Spirals.

differ from the larger roughly-chipped discs or pot-lids previously described, as they are somewhat thicker in proportion to their diameter, and they have smooth surfaces and edges; also they are of a more uniform size, say $2\frac{3}{4}$ inches. One of these, made of a reddish sandstone, has engraved upon one surface Celtic diverging spirals, similar to those on the monumental stones at Hilton of Cadboll and Shandwick (fig. 16). This peculiarly Celtic decoration is known to have been used in the ninth century A.D., which may well be the date of these secondary constructions.