

I.

ON THE RECENTLY EXCAVATED FORT ON CASTLE LAW, ABERNETHY, PERTHSHIRE. BY DR DAVID CHRISTISON, SECRETARY. WITH NOTES ON THE FINDS. BY DR JOSEPH ANDERSON. (PLATES I. AND II.)

Early in spring of the present year, Mr Balfour Paul, then one of our Vice-Presidents, was informed by Mr Bennett, Inspector of Poor at Abernethy, that two residents in the village, Mr Alexander Mackie and Mr James Marr, had employed their leisure hours for the last three years in excavating a neighbouring fort, with the consent of the proprietors of the ground, the late Lord Mansfield, and Mr Alexander Carmichael of Glenfoot, succeeded by Mr John Frazer, and that the work was so far advanced as to be worthy of a visit from some member of our Society.

Accordingly, Mr Paul having asked me to accompany him, we went to the place, and were astonished to see the amount of work accomplished by only two men merely as a pastime, and without pecuniary reward; but truly their labour had not been in vain, as they had unearthed one of the most interesting forts yet brought to the light of day in Scotland. The results then attained seemed to be so important, that, on our recommendation, the Council of the Society granted a sum of money to complete the excavation, and this was accomplished by the end of June.

When operations were well advanced, a general plan of the fort was taken by Mr Thomas Ross, architect, F.S.A. Scot.; and details were subsequently filled in by Mr F. R. Coles, who also made a number of measured drawings. These, with the photographs taken by Mr Macintyre, advocate, serve amply to illustrate the following description.

The village of Abernethy is situated on the narrow strip of low country lying between the eastern termination of the Ochils and the Tay, which, although having no special designation as a carse, may not inaccurately be described as corresponding with the Carse of Gowrie on the opposite side of the stream. The position is fine, but the village, with its population of some eight hundred souls, shows little sign of former

grandeur as the capital of the Picts. The round tower, however, seen in the foreground of Mr Ross's view (fig. 1), confers a certain dignity on

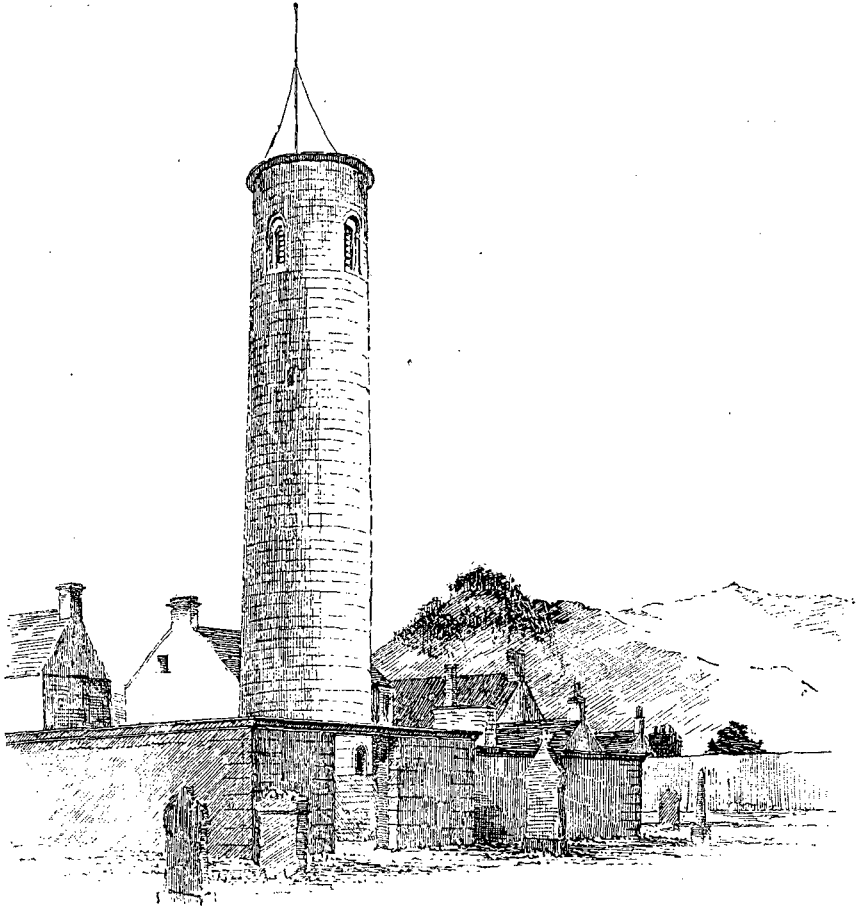


Fig. 1. Site of Fort on Castle Law, from near the Round Tower, Abernethy.

the place, and with a few fragments of carved stones, carries the mind back to early Christian times.

The gradually declining eastern end of the Ochils passes about a mile to the south, still attaining elevations of from 800 to 900 feet above the sea, or about 700 above the carse. Several passes pierce the range into the eastern part of Fife, and one of these, leading to the little town of Strathmiglo, lies directly south of Abernethy. Overhanging the pass, on the terminal spur of the chain from the west, 700 feet above the sea, 600 above the village, and about $\frac{3}{4}$ mile S.W. from it, is Castle Law, the site of the fort, the little wooded point shown in the background of Mr Ross's drawing (fig. 1). It commands a view not easily surpassed among our Scottish panoramic scenes, comprehending the Tay and Earn meandering through the carse on the west, the junction of the streams directly in front of the village, and the estuary of the Tay to the east, with the Braes of Carse rising behind the Carse of Gowrie, and the Grampians closing the view.

The position, as shown in the plan (fig. 2), is strong by nature. Long, steep, partly rocky descents thoroughly protect it on the south, east, and eastern half of the north. The western half on that side is also steep, but soon falls on a small hollow, 40 feet below the level of the fort, filled by a little loch and a marsh, separated from each other by an embankment. The north-east end of the marsh is also embanked, and thence there is again a long and steep descent to the carse. It is only along the gentle ascent by the narrow neck from the ridge to the west that the approach is easy, but it is flanked by the long steep descent on the south, and by the loch close to it on the north.

Before the excavation was begun there was little to indicate the presence of a fort. As Mr Mackie expressed it, "there was nothing to show the position of walls; in fact, no one would ever suppose the hill to be artificial, the surface being almost level and covered with a fine sward." But excavation revealed the tops of two walls of dry masonry (A B and C D, fig. 3) beneath a layer of rocky shingle mixed with earth, from 1 to 2 feet thick. The space between these walls was then cleared of the fallen debris, and eventually they were both traced out on both their faces as far as was judged to be necessary or practicable.

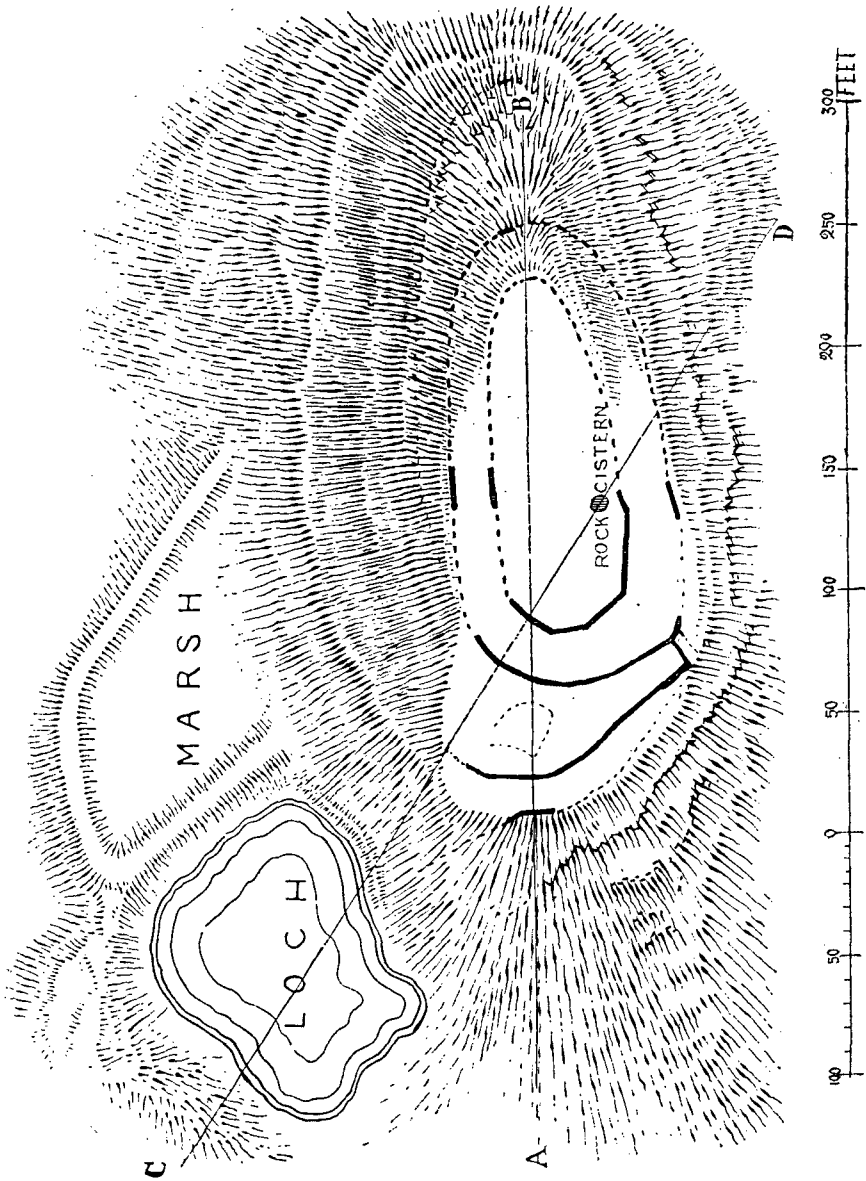


Fig. 2. Plan of the Site of the Fort on Castle Law, Abernethy.

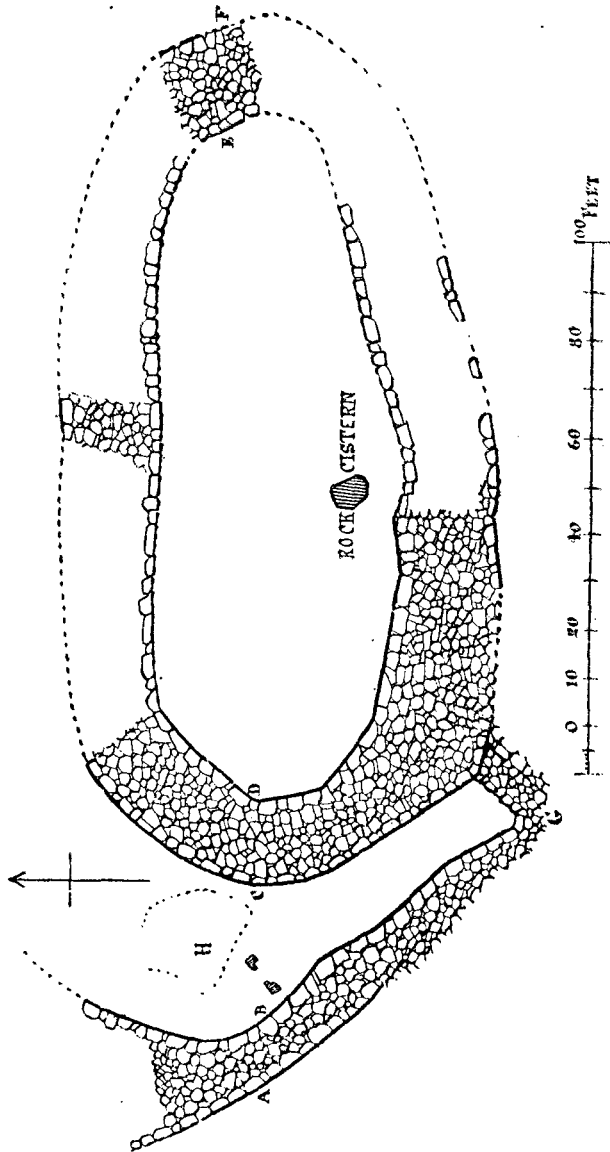


Fig. 3. Plan of the structure of the Fort on Castle Law, Abernethy.

The inner wall C D proved to be the west end of the wall of enceinte, which enclosed the whole top of the little eminence, forming an oval fort, widest towards the west end, and measuring over all about 180 by 90 feet. The tracing of the wall is somewhat irregular, and occasionally is even angled. The width varies from 18 to 25 feet, and Mr. Coles' measured drawings (figs. 4, 5) show that the height of the outer face was still from 5 to 8 feet at the west end. Where thoroughly excavated on the south side (fig. 6), the outer face stands only to a height of 5 feet; but to bring it to the level of the top of the inner face, it must have been

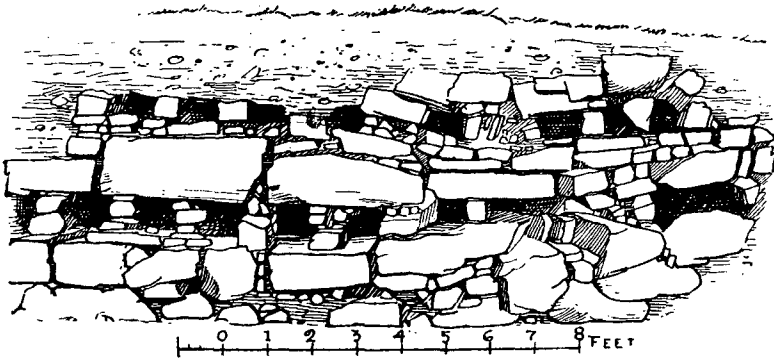


Fig. 4. Outer Face of Inner Wall, West end of the Fort.

at least 10 feet high. The outer face of the wall has a considerable batter, amounting to about 1 foot in 5 or 6, as seen in the profile view (fig. 7).

The height of the inner face is everywhere much less, because, as generally happens in similar sites of Scottish forts, the wall stands on the beginning of the slope, so that the foundation is at a higher level within than without. This is seen most strikingly on the south side (fig. 6), where the difference of level is not less than 9 feet. The foundation was everywhere on the solid rock.

The masonry of the outer face, although composed of blocks varying very much in size, was good and neat where it had not shifted. The

blocks, which were more or less rectangular, varied generally in length from 1 foot to $3\frac{1}{2}$ feet, and in depth from a few inches to $1\frac{1}{2}$ feet, and were well fitted, the few interstices left being filled with small stones. The most remarkable fact, however, was the occurrence of a double row of closely set rectangular openings, 10 or 12 inches in breadth and somewhat less in height, so closely set as to number six or seven in a length

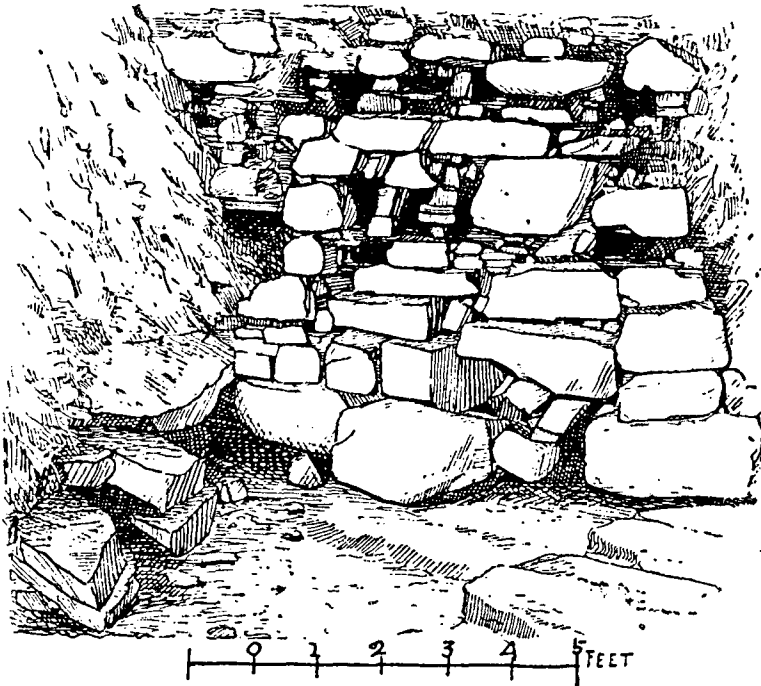


Fig. 5. Outer Face of Inner Wall, and Casing Stones, at base of transverse wall.

of 12 feet. Mr Macintyre's photograph (Plate I.) shows the port-hole-like aspect of a considerable stretch at the west end, where, however, little of the upper row remained. In Mr Coles' drawings of parts further south (figs. 4, 5), both rows are well seen. The lower row varied from 2 to $3\frac{1}{2}$ feet above the base of the wall, and the upper row was about 2 feet



Outer Face of the Inner Wall, West end of the Fort on Castle Law, Abernethy.

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higher. Into some of these holes a stick could be passed to the full length of the arm without touching the end ; and on taking down a part of the wall on the south side, it was found that they were the mouths of channels running 8 or 10 feet into the substance of the wall. Longitudinal channels were also found, and are seen in cross section in fig. 6. Slight remains of wood were found in only one of these channels, but there can be little doubt that they all held wooden beams, which, by natural decay, have disappeared.

The inner face was also fairly well built; but contained no holes. It

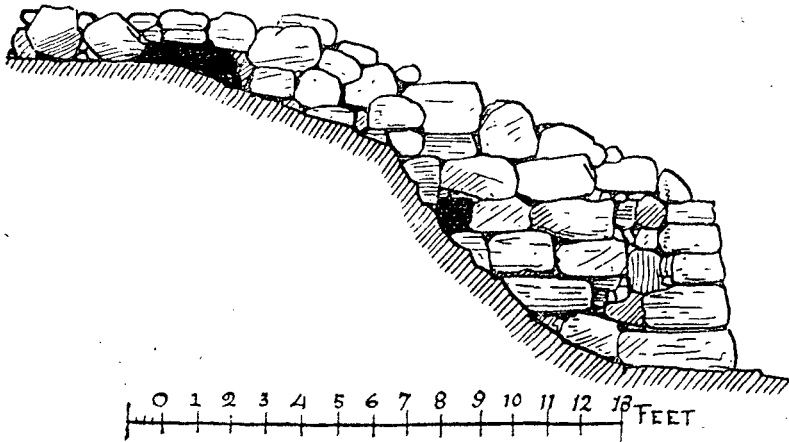


Fig. 6. Transverse Section of Inner Wall, South side.

was traced all the way round, and there was no sign of an entrance through it anywhere.

The outer wall, although in a general way parallel or concentric with the west end of the inner one (figs. 2, 3), follows an irregular course, and is much further apart from it at the north than the south. Indeed, it is a question whether its south end does not spring from the inner one. The outer wall at the edge of the steep descent to the south (fig. 3, G) was ruinous, and could not be traced further ; but, possibly, what appeared to be a short branch connecting it here with the inner wall was really

its beginning or south end. Remains of the faces of this transverse branch, after removal of the rubble, are shown in the foreground of fig. 5, and it will be observed, from the appearance of the inner wall-face, that the transverse branch had not been bonded into it. On the other hand, the interior rubble and inner face of the transverse branch are seen in the plan (fig. 3) to be absolutely continuous with those of the outer wall proper, some of the junction-stones being angled; an arrangement which strongly favours the idea that it was really the beginning of the outer wall. Several courses of the casing on the north side of the transverse branch remained, making a height of about 3 feet at the junction with the inner wall, and 5 feet at the other end; but it was probably much higher, as many large blocks lay beside it. The transverse branch joins the outer wall at a right angle, and the latter then takes a sinuous course northwards for about 100 feet, diverging from the inner wall so much that the width of the interspace increases from 13 feet at the south end to 36 feet at the north end. Arrived at the north descent, the wall bifurcates (fig. 2), and one branch, traced here and there by superficial excavation, descends towards the middle of the loch; the other could not be traced far, as the excavated rubbish lay over it, but it appeared to run concentrically with the inner wall, but diverging somewhat, so that, if it joined the inner wall, of which there was no proof, it was probably by a straight branch, as at the south end.

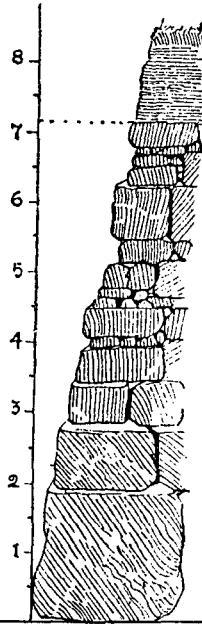


Fig. 7. Batter of Wall.

The width of the outer wall, on the line A B (fig. 2), was 18 feet at the base, and there was a batter on both faces. The height of the inner face remaining was 5 to 7 feet, and of the outer face, in consequence of its lower foundation, as much as 7 to 9, or even 10 feet. A double row of

beam-holes (fig. 8), in excellent preservation, pierced the outer face, placed at a higher level than at the inner wall, the lower row being 4 feet 9 inches above the base, the upper, 2 feet higher. But no holes could

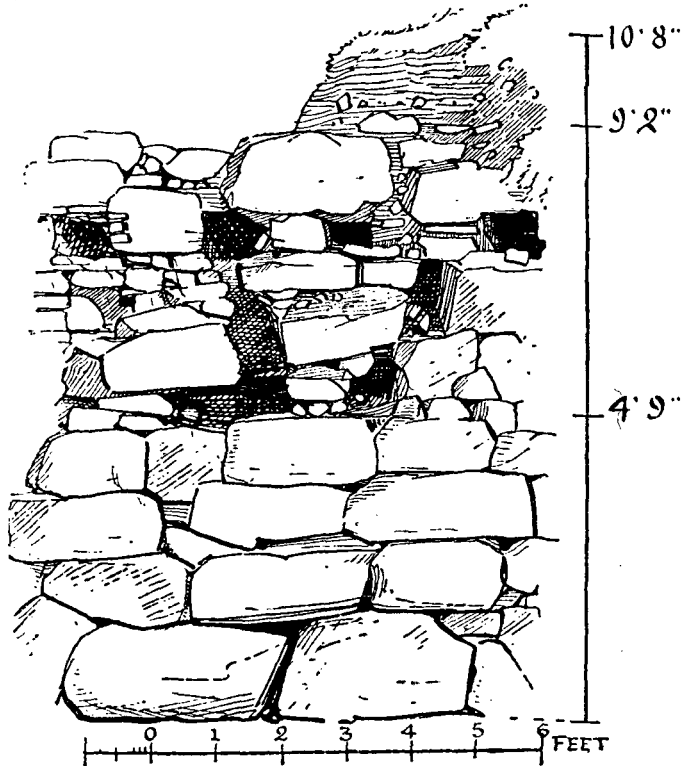


Fig. 8. Outer Face of Outer Wall of the Fort.

be seen on the inner face, although it was excavated to the base in its whole length, as far as the bifurcation; and the masonry, although good, was inferior to that on the outer face. Mr Macintyre's photograph (Plate II.) gives an accurate representation of it.

The space between the inner and outer walls contained nothing but



Inner Face of the Outer Wall, West end of the Fort on Castle Law, Abernethy.

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stone debris to the present height of the walls, above which was the layer of earth mixed with small fragments of stone, which covered the whole area of the fort and its outworks. Very different was the condition beyond the outer wall. Here the ground has also become entirely filled up so as to overtop the wall, although it is still 10 feet high; and a section through the mass (fig. 9), taken from a careful survey by Mr Mackie, shows the following layers:—

A. Earth and small fragments of rocky shingle (a covering common

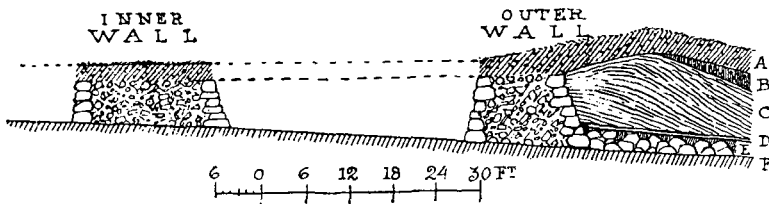


Fig. 9. Transverse Section of Walls, West end, and of Accumulation beyond the outer wall.

to the whole area of the fort), with a remarkable rise in front of the wall.

B. Earth and fair-sized, rounded, water-worn stones.

C. Finely stratified reddish loams, containing small pebbles and fragments of rock, charcoal, burnt bones, quantities of bones indicated by yellow powdery matter and vacant spaces in the structure, two fragments of flint, and one of baked clay. Between the layers B and C were several black bands as if of vegetable matter.

D. A layer of black peaty substance, covering another of blue clay, both being only a few inches thick.

E. Large rolled blocks, in a layer $2\frac{1}{2}$ feet thick at the base of the wall, diminishing to $1\frac{1}{2}$ (at the tail, 40 or 50 feet lower down the approach), and entirely free from earth.

F. The solid rock.

The Interior of the Fort.—This was thoroughly excavated, and was found to measure 136 by 51 feet, but, besides some rude paving of flat

stones, nothing structural was disclosed save a remarkable cistern (fig. 10). It was near to, and about half way along, the south wall, and was circular, from 7 to 8 feet in diameter and 7 feet in depth, and was rudely hewn out of the solid rock. It contained at the top large stones mixed with charcoal and ashes; then a quantity of brushwood consisting of small twigs of hazel, ferns, etc., partially converted into a kind of peat;

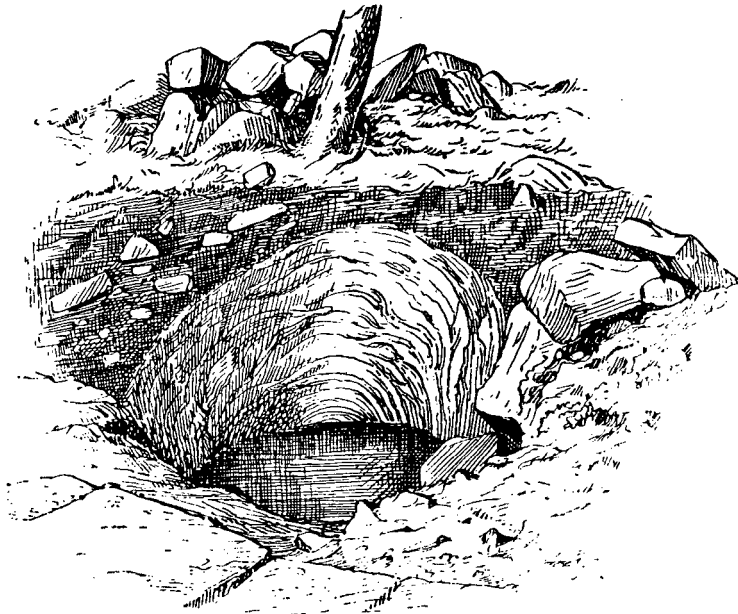


Fig. 10. Rock-Cistern within the Fort.

also a quantity of bones of animals in good preservation, all dyed jet black. There was about 2 feet of water in the cistern. A number of stones lying at the edge may have had some structural connection with it.

The Space between the Walls.—The whole mass of stone debris was laboriously cleared away from the space between the outer and the inner

walls, except the part marked H (fig. 3), which was left untouched; but the only trace of structure found on the floor was a couple of notched stones, opposite each other (near B, fig. 3) *in situ*, as if the checks for a doorway. One of them had another stone of the same form on its top. They were obliquely placed with regard to the walls, and not so as to suggest that a wall had crossed the interspace there.

The Embankment of the Loch and Marsh.—The embankment (fig. 2) is a solid, massive, broad work, though only a few feet in height. A section made through it proved that it was of earth, with no masonry. There appears to be no knowledge or record of its construction for any recent purpose. The part which separates the marsh from the loch is connected with a narrow mound at the edge of the loch (fig. 2), which stops opposite the outer fort wall, where it descends the slope; but a junction between them was not made out.

General Remarks.—This fort is a remarkable example of complete concealment of substantial remains under a smooth, nearly level surface of sward. The amount of surface accumulation varies much in different Scottish forts, and in many there is little or none, and it is often not easy to account for these differences, or to explain how the accumulation has taken place. In this instance, how can we explain the occurrence of a layer, a foot or two in thickness, consisting of earth mixed with small fragments of stone, over the whole area, alike of the interior, the interspace between the walls, the walls themselves, and the descent westward, besides the remarkable rise immediately in front of the outer wall (fig. 9), unless the whole was laid down as a “top-dressing” by the hand of man? and this seems a great labour to have been undertaken for no appreciable object. The mass of stones in the interspace between the walls, immediately below this layer, may well be the ruins of the upper part of the walls, although the quantity seems too great to have come from the boundaries of the space alone. But it is the accumulation outside the outer wall (fig. 9) that is most difficult of explanation. Beneath the “top-dressing,” A, common to the whole, is the layer, B, of earth containing rounded stones of moderate size, which do not appear to have come from

the wall, as red sandstone blocks abound in the latter and are absent in the former. It is difficult to see how this layer could have been deposited on the top of a narrow ridge, since the fort was built, save by man's agency. The third layer, C, from its form, position, and contents, appears to have been due to kitchen and other refuse thrown over the wall. But the band, D, of peaty matter and clay, with the large blocks beneath it resting on the solid rock, constitute another serious difficulty, concerning which, I can only quote the opinion of Mr Mackie, a practical man, who paid particular attention to this part of the excavation. "The layer of clay is flat, and must have been placed by the hand of man, as such clay is not natural to the hill. The lignite or peat, which is always found in conjunction with it, might possibly have been wood at some former period. The blocks of stone in D are mostly very large, filled in with smaller ones, entirely free from earth, and levelled up as it were. They are round and smooth, and could hardly have formed casings, and were regularly placed with every indication of design." The upper parts of the accumulation here described swept round the north flank of the wall between it and the loch, and then stopped abruptly, the north slope east of that point being stony. In this arrangement, also, there seems to be an indication of design.

The walls at Abernethy well illustrate the characteristic foundation of Scottish forts, particularly when built on a small summit. The wall stands not on the very top, but on the beginning of the descent, so that the outer face is on a lower level than the inner one. This is seen in a very marked degree in fig. 6, where the difference in level is as much as 9 feet. Several objects seem to be attained by this mode of building. The interior space is increased, material and labour are economised, the junction of the hill-slope and wall-foot is steeper and more difficult for the assailants to stand on, and it is easier for the defenders to mount the wall.

Evidence of the combination of wood with stone in the construction of Scottish forts is rare. Another instance was discovered by the late Mr Edwin Weston Bell so recently as 1891 at the Castle Law, Forgan-

denny,¹ only 6 miles distant from the Abernethy Fort. In this instance the holes for beams occur only at one part of the inner of two concentric walls, and they contained a great quantity of charcoal or carbonised wood. As no part of the wall was taken down, it is not known if there were longitudinal as well as transverse channels. The only other example, and the oldest in date of discovery, is at Burghead, Moray. Excavations made by the Elgin Literary Society, and superintended by James Macdonald, LL.D., in 1861, proved that the wall contained both transverse and longitudinal beams of oak in a much decayed state,² and this was confirmed and amplified by the more recent investigations of Mr Hugh Young in 1890.³

These three are the only instances discovered as yet, but it must be remembered that very few of the buried stone forts of Scotland have been thoroughly excavated. In the Highlands a considerable number of forts have unburied walls standing to a height of several feet, but no beam-holes have been observed in any of them, neither is there any record of their having been noticed in the far better preserved forts of Wales and Ireland. As is well known, Cæsar describes the walls of the Gaulish forts as being of stone with wooden beams, and excavation has proved the accuracy of his account. It is a mode of construction still not unknown in the East, as one of the chief concerns of the garrison of Chitral in the late siege was to prevent the enemy from getting up to the base of the wall and bringing it down by setting fire to the contained timber.

Water Supply.—The deficiency of a supply of water in the ancient forts of all the three kingdoms has frequently been noticed. At the Abernethy Fort, however, the supply was exceptionally good. One purpose of the outer wall appears to have been to give the garrison control of the loch, and besides this, the rock-hewn cistern was capable of storing a considerable quantity of water within the fort.

Absence of an Entrance.—In most Scottish forts at least one entrance is plainly to be seen even without excavation, but neither in the inner

¹ *Proc. Soc. Ant. Scot.*, xxvii. 16.

² *Ibid.*, iv. 321.

³ *Ibid.*, xxv. 435.

nor the outer wall of the Abernethy Fort, followed up though they were to their full extent, was the slightest sign of an opening found. Only in the neighbouring fort near Forgandenny has a similar deficiency been met with. In the outer of its two concentric walls, indeed, a well-preserved entrance existed, but although both faces of the inner wall were exposed all round, and were still standing to a height of from 3 to 6 feet, no entrance was found. The access, therefore, must have been either over the wall or through a doorway, raised at least 3 feet above the ground.

DESCRIPTION OF THE OBJECTS FOUND IN THE FORT.

By JOSEPH ANDERSON, LL.D.

The relics found in the fort consist of objects in stone, bone, bronze, iron, and wood, with a few fragments of coarse pottery, and two

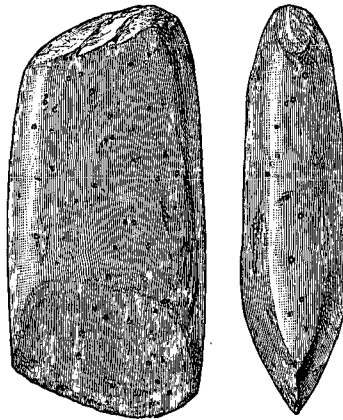
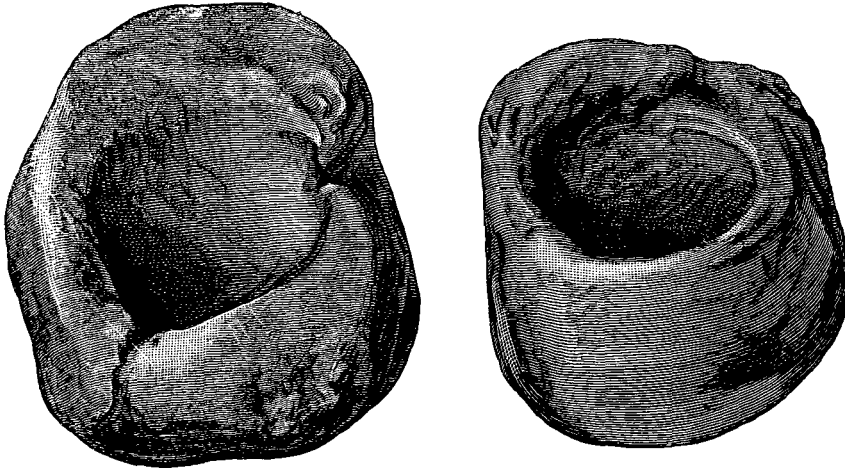


Fig. 11. Polished Axe of Flinstone, found in Abernethy Fort. ($\frac{1}{2}$.)

oval pellets or sling-bolts of baked clay. Bones of animals were occasionally found, and a considerable number had accumulated in the bottom of a pit, which seemed to have served as a well or reservoir of water.

Objects in Stone.—Polished axe of a greenish felstone (fig. 11), 4 inches in length by 2 inches in breadth across the cutting face and $1\frac{1}{8}$ inches in thickness. It tapers very slightly to the butt-end, which is cut off obliquely by the natural cleavage of the stone. The sides are rounded, the faces flattened, and the cutting edge placed obliquely, but in an opposite direction to the obliquity of the butt-end, so that one of the sides is much shorter than the other. The cutting edge is slightly fractured in the middle, as if by a blow.

Stone lamp (fig. 12), being a small boulder of gneissose rock, about $5\frac{1}{2}$ inches in length by $3\frac{1}{2}$ inches in breadth and $3\frac{1}{4}$ inches in height,



Figs. 12, 13. Lamps of Stone. ($\frac{1}{2}$)

having on the upper surface an oval cavity with rounded bottom, measuring 3 inches by $2\frac{1}{2}$ inches in diameter and $1\frac{1}{2}$ inches in depth in the centre. At one side is a depression in the rim, apparently for the wick.

Stone lamp (fig. 13), being a small boulder of coarse micaceous sandstone, $4\frac{1}{2}$ inches in length by $3\frac{1}{4}$ inches in breadth and $2\frac{3}{4}$ inches in

height, having on its upper surface a cavity almost circular, $2\frac{1}{2}$ inches in diameter, slightly conical in shape, and 2 inches in depth in the middle, with a slight depression in the rim at one side for the wick. This lamp still shows the blackening of the upper side from long continued use.

Ring of jet or cannel-coal (fig. 14), $1\frac{3}{4}$ inches in diameter, with a thickness of $\frac{3}{8}$ inch, and an opening $\frac{7}{8}$ inch in diameter, which has been cut by hand from both sides, and roughly polished. The whole ring has been cut from a flat piece of the material, and the outer edge carefully rounded and polished.

Portion of a ring of jet or cannel-coal, which has been about $2\frac{1}{4}$

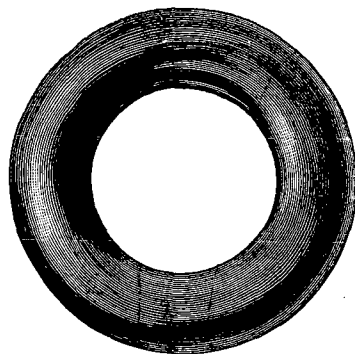


Fig. 14. Ring of Jet or Cannel-Coal. (3.)

inches in diameter, and probably used as a bracelet. It has been ornamented on both sides with a cable pattern, worked from a division in the middle to the border on each margin, the interior surface of the ring being cut flat, and the exterior semi-rounded.

Wedge-shaped piece of cannel-coal, 5 inches in length, and coming to a point about an inch in width, which has apparently been used for rubbing or polishing.

Triangular-shaped hammer-stone, being a water-worn pebble of sandstone, $3\frac{1}{2}$ inches in length, the open abraded by use for hammering or pounding.

Two small chips of black flint.

Implements of Bone.—Only one implement of bone (fig. 15) was found. It is apparently of deer-horn, made by sawing off a portion of a tine, 3 inches in length and $\frac{3}{4}$ inch in diameter. It has been sawn partially

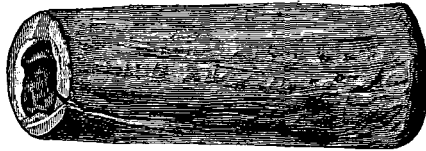


Fig. 15. Handle of Deer-horn. ($\frac{1}{2}$.)

through all round at both ends, and then broken off. In one end is the square aperture, into which the tang of an iron instrument (probably a knife) has been fitted.

Objects of Bronze.—A small bead-like object of very thin bronze, consisting of two hemispherical sections, each $\frac{3}{8}$ inch in diameter, and each pierced by a small hole in the centre.

A spiral finger-ring of three twists (fig. 16), the opening of the ring

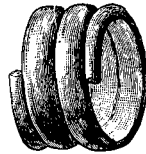


Fig. 16. Spiral Finger-Ring of Bronze. ($\frac{1}{4}$.)

$\frac{5}{8}$ inch in diameter. A similar spirally-twisted finger-ring of bronze, found in what was supposed to be the remains of a brooch at Watten, Caithness, is in the Museum; also a finger-ring of silver of the same type, found with a number of other personal ornaments of silver at Norries Law, near Largo, in Fife. A spiral finger-ring of bronze, differing from these inasmuch as the spiral was made in imitation of the coils of a serpent, was found in the fort at Dunsinnane.¹

¹ *Proceedings*, vol. ix, p. 378.

Fibula of bronze (fig. 17), $2\frac{1}{4}$ inches in length, of pre-Roman Iron-age (La Tène) type, the pin working by a loop on a wire inserted transversely through the convolutions of the recurving end of the fibula. The end with the catch for the pin seems to have terminated in a knob, now broken off. The middle of the bow of the fibula is marked by a concave transverse moulding, with a line on either side.

Objects of Iron.—The iron objects are few, and so much oxidised, that it is impossible to determine their character with certainty.

The largest is a portion of an iron blade, 5 inches long and 1 inch in greatest width, socketed at one end, as if it may have been a spear-head.

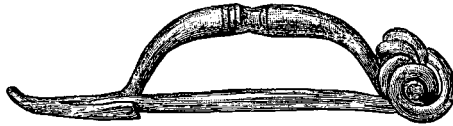


Fig. 17. Fibula of Bronze. ($\frac{1}{2}$)

The blade swells slightly in the middle, but is flatter and more slender in character than is usual with a spear-head of this length.

A piece of iron, $2\frac{1}{2}$ inches in length, of which $1\frac{3}{4}$ inches is a tang like a nail, the outward part being flat, about an inch in breadth, and curved transversely.

An article of iron, $2\frac{1}{2}$ inches in length, having a stalk like a pin^s, with a rounded head, the upper part turned obliquely first in one direction and then in the opposite. Some Iron-age pins have heads so twisted.

A hollow piece of iron like the socketed shank of a spear. It is $2\frac{1}{2}$ inches in length, $\frac{3}{4}$ inch in diameter at one end, tapering to $\frac{1}{2}$ inch at the other end.

Three pieces of iron, much corroded, and resembling portions of large nails.

Objects in Wood.—These are two in number, and are both portions of vessels hollowed out of solid blocks of wood. The largest is a portion of what may have been a circular lid of a wooden vessel, the curve indicating a size of about 8 inches in diameter. The lip or rim is about

$\frac{3}{4}$ inch in thickness, and the thickness of the other part does not now exceed $\frac{1}{4}$ inch in its present shrunken condition. The other is evidently a portion of an oval vessel of wood, with a slight shoulder and somewhat everted brim, in which there is pierced a small circular hole. There is an oval drinking-vessel of wood not unlike this in the Museum.

Pottery.—There are four fragments of very coarse pottery indicating a large vessel or vessels of very rough clay largely mixed with small stones, hand-made and imperfectly fired, similar to the rougher class of pottery vessels found in the brochs.

There are also two pellets of baked clay, resembling sling-bolts, slightly ovate, $1\frac{3}{8}$ by $1\frac{1}{4}$ inches. Both are broken on one side. One is of a reddish clay, the other looks more as if it had been made of ashes from a fire slightly mixed with clay. They are apparently similar in character to the sling-bolts of burnt clay found at Ardoch, and described (with figures) in the last volume of the *Proceedings*, p. 459.

Bones of Animals.—The animal bones found consist, for the most part, of the ox, swine, goat, red-deer, roe-deer, and various birds.