

## II.

### NOTES OF CRANNOGS OR LAKE-DWELLINGS RECENTLY DISCOVERED N ARGYLLSHIRE. BY ROBERT MUNRO, M.D., SECRETARY.

Among the crannogs referred to in the following notes, there is only one which has been subjected to a sufficiently exhaustive investigation to give it a place of importance among lake-dwelling researches, viz., one of two found in the bed of a small loch, now drained, but formerly known as Lochan Dughail, on the property of Sir William Mackinnon, Bart., Balinakill; and as the principal object of this communication is to give an account of the archæological results so obtained, it might seem more appropriate were I to restrict its title to a notice of the excavation of this crannog alone. Various considerations have, however, induced me to adopt the more comprehensive title which stands at the head of these notes. First of all, I wished to put on record the existence of other crannogs in the same locality, which have not yet found a place in any of our archæological works; and secondly, because my knowledge of them has been derived through the same series of consecutive circumstances, which finally led to the exploration of that in Lochan Dughail. This latter has fortunately turned out to

be of exceptional importance ; so much so, that without a description of the various steps which led to its discovery, my report, considered as a monograph of the crannog, would be lacking in completeness. Now, it so happens that in this preliminary story these other crannogs are incidentally alluded to, and to save repetition of explanatory details, I note here in passing the little that is known of them. Previous to my visits to the locality, the knowledge of their existence was confined to a few local observers who were not then sufficiently conversant with lake-dwelling researches to be able to appreciate the full significance of the information they possessed. It is therefore my duty to give due prominence to the labours of those through whose instrumentality the facts here recorded have been gathered together. I shall, accordingly, adhere to the chronological order in which they have come under my own cognisance ; premising, however, that the narrative discloses a by no means uninteresting object-lesson of the methods and means by which such researches can be successfully prosecuted.

1. *Crannog in Loch-a-Bhailidh*.—The starting-point of my investigations was a letter from Mr Hugh M'Lean, of Tarbert, dated 16th March 1892, and addressed to Mr Andrew Muirhead, a Fellow of this Society. As it contained some remarks on a subject in which, for some years, I have taken a special interest, it was handed to me by Dr Joseph Anderson, to whom it had been sent by Mr Muirhead. The following extract from this letter sufficiently explains itself, as well as my subsequent action in the matter :—

“By the most singular of coincidences I was about to write to you when your letter of yesterday arrived. By it I see that the bronze axe has received a place in the list of donations to the National Museum, and I therefore feel pleased to have brought it under your notice.<sup>1</sup> What I meant to write to you about, however, had no reference to the axe, but to what I think is the remains of a crannog or lake-dwelling. Last year I had occasion to go to the back of the march of Carse, the property of Mr Birkmyre, of Port-Glasgow, with reference to its boundary, and on walking thence we passed *Loch-a-Bhailidh*

<sup>1</sup> The axe here referred to is of the flanged type, and was found in the earth attached to the upturned root of a tree, which had been blown down by the gales of the previous winter. The site of the discovery is close to Stonefield House, a well sheltered locality, and one which has yielded several objects of archaeological interest.

(the other party who was with me was James Campbell, a native of the place, and presently the joiner at Stonefield), when my companion drew my attention to the loch, and said that he had been reading about crannogs lately, and thought that a particular spot in the loch was the site of one. I looked at it from the distance, and certainly it answered the description."

The writer then gave a rough sketch of the loch as seen from their point of view, indicating a small circular island with an approach to it from the shore, and stated that rushes grew on the island, among which some stones were to be seen, but that the path was covered with water.

Through the kindness and courtesy of Mr Muirhead I was put into direct communication with Mr M'Lean, who at once and most willingly offered to conduct me to Loch-a-Bhailidh. This loch is irregularly shaped, but of no great size, its greatest diameter not exceeding half a mile, and lies in a moorland district some two miles behind Carse House, at an elevation of 326 feet above sea-level, and surrounded by singularly bleak and desolate hills. To get access to the island necessitated the use of a boat; and as Carse House is about 10 miles distant from Tarbert—this being the nearest point to the loch to which a carriage could be driven—it will be seen that the proposed visit to the crannog required a considerable amount of preliminary arrangement. But no obstacles could withstand the energy of such an ardent antiquary as my friend Mr M'Lean, and so our visit to Loch-a-Bhailidh and its lonely island was successfully accomplished on the 20th April 1892, fortunately under the most favourable conditions as regards weather. We had, moreover, the advantage of the company of Mr Campbell, the discoverer of the crannog, whose knowledge of the locality was of much service, especially during the pedestrian portion of our route across the upland moor. On the outward journey Mr Campbell expressed himself somewhat apologetically, and evidently felt uneasy lest after all the island should turn out not to be a crannog. But as soon as a landing was effected, all doubts on this point vanished, as it was quite evident that the entire island was artificial, and had been used as the site of a rude stone building, the foundations of which still remained. There being only two hours at our disposal, we lost no time in making an effort to extract some information from the remains before us.

The island was constructed of stones similar to those strewn on the shore of the loch, without the aid of piles or underlying woodwork,—at least, no woodwork was then visible. The stones, apparently selected with an eye to uniformity in size, were laid on the natural bed of the loch, and none of them were too large to be transmitted hither by means of human hands and a boat. The island thus formed has an oval shape, 88 feet long and 40 broad, and rises with a sloping margin to about 4 or 5 feet above the level of the water. Its short axis runs north and south, and almost the entire surface of the eastern half of the division thus made was occupied by the foundation outlines of a rectangular building of undressed stones, measuring 38 feet long by 20 broad. Inside this enclosure we dug a hole, and after turning up some mouldy earth came upon ashes and a few stones which presented the appearance of having been exposed to fire. The other half, viz., that adjacent to the nearest shore (western), was completely covered with a luxuriant crop of thickly matted rushes. Here also we dug a hole, and upon removing the first sod came upon a bed of pure ashes and charcoal, from which I picked out a few decayed fragments of bone.

The next point of interest was to examine a curiously disposed band of stout reeds, whose withered stems still showed sufficiently above the water to be readily traced. Its breadth was only a few feet; and as it extended the whole way from the island to the shore, a distance of about 150 yards, the first and most natural idea was that it indicated a submerged roadway. But upon careful examination this suggestion had to be abandoned. Commencing at the western shore, it extended in a slightly curved line, the hollow directed southwards, and then passed round the south side of the island, keeping at a uniform distance of about a couple of yards from its margin, till it reached the middle of its north side. Here it again struck out into the lake in a north-west direction, thus leaving about a quarter of the circumference of the island unsurrounded, and continued this divergent course for about 30 yards, when it suddenly terminated. After a considerable amount of rowing, we ascertained that on the external side of this band of reeds there was always deep water, while on the other the bed of the lake suddenly rose so as to have over it only a depth of about 2 feet. Thus it became manifest

that the loch contained a submerged elevation of a triangular shape, on the apex of which the crannog was laid, and having its base extending to the western shore. The explanation of this peculiar disposition of the band of reeds seems to be that such reeds require a certain depth of water for their growth, neither very deep nor very shallow, and that the steep and comparatively narrow margin of the submerged bank alone supplied this condition.

It is difficult to conceive what could have been the object of constructing a lake-dwelling in a district so barren and desolate as that which surrounds Loch-a-Bhailidh. As a place of retreat or of concealment of treasures in times of war, it would, in the present topographical conditions of the district, be of little use, as it is readily seen from the surrounding heights, except on the supposition that the country was well wooded when the crannog was built. That this was a feature of the neighbourhood in earlier times there is some evidence to show, for just as we were leaving the shore of the loch we stumbled on the decayed root of an oak tree *in situ*, cropping above the moss. Moreover, on our way to the loch we observed, on the southern flanks of the rising ground, lying immediately on its south-west, a straggling colony of stunted birch trees, doubtless the remains of the primeval forest which formerly clothed the upland moors and hills of the greater portion of Scotland.

2. *Crannogs in Lochan Dughailh*.—Upon our return to Tarbert I received information which was the means of bringing to light the two crannogs in Lochan Dughailh. This was a casual remark by Mr Michael, a native of this town, to whom I was introduced as one interested in lake-dwellings, whereupon he asked Mr M'Lean if I had been made aware that the ruins of a wooden house had been found during the recent drainage of this loch. The hint thus given I considered of much significance, and as I was leaving next morning Mr M'Lean promised to look after the matter as soon as the weather, which had now completely broken up, permitted of such out-door work. Within a week I had a most promising report, from which I have pleasure in giving the following extract:—

“Having been at Clachan yesterday, I looked for the mound on Lochan Dughailh when passing, and immediately detected it. On inquiry at Clachan

I found that Samuel M'Taggart was the party who superintended the cutting of the drains when Sir William Mackinnon first conceived the idea of reclaiming the loch, and he accompanied us to the lake-dwelling. I enclose a sketch of its position—*i.e.*, No. 1 on the sketch—and also show another mound, No. 2, which he said was a shooting-place for ducks, but which I am sure, though it might be used for that purpose later on, was not originally designed for that purpose. There were a number of posts, varying in thickness—the tops much decayed—around No. 2, and several around No. 1, but the men drew some of them to save their scythes. There are no stones on No. 2, but the top of No. 1 is strewn with them, lying in disorder, just like the Loch-a-Bhailidh ones. The centre of No. 1 may be, perhaps, 3 or 4 feet above the level of the loch surface. Both of them were quite unknown to residents during my recollection, and they were all my time, 51 years at least, under water. I am convinced that No. 1 is an out-and-out crannog, and for that matter No. 2."

As no evidence short of a practical investigation could be more convincing of the soundness of the opinion here indicated, I at once advised that, before further steps were taken, Sir William Mackinnon should be made aware of the discovery; at the same time expressing my own opinion that the remains in question were worthy of a thorough investigation.

Sir William was not then residing in the neighbourhood, but on being informed by a letter from Mr M'Lean of what had been observed at Lochan Dughail, I received shortly afterwards the gratifying intelligence that as soon as he came to Balinakill he would do everything in his power to facilitate the exploration of the supposed crannog. So the matter stood till the following autumn, when, as will be subsequently described, the investigation was actually carried out, the delay being due to the difficulty of fixing on a time that would be suitable to all the parties concerned.

3. *Crannogs in Loch Askaig*.—Meantime, in accordance with the chronological sequence of events to which I have already announced my intention of adhering, let me transfer your attention to another group of crannogs which I visited in the interval, and which merits a passing notice. This new locality is Loch Askaig, near Tighnabruaich, which, according to current report, contained three crannogs, but nearly always in a state of submergence. My attention was directed to them by a letter, signed John M'Callum, which appeared in the *Glasgow Herald* about the beginning of July 1891, in which it was stated that—

“Two of these, in dry weather, when the water is low, form simple promontories; on the other hand, when the water is above a certain degree they are entirely submerged. This submergence, however, could not take place originally, and is owing to the fact that the water of the loch is now stored up to serve the purposes of a factory. The chief interest, however, centres in the third island, spoken of always by the natives by the name of Crannaig. It lies in deep water, about 60 yards from the shore, directly in front of the ruins of an old castle, and at no time of the year is access to it possible except by boat. The name is sufficiently suggestive of the nature of the island, which is about half an acre in extent. In 1836, when the factory was started, the water was reduced to a lower level than ever known before. Then the bars and huge beams of timber appeared high above the water, and unfortunately the farmer on the opposite shore was allowed to apply his hatchet to them, and as many as he could get at were smashed up for his fire and farm. But though much is irretrievably lost, a little may yet remain of the framework, sufficient to reward a visit to the place.”

I visited Loch Askaig on 11th June 1892, not, however, with the intention of making any practical investigation of the crannogs, as it is evident, from the use to which the waters of this loch are now put, that this was not possible except under very exceptional circumstances, but merely to assure myself, as far as I could in this way, that the above information was reliable. The loch lies about a quarter of a mile north-west of the powder-mills, and is reached from there by following the mill-lade over some roughish moorland. Across its outlet there has been constructed a large embankment of stones and earth, with a sluice in the centre to regulate the flow of water, and to which a deep channel has been dug for some distance into the bed of the loch. The crannog opposite the castle just showed a few yards of its green surface above the water. Of the other two, however, only a few stones could be descried amidst the rippling waves along the southern shore of the loch.

4. *Excavation of the Crannog in Lochan Dughail.*—I have already noticed the steps taken by Mr M'Lean to verify the correctness of the inference that the ruins of the wooden house reported to have been encountered in the course of the drainage of Lochan Dughail was a crannog; and it now remains for me to describe the details of the excavation of its site. Lochan Dughail (*i.e.*, the little loch of Dougall)

is represented on the Ordnance map as a small sheet of water measuring some 600 yards in length by about half this distance in breadth. It was situated on the Loup property, formerly owned by a branch of the Clan M'Alister, but now the property of Sir William Mackinnon, and lay two miles to the north-east of Balinakill mansion-house, close by the Tarbert and Campbeltown road which skirted it for a few hundred yards on its north-western side. When I visited the locality the bed of the vanished loch presented the appearance of a flat, boggy meadow, thickly intersected with the marks of recently executed drains, and all directed to one common point near the centre. Here has been constructed an open stone tank, into which all the main drains pour their contents. From this the united water is conducted by a culvert through a new outlet by means of a cutting 24 feet deep, till it debouches on the lower slopes beyond. This system of drainage, which was completed two years previously, is the second attempt to reclaim the land in question, both undertaken at the instance of Sir William Mackinnon. After the first drainage, effected some twenty years earlier, it would appear that the land, owing to some defect in keeping the drains in repair, quickly reverted to its original lacustrine condition. We have thus to bear in mind that in gathering stray facts in regard to the wooden house from the recollection of workmen, there are two schemes of drainage to be dealt with; and it was fortunate that Samuel M'Taggart, who, as already mentioned, superintended the operations on both occasions, was also the foreman of the men who excavated the crannog. The original outlet was at the east end, and near it there was a small island, now scarcely to be distinguished from the surrounding meadow. The site of the crannog was a cairn of stones about a hundred yards north-west of this island, which, while the loch was extant, showed only a few stones above the water. When the bed of the loch became first exposed, M'Taggart told me that this cairn was connected with the nearest land (the north shore) by a row of stepping-stones, all of which were subsequently removed.

The excavation was begun on the 24th September, and carried on for several days, on two successive occasions, the interruption being due to the occurrence of unsuitable weather. The work was carefully executed.

under my constant supervision, by a number of labourers (4 to 8) supplied by Sir William Mackinnon, who, though unable to be often present himself, took the greatest interest in the disclosures of each day's operations. In surveying the mound immediately before the excavation was commenced, the tops of piles cropping up among the grass could be readily traced right round, in the form of a circle. The central portion was occupied with a cairn of stones which showed no indications of having been formerly part of any enclosure, and only in one place was there evidence that stones had been used with any intentional purpose, and that was at the south-west side, where a row of biggish boulders followed the circumference of the mound to the extent of about 4 yards, as if intended to keep down and consolidate the underlying woodwork. On cutting a trench from its margin to near the centre, the surface of wooden structures came into view at a depth of 12 to 18 inches. This superficial layer of earth was then cleared away, and as the work progressed some transverse beams were met with, which, being left as far as practicable *in situ*, ultimately disclosed a new feature in the structure of crannogs. In the centre, and protruding above the stones, there was the stump of a stout oak pile, firmly fixed, and close to it, on the north-east side, lay a consolidated mass of stones and clay, the foundation of the cairn containing ashes and a blackish substance like the debris of half-burnt peat. Although no structural design was detected in this mass, there could be little doubt that it had been intended for and used as a hearth. At nearly uniform distances from the central oak pile there lay, on the surface of the wooden sub-structures which formed the body of the island, a series of oak beams, 5 to 6 feet in length, and all pointing to the centre, like the spokes of a cart-wheel. These beams were fixed to the subjacent woodwork by pegs of wood on both sides, and sometimes other means were used for the same purpose. One beam had a flat stone lying over it, another terminated at its distal end in a natural curve which sunk into the underlying structures, and the third ended in a fork which rested against a pile. The accompanying plan (fig. 1) will show the positions of the beams actually found. The four beams at the north end (see also sketch, fig. 2) were laid at regular distances, some 6 feet apart at their outer extremities; and as they

appeared to be in their natural position, we calculated that it would take about sixteen more to complete the circuit. Of these, six were actually found in position, but they were placed at irregular distances, as shown

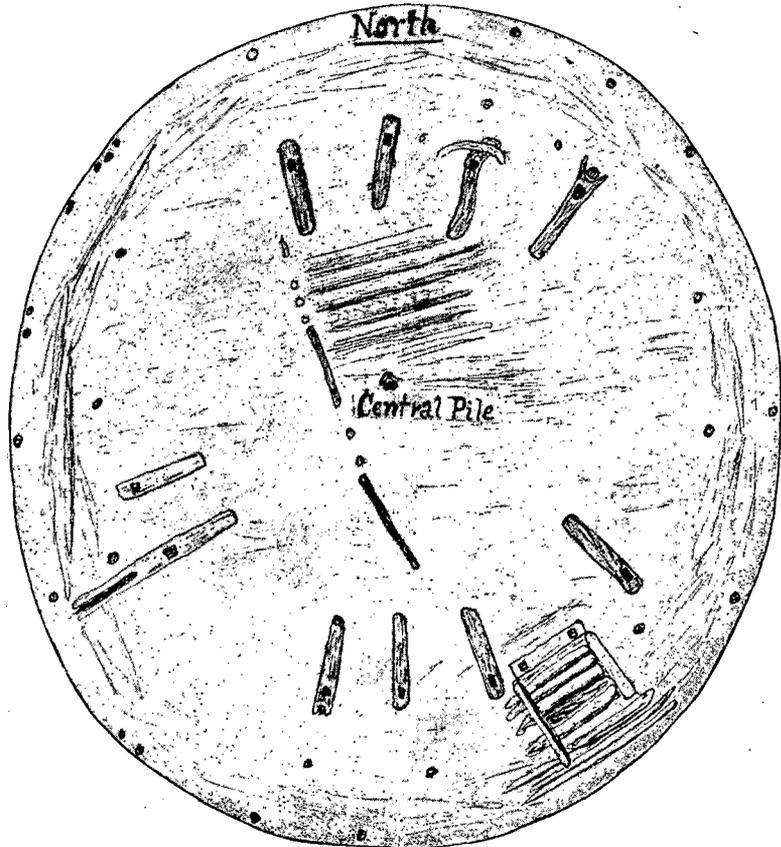


Fig. 1. Ground-plan of Crannog of Loch Dughaill.

on the plan. But although only about half the number of beams requisite to complete the circuit thus remained, it was quite evident that the series was originally complete. Their absence was, moreover,

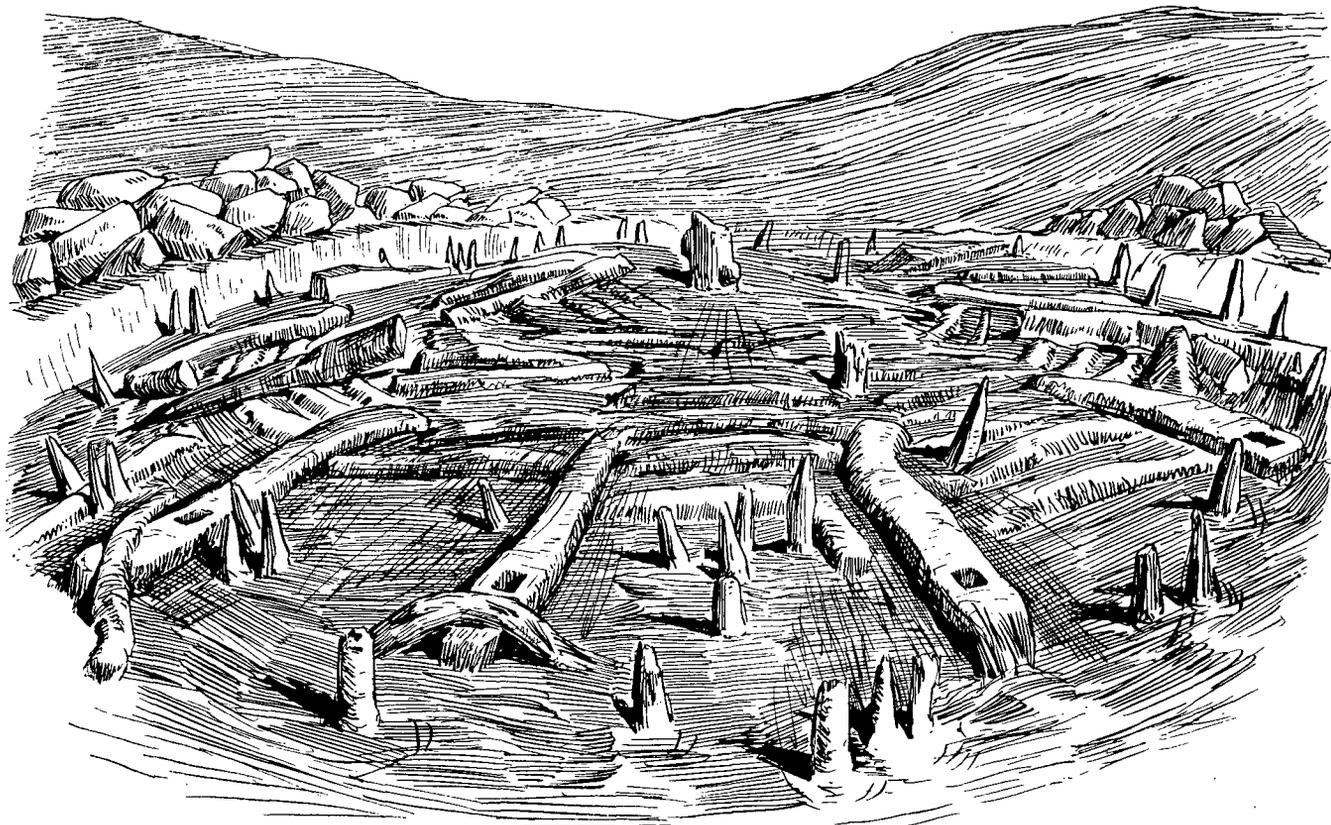


Fig. 2. Sketch of Crannog of Loch Dughail after Excavation. By Lockhart Bogle.

satisfactorily accounted for by the damage done to the crannog during the two drainage operations, when it would appear that large quantities of wood were abstracted and used as firewood. M<sup>c</sup>Taggart assured me, also, that he had seen many such beams floating on the water. But the specially interesting peculiarity of these beams was, that near the outer extremity of every one of them there was a deep notch a few inches in diameter, and worked down through about three-quarters of its thickness. Only in one instance did any of these holes actually perforate the beam. It was also observed that the notches were at nearly uniform distances from the centre, and hence the conclusion that they served the purpose of affording fixed points for a series of poles which had some relationship with the central pile became inevitable; but whether they converged to it like the ribs of an umbrella, or were connected with it by rafters, there was no evidence to show.

At the south-east side (see the plan, fig. 1) there was a somewhat peculiar arrangement of the woodwork, which suggested to every one present the idea of a doorway. Here, in line with the circular row of holes above described, and stretching between two of the radial beams, was a flat-shaped beam, having two mortise-holes, one at each end, as if intended for fixing the door-posts. Leading outwards from this were six or seven round beams laid parallel to the former, and kept in position by a couple of beams running along their ends, as shown on the plan,—an arrangement which undoubtedly served as a causeway of some kind leading to the water's edge.

One other peculiarity of the wooden structures is worth recording, as it strengthens the suggestion that we are here dealing with the foundations and debris of a wooden house. The internal circular area appeared to have been divided into two nearly equal divisions by a partition, as the remains of piles continuous with two horizontal beams were traced right across from the south-west corner of the supposed doorway. If this be a just inference, it will be observed that the outer entrance and fireplace would be in the same compartment.

Along the surrounding stockade which knit together the wooden sub-structures the piles were thickly set, but most of them were so soft and rotten as to make it almost impossible to retain them in position, except

when they were made of oak. There were two well-defined circles of piles, and the space between them was occupied on the surface by long slender beams, extending circumferentially; but the circles were not connected by the ingenious method of mortised beams so well displayed in the crannogs of Lochlee and Buston. The area enclosed by the surrounding piles was of an oval shape, measuring, from the outer circle, 45 feet from east to west, and 49 feet from north to south. Outside this area, however, the woodwork continued for a few feet, and shelved downwards till it disappeared altogether.

In the demolition and removal of the central mass of stones and clay, supposed to have been the base of the hearth, nothing was observed which could be construed as giving to it any definite structural form. Many of the stones had a sooty appearance, and among them was found one large slab prepared with some care. The margin of this stone is nearly circular, with the exception of about one-third which is straight, thus presenting the form of a large segment of a circle. One surface is flat and smooth like that of a quern, but it contains no central aperture, nor does the lacking segment appear to have been broken off. When the entire central mass had been removed, it was found to have rested on a specially prepared log-flooring formed of the trunks of trees, some 8 to 12 inches in diameter, still retaining the bark, and laid close together.

Finally, in order to ascertain the nature and composition of the sub-structures of the island, a square hole, about a yard across, was dug a little to the south-west of the great central pile. The result of this was to prove that the island had been constructed of timbers and brushwood, laid in layers transversely to each other. Some of the beams were of oak, but the larger portion of them were of birch, hazel, and other kinds of wood, and, though quite fresh-looking, were as soft as mud. At a depth of over 4 feet further progress was prevented by an oak beam which lay right across the hole, now narrowed to little more than the breadth of the spade. On each side of this beam a sharp stake could be driven far down, into what we concluded to be the lake silt.

The relics collected in the course of the investigation were all found immediately over the woodwork, and although not numerous, are of

considerable archæological value, and indicate a state of civilisation by no means consistent with the idea prevalent in the district, that the crannog was the home of a robber. Whatever truth there may be in this tradition, it is clear that the original constructors of the crannog belonged to a peaceful community, and lived in a state of comparative refinement and comfort.

#### RELICS FOUND IN THE CRANNOG OF LOCHAN DUGHAILL.

The first object found was a small scraper (fig. 3), of a fine amber-coloured flint, undoubtedly of ancient workmanship, similar to flint implements from graves of the Stone Age. It was manufactured out of an ordinary flake, and measures  $1\frac{3}{4}$  inch in length and  $\frac{1}{2}$  an inch in breadth. It shows evidence along one of its sides of having been put to some rough kind of work, such as would be accounted for had it been used as a strike-light. It lay immediately over the wooden flooring, in a slight hollow between two of the timbers, whence I myself picked it up.

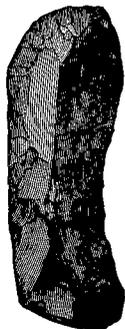


Fig. 3. Flint Scraper  
(actual size).

A perforated stone disc,  $3\frac{1}{2}$  inches in diameter, and rather more than an inch in thickness, made of compact schist, with a smooth and well-finished surface all over. The central aperture is half an inch in diameter, but widening a little towards the orifices. It is altogether too heavy and massive to be used as an ordinary spinning-whorl, and it has been suggested that its proper function was the twisting of the strands of a fisherman's lines. (See paper by W. Ivison Macadam in the *Proc. Soc. A. Scot.* for 1880-1, p. 148.)

Four sharpening-stones or hones made of a fine-grained sandstone, such as is to be found in the silurian rocks of the neighbourhood. These were all more or less fragmentary, except one, which is in the form of a rectangular bar, 16 inches long,  $2\frac{1}{2}$  broad, and  $1\frac{1}{2}$  thick. It shows unmistakable evidence of having been long in use, as all its surfaces are considerably worn down.

Five or six kidney-shaped polishers, of a whitish quartz, 6 to 8 inches

long, such as could be picked up from a bed of finely-rolled pebbles on the sea-shore. Two of these objects, apparently selected for uniformity

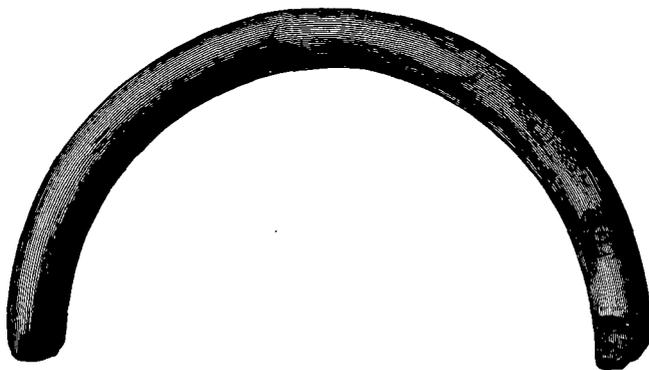


Fig. 4. Portion of Ring of Cannel Coal (actual size).

in size and shape, were lying close together near one of the radial beams, and inside the western compartment of the dwelling-house. One of the pair has slight friction-markings on one end, and a few fine pittings on part of its surface, as if it had been used in driving a thin nail. Another of the same class of implements,  $3\frac{1}{2}$  inches long, is made of a blackish stone, probably of basaltic origin, and has a fine glossy surface, approaching to that of bottle-glass.

About half of a circular ring bracelet (fig. 4), made of cancellous coal, measuring  $3\frac{1}{2}$  inches in diameter ( $2\frac{3}{4}$  internal).

*Pottery.*—Several fragments of wheel-made pottery were collected on various parts of the crannog, and out of them the vessel here figured was reconstructed (fig. 5). The fragments so adapted, some thirty or forty in



Fig. 5. Jar of Glazed Earthenware ( $6\frac{1}{2}$  inches high).

number, were fortunately lying together in a heap near the margin of the crannog, and close to the east side of the roadway to the supposed entrance of the wooden house. As will be seen from the engraving, this jug has a rather elegant appearance and form, and is unlike any of the ceramic productions, either of prehistoric or mediæval times, hitherto known to me. It was made of fine clay, the texture of which is hard and compact; and its external surface, now almost entirely denuded of its yellowish brown glaze, has a reddish appearance. This glaze, which has a metallic lustre, is much more preserved on the inside of the vessel, especially near its mouth, than on the outside, but this peculiarity may have been due to its long maceration in the waters of the loch. The vessel measures  $5\frac{1}{2}$  inches across the mouth,  $7\frac{1}{2}$  at the bulge, and stands to the height of  $6\frac{1}{2}$  inches. The span of the handle is 4 inches long, and the space enclosed by it gives room for the easy insertion of the two forefingers.

Among the other fragments of pottery are two handles of the same character as the handle of the restored jug. Another (fig. 6) is unique in

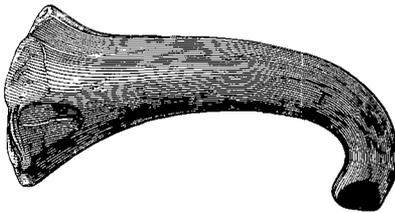


Fig. 6. Projecting Handle of Earthenware Vessel (4 inches in length).

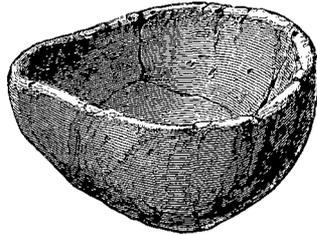


Fig. 7. Crucible of Clay (actual size).

its way, being apparently a terminal projection from the surface of the vessel, like the handle of a frying-pan. Portion of the rim of a small dish, having a V-shaped protuberance or spout for pouring out a liquid. The base of another dish is circularly striated on the inner surface, but on the outside it presents large facets, as if moulded by a spatula—a feature which is applicable also to the corresponding portion of the restored jug.

One of the most interesting of the relics is a small conically-shaped

crucible (fig. 7),  $1\frac{1}{2}$  inch in its greatest diameter. It is coated externally with reddish slag, no doubt due to the action of a strong fire, but on its inner surface nothing could be detected indicative of the nature of the material for the smelting of which it had been used. Its smallness would render it unsuitable for smelting anything but the more precious metals. I may here observe that in the Buston crannog three such crucibles were found, in one of which particles of gold were actually detected adhering to its inner surface. (See *Ancient Scottish Lake-Dwellings*, p. 236.)

Besides these relics, which so far indicate a condition of industry and peaceful habitation, there are some portions of worked wood which require a passing notice. Some beams are pierced with round holes at regular intervals, like the sides of a ladder; others are long, slender rods prepared with a hatchet. One thin board of oak, 4 feet long and 6 inches broad, is perforated with a number of holes, and has symmetrical recesses cut at both ends, as if intended for ornamentation.

The organic remains were not abundant, only a few bones, representing the ox, sheep, and deer, being as yet recognised. If, however, the enterprising proprietor carries out his present intention of extending the excavations so as to include a zone, a few yards wide, outside the circle of piles, we may expect some addition to this class of remains, as it is probable that the food-refuse of these occupiers of the crannog would have been thrown into the lake. M'Taggart informed me that, when cutting a drain close to the north side of the mound, he turned out ashes, sea-shells, and many bones, among which were the skulls of sheep.

In concluding this notice, let me say that the Lochan Dughail crannog is unique, inasmuch as it is the first in Scotland which has yielded clear evidence as to the kind of dwelling-house erected by the crannog builders. Here it was a large, circular, tent-like structure, 32 feet in diameter, constructed of wood, and supported by one central and some twenty surrounding uprights. The facts disclosed justifies the opinion, which first came to me through Mr Michael, of Tarbert, and which seems to have been based on the observations of the workmen who had witnessed the ruins at an earlier stage, viz., that a wooden house once existed in Lochan Dughail.

The other crannog in this loch is 250 paces nearer the Campbeltown road. It was detected by a circular line of posts projecting above the grass, but there is scarcely any mound to be seen. The area enclosed has a diameter of 11 paces, and on making tentative diggings within it, a layer of brushwood was encountered. But these remains, so far as examined, seemed to me to indicate an unsuccessful effort to construct a crannog; but if it had ever been completed, and occupied as such, the period of occupancy must have been of short duration.