

XV.—*Results of Excavations at the Broch of Burrian, North Ronaldsay, Orkney, during the Summers of 1870 and 1871. (Plates XLV.—XLVI.)*

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(Communicated June 10th 1872.)

The broch of Burrian, styled locally the Castle of Burrian, is situated at the southern extremity of the island of North Ronaldsay. The site has long been known to be an artificial mound, the sea having encroached upon and exposed a part of the circular wall of the tower; but with that exception it quite resembles a natural grassy hillock.

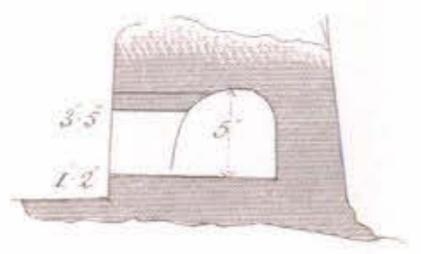
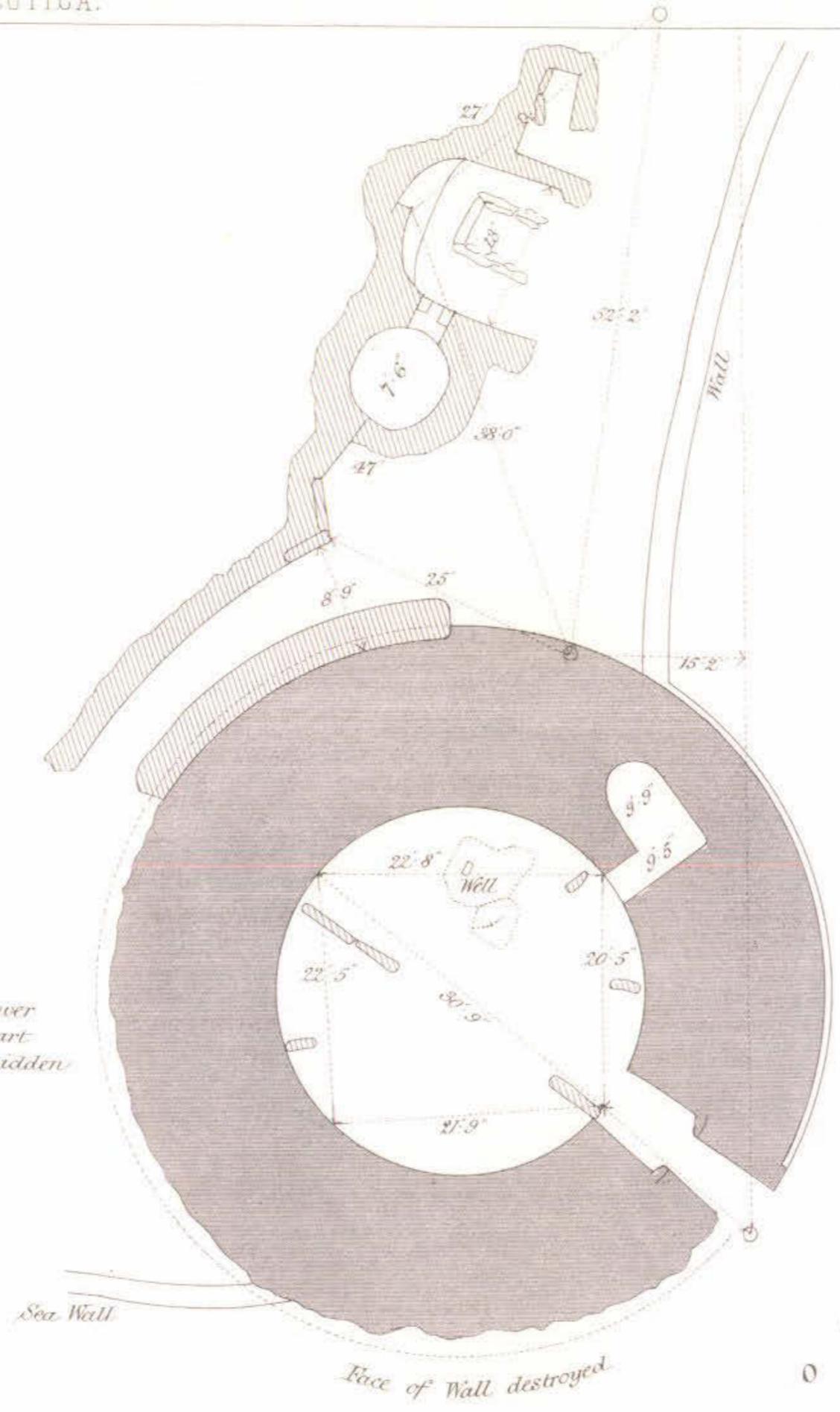
A closer examination shews the remains of four concentric walls or fences, at nearly equal distances from each other, surrounding the mound. The circle formed by the outer wall is about one hundred yards in diameter. All the walls are so overgrown with turf that only a few stones here and there appear on the surface.

On the 5th of September 1870 we commenced our excavations, and as there was no doorway visible externally, we proceeded to dig down, as nearly as we could guess, over the centre of the tower, and I consider it fortunate that we did so, as by thus descending from level to level we came upon very distinct evidence of at least two separate occupations of the building, with apparently a long interval of time between them. The original inhabitants of the building appear to have left various rude implements on a paved floor at the base of the structure. From one to two feet of rubbish had accumulated over that; and there, as we worked downwards, we first came upon an upper paved space, and various partition walls, built upon the debris that overlay and concealed the original floor. At this upper level we found some bone combs, single and double edged, beautifully finished and ornamented, also a variety of other articles quite different from those which we subsequently discovered in the lower floor. In this upper floor there was also found an oblong stone cist partly embedded in the earth below the floor or paved space; it was half filled with red ashes, and contained a water-worn stone with geometric figures or symbols in-

scribed on it. In conducting these excavations, and more especially in ascertaining the form and extent of the broch and its outworks, I was very materially assisted by Sir Henry Dryden of Canons Ashby in Northamptonshire, who has very kindly placed his notes at my disposal. I shall therefore avail myself of his measurements and bearings, which he carefully took with instruments on the spot, and these, with the aid of the plan given in Plate XLV., will render the general form and position of the building and outworks more intelligible. It will be observed that the underground chamber is on the plan designated a well, but I should mention that there was no water in the chamber when we discovered it, although some surface water has since drained into it.

The cist which contained the small figured stone stood at the west side of the well or underground chamber; it was 3 feet 6 inches long by 1 foot 6 inches broad, and about 1 foot 6 inches deep. When found it was covered with an oblong flagstone, between which and the cist, clay had been carefully plastered, apparently for the purpose of excluding air and moisture. The above-mentioned chamber or well was about 6 feet deep; it was approached by steps cut in the rock, and was concealed from view by flagstones covering the entrance, the weight of which was partly supported by a square pillar or block of stone placed on end, and extending from the base of the chamber to its summit. It will be seen that the second occupants, perhaps ignorant of the existence of the underground chamber, had built a heavy wall over it, besides closing up the entrance to another chamber that the former occupants had built in the wall of the tower. On the north side of the broch there is a strong fence or buttress of heavy stones set on end and edgeways against the tower; whether erected to strengthen the wall, or as an additional means of defence against a hostile attack, it is not easy to determine.

Still more to the north of the broch there are several small outworks partly excavated; their general form may be seen on the plan. Judging by the bone pins, combs, and other implements found in them, I am inclined to consider them coeval with the second occupation, as the encroachment of the sea at this part of the island has apparently swept away parts of the concentric walls, and even injured the main wall of the broch to some extent. It seems likely that more extensive outworks formerly existed here, as we came upon the foundations of a square chamber close to high-water

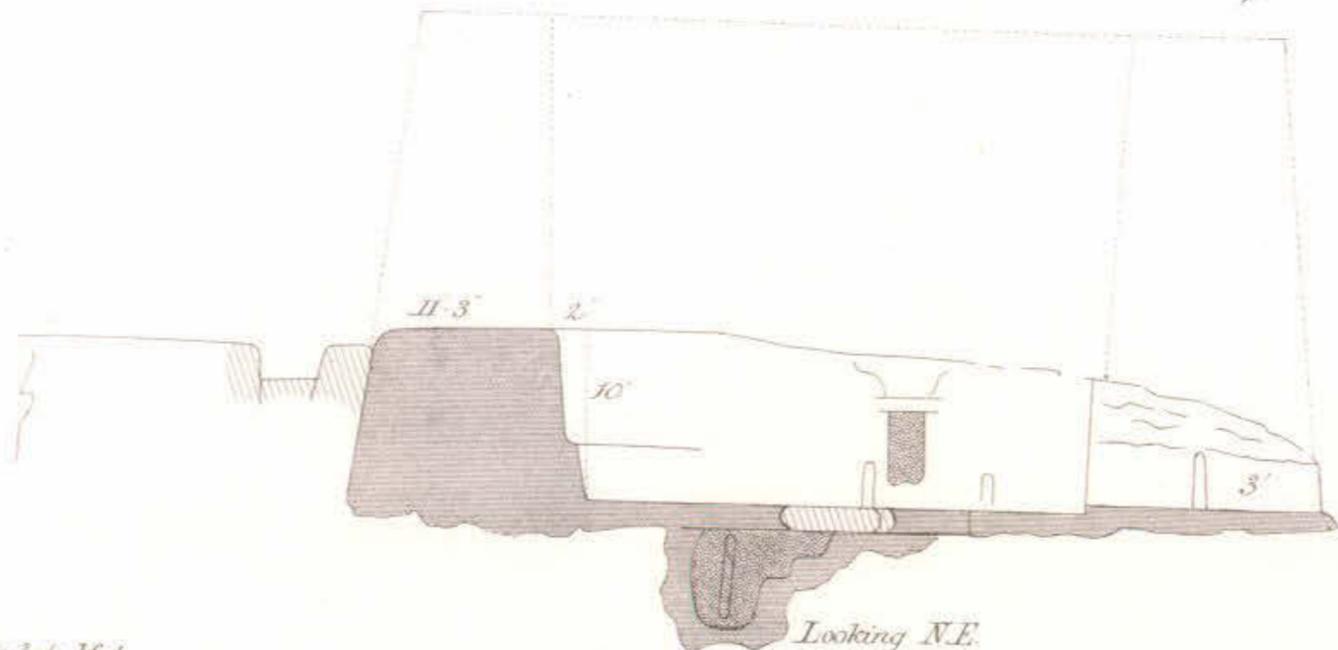


Lower part hidden

Sea Wall

Face of Wall destroyed

ROCKS



Looking N.E.

H.D. & J.T. 1871

Scale 1/8 inch to 1 foot.

BROCH OF BURRIAN, N. RONALDSAY. GROUND PLAN & SECTION.

mark, in which was found a bone whorl, a long-handled comb of deer horn, and a few other small articles.

The following measurements, &c., are from Sir Henry Dryden's notes:—

“The pavement of the middle of the court is 13 feet above high-water mark.

“The tower, or broch proper, is 30 feet 9 inches in diameter, inside average, near the floor, and the wall about 15 feet thick at the base, making originally a total diameter of about 60 feet, which is the usual size.

“On the west and north about 10 feet height of wall remains, and on the south about 4 feet.

“The batter of the wall, inside and outside, is about 10 inches in 5 feet of height, so that at 10 feet high the wall is about 11 feet 6 inches thick.

“The entrance is on the S.E. facing the sea; it is 4 feet 3 inches wide at the inner end, and was about 3 feet 3 inches at the outer end, but narrowed to 2 feet 10 inches by two stone slabs set on end. All the roof of the entrance is gone.

“On the north-east is one chamber in the wall, 9 feet 9 inches by 5 feet 9 inches wide, of which the entrance is 2 feet 2 inches wide and 3 feet 3 inches high, with lintel over it. The chamber was about 5 feet high in the middle, but most of the roof has tumbled in. It was roofed in the usual way by overlapping stones, finished by large slabs.”

The form of the broch having been, as I trust, fully explained, I shall now endeavour to detail what we found in it. Bones were, as usual, abundant. I have chiefly selected from them, for the inspection of the Society, such as show marks of human handiwork, with the exception of two or three skulls of animals, and part of a leg-bone of an ox, which appear to have been fractured for the purpose of extracting the brains and marrow. So universally has this custom been practised, that among many barrow loads of bones that were removed we could not find a single marrow bone entire. Of articles of food I may mention that we found numerous remains of oxen, sheep, deer, hog, seal (*Halichærus gryphus*), whales of at least two species, sea birds, fish, crabs, limpets, and other *Testacea* of common kinds. There were, I think, two varieties of hog, some of their tusks being very small, while others were as remarkable for their extraordinary size.

Of human remains there was identified only one broken jaw bone, the teeth of which were worn down very flat.

Subjoined is a list of the different kinds of manufactured articles found in Burrian, by which it will be seen that, in number and variety, the collection is unusually large. This I attribute partly to the practice we adopted of occasionally stimulating the flagging zeal of the diggers by the offer of a small pecuniary reward for the discovery of any object of unusual interest.

A few of the relics are rare, if not unique. Some of the bone pins exhibit such delicate workmanship, that they may almost be looked upon as the prototypes of our modern toilet pins; two bone needles shew much neatness of execution: but of all the bone articles, none display so much evidence of artistic skill as a series of finely-cut hair combs, single and double edged, which evidently belong to the second period of occupation; some of them are neatly ornamented with concentric circles and dots; and it will further be observed, that each comb has a hole drilled through one end of it. It may, perhaps, appear too hasty a deduction, to assume that this hole was made for passing a cord or thong through, by which the comb could be suspended from a peg, or possibly hung round the neck of its fortunate owner; yet it is certain that the small fragment of comb with the rivets of bronze or brass bears evident marks of having had a cord of some kind attached to it, traces of friction being clearly seen both in the holes and on the batten between them.

The labour and skill bestowed upon these combs must have been very great; none of them are made of one piece, but of a number of small pieces of bone, placed side by side, accurately fitted together, kept in position by a flat batten of bone on each side, and further secured with rivets. All the combs of this kind found at Burrian were riveted with iron. The small piece of a comb put together with bronze pins was accidentally turned up by some workmen employed in removing earth from a mound about a mile to the westward of Burrian.

I have been much struck with the resemblance these combs bear to some of the typical forms of comb figured on the ancient sculptured stones of Scotland, which, I think, are intended to represent combs similarly made of small pieces, kept together with side battens and rivets.

A number of long-handled combs were also found, chiefly on the lower floor; one was on the floor of the above-mentioned chamber in the wall, and another was dug out of some rubbish outside the tower, on the north side.

These are sometimes called broch combs, and I believe that in the

majority of cases they have been found in or near such buildings. Doubts have been expressed whether or not these implements have been intended for combing the hair, and it has been thought by some that they are more adapted for carding wool, or some textile fibre.¹ It is noticeable that the teeth of some of them are irregularly notched on one side. These combs appear to belong to the time of the first occupation, some of them are made of the bone of a species of whale, others are constructed of deers' horn, a few of them are slightly ornamented, or at least marked with crucial incisions.

Several small oblong pieces of bone were found here, somewhat cylindrical in shape, the surface partly rounded and partly flat or angular, inscribed with dots and circles, some of which have been made with a drill, but others are more rudely carved, apparently with a knife. From the peculiar arrangement of these marks it is supposed that the bones were used as dice for some game of chance; so far as we could judge they appeared to belong to the second occupation. Undoubtedly the most curious and interesting bone relics found here are two metatarsal bones of a small ox, on which are rudely traced certain symbolical marks; one of the specimens is much defaced, but on the other the well-known emblem of a crescent and a V-shaped sceptre can be easily seen carved on one side of the bone, while on the other side there is a central dot, surrounded by a circle on a kind of angular pedestal, which is almost an exact fac-simile of an emblematical figure on a sculptured stone at Kintradwell in Sutherlandshire.

The only other article of bone which I think requires special notice, is a small broken implement perforated at one end, which, from the irregular spiral lines on its surface, has, I think, been a part of a drilling apparatus, perhaps a bow drill, which is a very simple instrument, and much used in the East at the present day.

Of articles of stone I may specify the following: lava or vesicular obsidian, of which many pieces were found among the ruins, some of them rubbed into an angular shape, and others artificially perforated. This vesicular lava floats in water, is frequently found on the shores in Orkney,

¹ Another purpose has been suggested for these combs by Mr Anderson, viz.:—That they were used in weaving, for driving home the weft in the upright loom. See the paper "On Spinning and Weaving in Pictish Towers," in the "Proceedings," vol. ix. p. 548.

and is supposed to drift over from Iceland. The water-worn stone with geometric figures has been already mentioned, but it may further be observed that the figure on one side of the stone has circles in the angular spaces, and a twin circle in the central part, also something like the head of a bird at one side of the figure, all of which may have been intended to convey some mystic meaning.

A stone slab with an antique cross and an Ogham inscription was also dug up here. I believe it is the first relic of the kind that has been found in a broch. It was at once forwarded to the Museum of this Society in the hope that the writing might be deciphered.¹ That hope has not yet been realised; but the stone is nevertheless valuable as a part of the cumulative evidence, that the Orkney Islands were once inhabited by an ancient Celtic race; though the brochs were possibly not constructed by them, for we must not lose sight of the facts that many of these buildings afford very conclusive proofs that they have been tenanted by different people at different times.

The slab was found towards the south side of the broch, where the wall was so low that, though the slab lay not much above the floor of the tower, it was also not far from the surface, so much so, that roots of plants had penetrated between the stratified layers of the stone, and defaced parts of the cross, though the inscription fortunately has escaped with little or no injury.

While we cannot avoid connecting the Celtic symbols discovered in this building with the Celtic inscription and cross on the stone slab lying so near to them, yet the fact of the monumental stone being found so near the surface should prevent us from too hastily concluding that they belong to the same period. It is well known that in this and other countries the pagan custom of burying the dead in mounds was continued for some time after the introduction of Christianity. It seems to me quite possible that the presence of the stone slab was due to the prevalence of this custom; and if so it must, I think, be conceded that centuries may have elapsed since the time that occupants of the broch carved these symbols of the sculptured stones, ere the ruins of the same building could have assumed the appearance of a grassy mound adapted to purposes of sepulture.

¹ See the different readings of this inscription given on pp. 349, 351.

Near the centre of the broch we found broken pieces of a vessel of pot-stone or steatite, of an oval shape, 16 inches long by 7 inches deep. It showed chisel marks inside, and it was much blackened with soot. This mineral is not found in Orkney, though it is very abundant in Shetland; and it is curious that among the stone articles found there were also several pieces of a large fossil encrinite, which, as well as the pot-stone, must have been imported.

Of bronze articles there were found three pins, one of them plain, and and the others slightly ornamented. It is worthy of note that in their general shape they resemble some of the bone pins found in the same locality. It is very remarkable that, of all the articles we discovered, there were none so perishable as those made of bronze; no sooner were they exposed to the air than they began to decay, verdigris spreading over them in one night like a fungous growth. After trying various remedies in vain, I was advised to coat them thickly with varnish, which seems to have arrested their decay for the present; but some smaller bits of bronze that were not so treated are gradually being converted into a green powder.

Next to the bronze we may turn to examine the various articles of wrought iron that were found here; and it is somewhat singular that, unlike the bronze, which appears to have undergone no change until exposed to the air, the iron articles (if we may call them so) have all the appearance of having been long ago entirely changed into rust or oxide of iron, in which state they do not seem liable to further change, at least in an ordinarily dry atmosphere. Some of these articles that were accidentally broken in digging them up were found to be hollow in the centre. A hollow iron ring that we picked up did not excite much attention; but when a broken knife blade was found to be in the same condition our curiosity was excited, and we were induced to examine all the specimens of iron more carefully. It appeared to us that this abnormal state of the iron implements is caused by the metal oxydising in layers. The outer layer being most exposed to atmospheric influence first exfoliates, the second layer then follows and adheres to the first; layer after layer thus exfoliates, forming a spongy mass of rust, until the inner core is reached, which, in its turn, undergoes the same change, attaches itself to the surrounding spongy mass, and thus leaves a cavity in the centre. Among the iron implements were several lance heads, and a small bell of the form peculiar to the early Celtic Church,

which had originally been coated with brass or bronze, the verdigris of which is still adhering to it.

Many broken pieces of pottery were dug up, of the same colour, and apparently of the same quality, as common flower-pots. Only one bit showed traces of an embossed pattern. Much of the pottery was blackened by smoke.

Glass was represented by one blue bead, and a small fragment of some glass vessel, both highly iridescent.

Among the ashes on the floor were a good many lumps of wood charcoal. There were also in some places heaps of charred straw or rushes, a few parcels of which I collected and preserved.

Some of the facts elicited during the present excavations, and also borne out by discoveries simultaneously made in a broch at a different part of the country, indicate a period so much more modern than was supposed, as at first to give rise to a feeling akin to disappointment; whereas, in a historical point of view, the interest now deepens, for we need no longer contemplate a state of savage life separated from our era by such a wide gap as renders it hopeless to endeavour to trace any connection between them.

It is, doubtless, true that we have not at present any means of determining the precise period at which the older forms of Orkney "Picts' houses" were built. We have, however, every reason to believe that the brochs immediately succeeded them, if, indeed, the one period did not overlap the other. The two styles of architecture, though very dissimilar, possess some striking features in common. I may instance the low doorways, the absence of windows, and the fact that no lime or mortar was used in building.

Remains of deer, and other wild animals, are found in both, and their inhabitants seem to have adopted the same custom of breaking the long bones of animals to extract the marrow. Other facts again, as we have seen, tend to prove that the dwellers in the Brochs had attained to a higher state of civilisation. In the broch of "Lingrow," near Kirkwall, Roman coins of the first and second centuries were lately discovered; in another broch fragments of Samian ware have been found; and in the locality which we are at present considering, the description of articles found—in particular, the iron bell of Celtic form, the Celtic symbols engraved on bone and stone, and lastly, the cross and Ogham inscription—all point to a definite period, and help us to supply missing links. Thus, we not only make an approximation to chronological order, but we may also fairly conclude that the brochs were at one

time tenanted by an ancient Celtic race. As to the "vexed question" of the identity of the Picts and Celts, I do not presume to venture an opinion, but there cannot be a doubt that a series of similar excavations carefully and patiently conducted, will conduce to throw much light on this deeply interesting subject.

APPENDIX.

The following is a detailed description of the Collections from the Broch of Burrian which were presented to the Society's Museum by Dr Traill, as noticed in the "Proceedings" of the Society, vol. x. p. 5:—

Objects of Stone.

Slab of Clayslate, 2 feet 4 inches in length and $14\frac{1}{2}$ inches in greatest breadth, having incised on its flat surface a cross of peculiar form, and on the space between the shaft of the cross and the side of the stone a line of inscription in Ogham characters. The form of the cross is that seen on the sculptured stones of an early character at Ulbster, in Caithness, and Monymusk, Aberdeenshire. Some parts of the surface of the Burrian stone have scaled off, and the cross is thus incomplete towards the bottom of the shaft, where there are remains of a figure which appears to resemble a fish. The Ogham inscription appears to be complete except in one part near the middle, where there is a slight break in the stone. (See Plate XLVI.)

A copy of the inscription having been sent to Sir Samuel Ferguson of the Public Record Office, Dublin, an accomplished Oghamist, and an Honorary Fellow of this Society, he wrote to the late Dr Stuart offering some suggestions towards a provisional reading of the text, and pointing out the difficulties which it presents. In that letter he says:—

"All your Scottish Oghams which I have seen differ from ours in indicating the vowels, not by notches on the arriis, but by stem-crossing digits, distinguishable from the stem-crossing consonants only by their relative inclinations. The consonants generally appear to be incised obliquely, the vowels perpendicularly to the stem; but it may be *vice versa* in some cases, and hence one source of perplexity.

"Besides this, common to them all, your Orkney text presents combinations not found, that I know of, on any Irish lapidary monument, or in any Irish or other written text. We have a single cross intersecting on the stem  thus, to which the power is generally ascribed of *ea* diphthong. Besides this the Orkney legend has like intersections of groups of three  and five  unknown to my experience, over and above a back-to-back

character $\rightarrow\leftarrow$ of which one Irish example only exists that I know of (at Camp), where it apparently reads as the ordinary St Andrew's cross above referred to.

"To assign values to these on any other theory than the apparent needs of the context, would seem to me, in the present state of our information, to be a vain attempt. But what is the context—Latin? Gaelic? Old English? I read a name apparently ending in *mann*, and what seems a verb ending in *acht*, whence, if I could steady my footing so far, I might infer that the language is some form of our own speech, and that some one of some such name as Mab ograrmann or Gorm^r // mann or Gorarmann did something in respect of an object described by the last word which seems to end in *ocqs*. If that were so, we might infer that the \times formed by the crossing of two characters, which singly might stand for *u*, is designed to express *u u*; and venture on reading the seeming verb as *wrract* = "wrought," "fashioned," and the \times following the $\rightarrow\leftarrow$ as *krr* evolving *krrocqs* = "cross." What, then, should we say to the intermediate group, beginning with $\rightarrow\leftarrow$? They will yield no articulate sound read as they run in their context; but if regarded as segregated, and read from *above* instead of from below (see Stephens on what he calls one of the Runic "elegancies" of reading digits as of their opposite powers), their known elements furnish the equivalents of *etts*, whence possibly it might not be out of the range of likelihood if we accepted that hint for concluding the $\rightarrow\leftarrow$ in this collection to stand for *th*, so as to read the whole—M. A B G O R A R M A N N W R A C T T H E T T S K R R O C Q S. But would this be at all like the kind of old English which might be looked for in the Orkneys? It is a question for Copenhagen rather than Dublin."

The late Richard Robert Brash, author of a posthumous work on Ogham inscriptions, also communicated a note on the reading of the inscription as follows:—

"The Ogham inscriptions hitherto found in Scotland differ materially from those found on stone monuments in Ireland. In the latter the vowels are (with one exception) formed or represented by groups of short scores, or by oval or circular dots cut on the angle of the stone. In the former, on the contrary, they are represented by long scores vertical to the angle or stem line, to distinguish them from the consonantal groups, which are cut obliquely; but this difference, which should be strongly defined, is not always attended to in the Scotch examples, hence much of the difficulty encountered in rendering the Newton inscription. Again, the Irish examples show the groups of scores well defined and separated, so that there is seldom any difficulty in arriving at the values of the groups. In the Scotch this is not attended to; the legends are very irregularly and confusedly cut, and apparently on no regular system, while the Irish and Welsh examples appear as if they were the work of one hand.

"For these reasons none of the Scotch legends are intelligible, with the exception of that on the Bressay stone, which has been fairly rendered by Dr Petrie, owing to its being more carefully executed than any of the others. Attempts have been made to give a reading of the Newton legends without success. The late Dr Petrie, Mr John Windele, and the Rev. Mathew Horgan gave it up in despair. I have myself pored over it day after day, but could never satisfy myself as to the value to be assigned to all the score groups. The wheel inscription at Logie is equally a puzzle. The truth is, the legend in this stone cannot be read, as we have no clue to its commencement, and all the letters are consonants.



a.

SLAB WITH INCISED CROSS AND OGHAM INSCRIPTION FROM BROCH OF BURRIAN.

(27 inches in length.)

(a shows the Inscription, nearly of the actual size.)

“The result of my study of the Scotch examples is this—that they are of comparatively late date, that they were not cut by persons acquainted with the monumental Ogham character of the Irish Gaedhil, but by scribes or ecclesiastics, who took their scales from those MSS. in which alphabets of that character have been preserved. This is particularly observable in the Bressay legend, which contains six peculiar characters found only in the alphabets contained in the Ogham tract from the “Book of Ballymote,” and not one of which has been found in any Irish monument.

“The above remarks hold good with respect to the minute line of Oghams cut on the face of the grave slab found in Burrian Broch, North Ronaldsay; they are the smallest I have seen on any stone monument, and are evidently of the same age as the other sculpture on the same face. An examination of the legend shows that it must read from the bottom upwards. I have, however, failed in a satisfactory rendering of it, and can only at present attempt to identify the letters, which I have numbered in the enclosed tracing, and have attached the values of the groups as far as I can at present see my way. There can, I think, be no difficulty about the first twelve groups, which I take to have the following values:— I A L E L R A R B A N N; the small score before No. 2 I make no account of; No. 7 appears slightly oblique in my copy. I am, however, inclined to give it a vowel value; the enclosing of Nos. 6, 8, 11, and 12 by lines drawn at the ends of the scores is a freak of the engraver, and does not affect the values of the characters. The 13th character is difficult to deal with; if a consonant, its value would be N G; if a vowel, U. I would be inclined to give it the latter value. We have then a doubtful character, marked by dotted lines, three scores slightly oblique; this would read N G. Nos. 15, 16, 17, 18, and 19 read R R A C T. No. 20 is a character found on many Irish monuments; its value in the MSS. is given as E A. On the Crickhowel example it reads P, by the aid of the accompanying Roman legend. Nos. 21, 22, 23, and 24 easily read E F F C. Nos. 25 and 26 create a difficulty; they either represent two consonants, M M, or two vowels, A A. Nos. 27, 28, 29, 30, and 31 read R O C C S. Taking this view of the values of the characters in this curious inscription, we have the following:—I A L E L R A R B A N N (U or N G) N G R R A C T (E A or P) E F F C (M M or A A) R O C C S. I look upon the cross scores on No. 27 to be an attempt to form a certain character found in the MSS., and also on the Bressay stone, or else marks of obliteration. I do not attempt to form these letters into words; I should wish to be more certain of the correctness of my copy ere I should attempt to do so.”

Oblong water worn Pebble of Claystone, $6\frac{1}{2}$ by $2\frac{1}{2}$ inches, abraded at both ends by use as a pounder.

Oblong smoothed and water-worn Pebble of hard Claystone, 6 by $1\frac{1}{2}$ inches, greatly abraded at both ends by similar use.

Oblong smoothed and water-worn Pebble of indurated Claystone, 7 by 2 inches, abraded and broken at both ends by similar use.

Oblong smoothed and water-worn Pebble of Grey Sandstone, $6\frac{1}{2}$ by 2 inches, similarly worn at both ends.

Whetstone, being an oblong Pebble of fine-grained reddish Sandstone, 6 by $1\frac{1}{4}$ inches.

Flattish boat-shaped piece of Steatite, 5 inches in length, $1\frac{1}{2}$ inch across the middle, and 1 inch thick, tapering to both ends, and having a small hole partly drilled through one end. One of its flat sides is marked transversely, as if by cuts of a sharp instrument.

Flattish circular Pebble of Quartz, 3 inches diameter and 1 inch thick, marked on the surface with streaks as of rusty iron.

Oblong Pebble of brownish Sandstone, having incised on both sides figures of crossed triangles, as represented in the annexed woodcut (fig. 1). A somewhat similar figure, formed of intersecting triangles, occurs, with the comb and shears, on a Stone at St Andrews, Fifeshire. —*Sculptured Stones of Scotland*, vol. ii. pl. ix.

Five pieces of black vesicular Lava, irregularly conical in shape, having small holes pierced through the narrow ends. They vary in size from 3 inches in length, by about 2 in breadth and thickness at the bottom, to not more than $1\frac{1}{2}$ inch in length, by less than 1 inch square at the bottom.

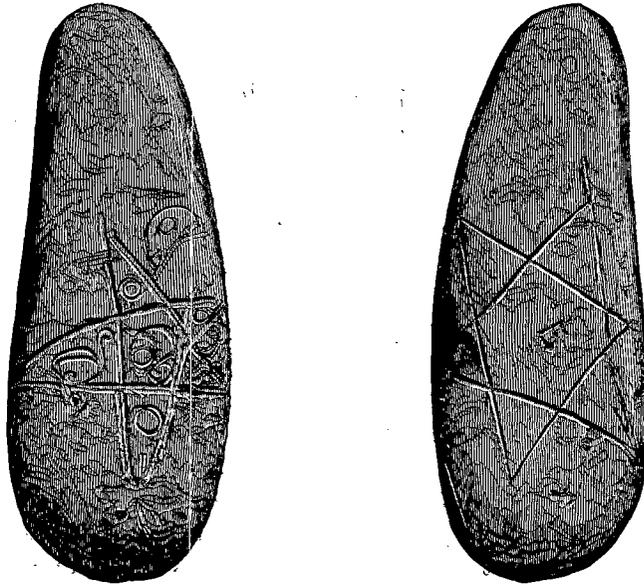


Fig. 1.—Stone with incised figures of crossed triangles, 6 inches in length.

Twenty-two Whorls or Discs of Stone, perforated in the centre. The smallest is $\frac{3}{4}$ inch diameter and $\frac{1}{4}$ inch thick, with a perforation $\frac{1}{4}$ inch in diameter. The largest is 2 inches diameter, and nearly $\frac{1}{2}$ inch thick, the perforation in the centre being $\frac{3}{8}$ inch in diameter. A number of these seem to have been whorls for the spindle. Some of the smaller ones may have been meant for table-men. One is ornamented with radiating lines, and has a channelled edge. Another has been used for some purpose by which the sides of the hole have been worn by the friction of a thread or fine cord passing through it.

Ball of Sandstone, $2\frac{1}{4}$ inches diameter, having a socket-hole $\frac{1}{2}$ inch wide, tapering to $\frac{1}{4}$ inch at the bottom, and about $\frac{1}{2}$ inch deep.

Twelve Pieces of Fractured Flints, none of which show any traces of artificial working.
Seventeen Pebbles of various sizes, very smooth, round, and highly polished.

Objects of Bone.

Sixteen Whorls of Bone, mostly made of the head of a femur of an animal, pierced with a hole in the centre, and about $\frac{1}{4}$ inch in diameter. A few of the smaller ones may have been table-men.

Awl or Borer, made of the leg-bone of an animal, $4\frac{1}{2}$ inches in length.

Awl or Borer, made of the leg-bone of an animal, 7 inches in length.

Awl or Borer, made of a splinter of bone, $3\frac{1}{2}$ inches in length.

Implement of Bone, 5 inches in length, made by cutting the leg-bone of a sheep obliquely across, so as to produce a long thin segment. It has been broken at the point.

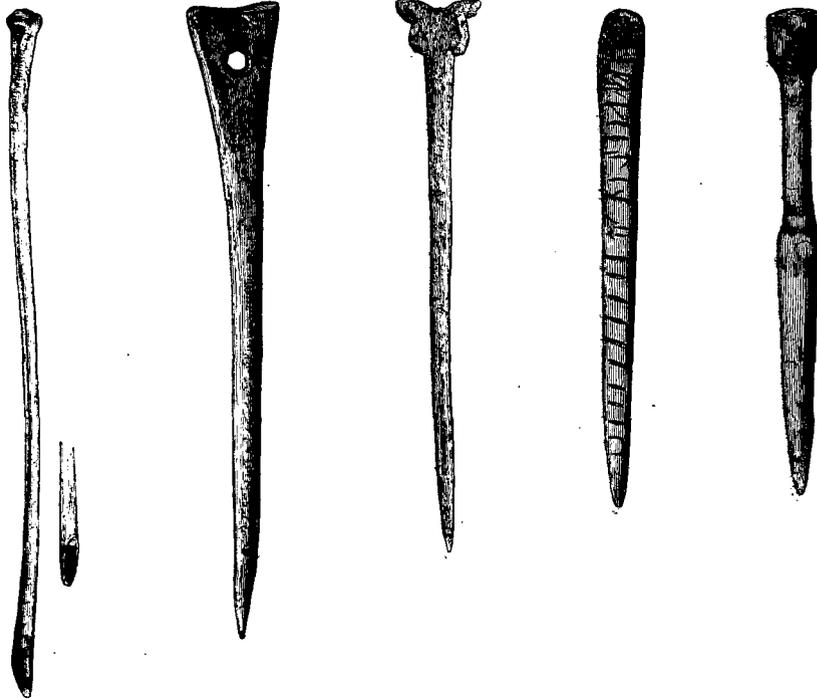


Fig. 2.

Fig. 3.

Fig. 4.

Fig. 5.

Fig. 6.

Fig. 2.—Bone Implement, $5\frac{1}{2}$ inches in length.

Fig. 3.—Bone Pin, $4\frac{3}{4}$ inches long.

Fig. 4.—Crutch-headed Bone Pin, $4\frac{1}{2}$ inches long.

Fig. 5.—Bone Pin, ornamented with rune-like marks.

Implement, $5\frac{1}{2}$ inches in length, made from the radius or wing-bone of a bird by cutting the bone obliquely across near one end, and grinding the section smooth (fig. 2). It is not clear to

what useful purpose this curious implement may have been applied, but it is found, on trial, that it can be used as a pen for writing with.

Eight Pins made of bone, varying in length from $4\frac{1}{2}$ inches to $2\frac{1}{2}$ inches, with flat heads, made from the natural articulating ends.

Three similar Pins, broken.

Seven Pins of bone, varying in length from 5 to $3\frac{1}{2}$ inches, with flat triangular heads

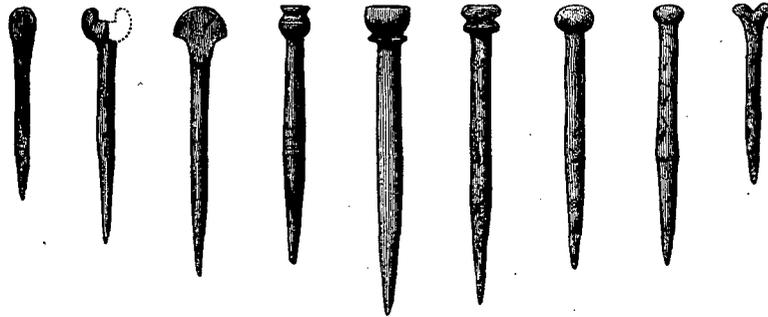


Fig. 7.—Bone Pins, with ornamental heads. (Actual size.)

fully $\frac{1}{2}$ an inch wide, and perforated. The head of one, which is here figured (fig. 3), is ornamented with a number of small holes.

Two Pins, $4\frac{1}{2}$ and $3\frac{1}{2}$ inches in length, with crutch-like heads (fig. 4).

Two Pins (broken), one with the head ornamented with a cluster of small holes.

Pin, $2\frac{1}{2}$ inches in length, ornamented on one side with incised markings, some of which resemble runes (fig. 5).

Pin, $2\frac{1}{2}$ inches in length, with flat head, and swelling in the middle (fig. 6).

Twenty-five Pins, varying from $2\frac{1}{2}$ inches to 1 inch in length, finely made, with ornamental heads, one or two with a band above or below the head (fig. 7).

Eight Pins, varying from $2\frac{1}{2}$ inches to 1 inch in length, with flat, circular, or spade-like heads.

Two Small Pins, 1 inch and $1\frac{1}{4}$ inch in length, with bifurcated heads.

Pin, 2 inches in length, the head being neatly carved into two horses' heads, looking opposite ways (fig. 8).

Thirty Pins, broken or without heads, from 4 inches in length.

Fig. 8.
Fig. 8.—Bone Pin, with carved head. (Actual size.)

Fig. 9.
Fig. 9.—Bone Needles. (Actual size.)

Three Needles, with elongated eyes. One is broken, the other two are $1\frac{3}{4}$ inch and $2\frac{1}{4}$ inches long respectively (fig. 9).

Small Pin, 1 inch in length, with perforated head.

Five Pegs of hard, solid bone, from 3 to $1\frac{1}{2}$ inches in length, and from $\frac{1}{4}$ inch to $\frac{1}{8}$ inch diameter.

Portions of two Slips of Bone, flat on the one side and convex on the other, one having three pegs driven through it in holes at equal distances from each other, and the other two having one peg only.

Slip of Bone, $3\frac{1}{2}$ inches in length, about $\frac{1}{8}$ inch in thickness, sawn flat on one side, the other slightly convex, and having two holes $\frac{1}{4}$ inch in diameter, neatly bored, about $\frac{1}{2}$ inch from either end.

Two thin Slips of Bone, $3\frac{1}{4}$ inches and 2 inches in length, by about $\frac{1}{2}$ inch in breadth, pared smooth on both sides.

Handle of Deer's Horn, being part of a tine, $2\frac{1}{2}$ inches long and $\frac{1}{2}$ inch in diameter, having in each end a tapering, square-shaped hole, as if for the insertion of the tang of a metal implement.

Handle of Deer's Horn, $4\frac{1}{2}$ inches in length and $\frac{3}{4}$ inch in diameter, having similar holes at each end, and one end split by use.

Handle of Deer's Horn, apparently of a knife, $2\frac{3}{4}$ inches in length, and $\frac{1}{2}$ inch in diameter, with the tang of an iron implement remaining in the socket.

Handle-like Implement of Deer's Horn, $2\frac{1}{2}$ inches in length, having an oblong cavity in one end, which is discoloured by oxide of iron. A small hole is pierced transversely through the implement, as if for suspension.

Handle-like Implement of Deer's Horn (?), being the end of a tine, $4\frac{1}{2}$ inches long, with a round hole, $\frac{2}{8}$ inch in diameter, pierced transversely at about $\frac{1}{2}$ inch from the wide end.

Two Knobs of Bone, 1 inch in diameter, one having the remains of an iron tang in it.

Pin, made of Bone, $2\frac{3}{4}$ inches in length, having a squarish head, with rounded top, about 1 inch by $\frac{3}{4}$ inch, projecting from one side of the pin only, the shape of which is flat, and about $\frac{1}{2}$ inch wide by $\frac{1}{4}$ inch thick. A hole about $\frac{1}{4}$ inch in diameter pierces the head of the pin perpendicularly in the centre, coming out alongside of the shaft.

Three pieces of Bone, two being portions of the shank-bones of a sheep, and one a piece of hard bone, pared to a cylindrical form, and worn smooth at one end by the friction of a thread or cord passing round them.

Half of a square-shaped Stud or Button of Ivory, with a small hole for the shank, discoloured by oxide of iron.

Two Studs or Buttons of Bone, made from short sections of the leg-bone of a sheep. One has the iron shank still in the hole, and has been pierced with another hole in the side.

Two Broken Buttons, similar to the former.

One piece of a Shank-Bone, cut off to be made into such a button.

Three Oblong Dice, each made of a piece of sheep shank-bone, $1\frac{1}{8}$ inch in length. The one here figured (fig. 10) is ground flat on one side, on which there are six points; on the convexity of the bone there are five points; on the flatter part

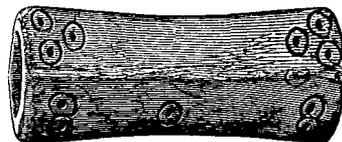


Fig. 10.—Die made of the leg bone of a sheep. (Actual size.)

of the bone (which is broken), there are no markings to be seen, but a portion of one near the centre shows there was at least one number on that side; on the remaining side the number seemed to have been four. In the second die the surface is so much gone that the numbers cannot be distinguished. Of the third die there is only one side remaining, on which there are four points. Dice of this form are also found in graves of the Viking period in Norway.

Tool of Bone, 4 inches in length, having a rounded point, with two grooves cut in it leaving prominent parallel ridges about $\frac{1}{8}$ inch apart (fig. 11).



Fig. 11.—Tool of Bone. (Actual size.)

Thin Disc of Bone, $1\frac{1}{2}$ inch in diameter, with two small holes through the centre.

Thin Disc of Bone, $1\frac{3}{8}$ inch in diameter, with a dot and circle in the centre, and two small holes midway between the centre and circumference.

Broken portion of an oval-shaped piece of Bone, polished, and having two holes drilled in it.

Oval Object of Bone, probably of whale, 3 inches long by 2 inches wide, and 1 inch thick, having a square hole through the centre, as if for the tang of some iron implement.

A similarly-shaped Object of Bone, $2\frac{1}{4}$ inches in length, $1\frac{1}{4}$ inch in breadth, and $\frac{3}{4}$ inch thick, with a square hole through the centre.

Implement made from a flat piece of the bone of a whale (?), $6\frac{1}{2}$ inches long, $3\frac{1}{4}$ inches broad, and $\frac{1}{2}$ inch thick, rubbed smooth at both ends, and along the sides, probably a "weavers' rubbing-bone," for smoothing the web after it was woven (fig. 12).

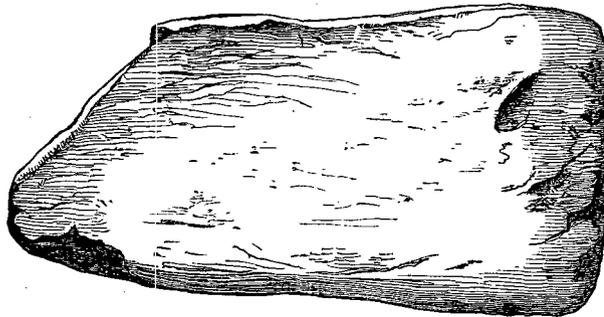


Fig. 12.—Rubbing bone made of the bone of a whale, $6\frac{1}{2}$ by $3\frac{1}{4}$ inches.

Similar Implement of Bone, 8 inches by $4\frac{1}{2}$, and about $\frac{1}{2}$ inch thick, broken on the edges.

Similar Implement of Bone, $4\frac{1}{2}$ inches by $3\frac{1}{4}$, and about $\frac{1}{4}$ inch thick, rounded at the corners, and having the ends and edges rubbed smooth and polished by use. In shape it is

somewhat curved, as if made of the hard outer layer of a large jaw or rib-bone, probably of a whale.

Similar Implement, 5 inches by 4, and about $\frac{1}{4}$ inch thick, with rounded edge, worn and polished by use.

Similar Implement, being an oval disc, $3\frac{1}{4}$ inches across its greatest diameter, and less than $\frac{1}{4}$ inch thick, with part of its edges smoothed and polished by use.

Similar Implement, $7\frac{1}{2}$ inches long, $3\frac{1}{2}$ inches broad, and about $\frac{1}{4}$ inch thick, having one of its ends rubbed smooth and polished by use.

Similar Implement, 6 inches long, and $3\frac{1}{2}$ broad, fully $\frac{1}{2}$ inch thick, roughly made, and bearing no marks of smoothing on its edges by use.

Large Implement, made of the bone of a whale, shaped somewhat like the blade of a spade, 10 inches in length by $6\frac{1}{2}$ inches in breadth, and nearly $\frac{1}{2}$ inch in thickness. Notches, 2 inches long by $\frac{3}{4}$ inch, are cut into its upper part on either side.

Implement, made of the bone of a whale, 10 inches long, 6 inches broad, and nearly 1 inch in thickness, having two holes, one round, and 2 inches in diameter, the other oval, and 2 inches by $1\frac{1}{4}$, cut above each other, the lower hole being near the centre, of the length of the implement.

Triangular-shaped piece of spongy bone, 8 inches long, and 5 inches broad at the wide end, having two holes, one 2 inches wide, narrowing to 1 inch, and the other 1 inch wide, narrowing to $\frac{3}{4}$ inch, pierced through the bone near the broad end.

Piece of Bone, 7 inches long by 2 inches wide, and $1\frac{1}{2}$ inch thick, with a groove $\frac{1}{4}$ inch wide, and triangular in section, cut round its length.

Piece of Bone, $4\frac{1}{2}$ inches long by $1\frac{1}{2}$ inch broad, and 1 inch in thickness, roughly shaped to a rectangular form, sawn across at the one end, and hacked at the other.

Piece of Bone, 8 inches long, 5 inches broad, and $1\frac{1}{2}$ inch thick, formed of a portion of the circular articulating surface of a vertebra of a whale, having an oblong hole, 3 inches by $1\frac{1}{4}$ inch, cut obliquely through it in the centre, and a smaller round hole about $\frac{1}{2}$ inch in diameter above it. The sides of the implement (if it be so) have been cut away with a saw. The lower part is broken.

Comb of Bone, with rounded back, ornamented with a profusion of small "cup and circle" markings. The comb is formed of five thin slips of bone about 2 inches in length and $\frac{1}{2}$ inch in width, laid together lengthwise, and held in their places by two slips laid transversely across them, fastened together by four iron rivets. The entire comb measures 3 inches by 2 inches, and besides the ornamentation of the cup and circle markings, the two end slips and the centre slip are ornamented on the upper part by three small holes arranged triangularly. The teeth of the comb have been very regularly cut with a fine saw, and the saw-marks are distinctly seen on the slips forming the outer frame, which holds the comb together, showing that it was constructed before the teeth were cut. (See fig. 13.)

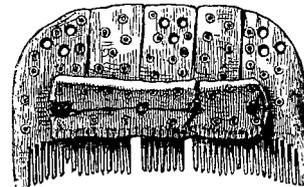


Fig. 13.—Comb of Bone. (Half actual size.)

Similar Comb with round back, wanting most of the teeth. It is fastened with three iron rivets, and has a small hole in the centre of the back, as if for suspension.

Double-edged Comb of Bone, $2\frac{3}{4}$ inches by 2 inches, formed of four slips of bone inserted between two transverse slips, held together by three iron rivets. The transverse slips are ornamented by a single line incised along each border, and four sets of two concentric circles, with central dots, ranged at equal distances along the middle of the slips. The teeth are widely but regularly cut, narrowing towards the points, and those towards either end of the comb shorter than those in the middle. In cutting the teeth the saw has only touched the binding transverse slips in one or two places. A hole for suspension is pierced in the middle of one end of the comb. (See fig. 14.)

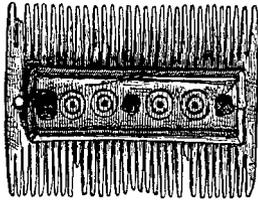


Fig. 14.—Comb of Bone.
(Half actual size.)

Double-edged Comb of bone (broken), $5\frac{1}{2}$ inches in length by 2 inches in breadth. The six slips of bones of which it was composed remain attached to the transverse slips which are fastened by five iron rivets, placed at equal distances. On the upper and lower side of each of the rivets is an ornamental "dot and circle" marking about $\frac{1}{10}$ inch in diameter, and a similar marking in the centre of each of the broad terminal teeth at either end of the comb. The transverse slips are regularly marked on both sides by the saw. The teeth are well cut, and regular in length and thickness. They show very strongly the marks of wear, chiefly towards the bases of the teeth, as minute transverse lines are worn deeply into the corners of the teeth, sometimes completely encircling them. These marks are different from those on the long-handled combs, which are chiefly towards the apices of the teeth, indicating a different method of use.

Portion of a double-edged Comb of bone, being one of the endslips, $\frac{3}{4}$ inch wide, ornamented by four very deep and regularly cut sets of two concentric circles, with central dot, and having the remains of an iron rivet.

Similar portion of a double edged Comb of bone, $1\frac{1}{4}$ inch wide, similarly ornamented, and pierced with a hole for suspension.

Similar portion of a double-edged Comb of bone, 1 inch in width, unornamented, and pierced with a hole for suspension.

Similar portion of a double-edged Comb of bone, $\frac{3}{4}$ inch in width, ornamented with two cup-shaped hollows on either side, and pierced with a hole for suspension.

Similar portion of a double-edged Comb of bone, $1\frac{1}{4}$ inch in width, having part of both the transverse slips attached, in which there are the remains of three rivets of copper or a coppery-like bronze. This comb has been pierced with two holes for suspension, both of which are much worn on the side from which the comb has hung.

Slip of Bone, $\frac{3}{4}$ inch wide, being part of the toothed portion of a double-edged comb, having a rivet-hole pierced through one side.

Slip of Bone, $\frac{3}{4}$ inch wide, being part of the toothed portion of a double-edged comb, having remains of an iron rivet in one side.

Portion of a double-edged Comb, being part of one of the transverse slips, with two iron

rivets, and a portion of the toothed part of the comb still adherent. The transverse slip is ornamented by cup and circle markings arranged in pairs.

Portion of a double-edged Comb of bone, being part of one of the transverse slips, with one iron rivet and the mark of another, and part of the toothed portion of the comb adherent. The transverse slip is ornamented by saw-cuts along the edges, and groups of three at equal distances passing obliquely across the middle of the slip.

Long-handled Comb of deer's horn (see fig. 15), 5 inches in length, 2 inches wide at the base of the teeth. The teeth, which are ten in number, are $\frac{1}{2}$ inch long, $\frac{1}{8}$ inch apart, and strongly marked towards the apices by use, probably as a weaving implement. (See paper by Mr Anderson, in the "Proceedings," vol. ix. p. 548.)

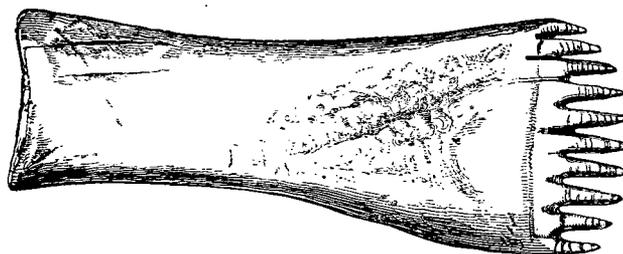


Fig. 15.—Long-handled Comb of Deer's Horn ($4\frac{3}{4}$ inches long).

Long-handled Comb of bone, 5 inches in length, $1\frac{1}{2}$ inch wide at the base of the teeth. The teeth, which are ten in number, are scarcely $\frac{1}{4}$ inch in length, and so strongly marked by use that some of them are almost cut through.

Long-handled Comb of bone, $4\frac{1}{2}$ inches in length and $1\frac{1}{2}$ inch wide at the base of the teeth. The teeth, which are eight in number, are $\frac{1}{2}$ inch in length, bearing no marks of use beyond a slight polish.

Long-handled Comb of bone, 4 inches in length and $1\frac{1}{4}$ inch wide at the base of the teeth. The teeth, which are eight in number, are $\frac{3}{8}$ inch in length, and bear no marks of use beyond a slight polish.

Long-handled Comb of bone, $4\frac{1}{2}$ inches long, $1\frac{1}{2}$ inch wide at the base of the teeth. The teeth have been ten in number, but only the stumps remain.

Long-handled Comb of bone, $4\frac{1}{2}$ inches long, $1\frac{3}{4}$ inch wide at the base of the teeth. The teeth have been thirteen in number, but are quite broken away.

Long-handled Comb of bone, $5\frac{1}{2}$ inches long, 2 inches wide at the base of the teeth. The comb is imperfect at the lower end, so that the number of teeth cannot now be ascertained.

Portion of handle of long-handled Comb, $2\frac{1}{2}$ inches in length.

Piece of Bone, $4\frac{1}{2}$ inches in length, $1\frac{1}{2}$ inch wide at each end, 1 inch wide in the middle, and $\frac{1}{4}$ inch thick, probably a long-handled comb in process of manufacture previous to the teeth being cut.

Long-handled Comb of bone, $4\frac{1}{4}$ inches in length, $2\frac{1}{4}$ inches wide at the base of the teeth. This variety of comb differs from those previously described, in being shorter and thicker, and having longer and stronger teeth set wider apart. This specimen has nine teeth $1\frac{1}{4}$ inch in

length, some of them being as much as $\frac{1}{4}$ inch thick at the base, where the bone is hollowed out to a gouge-like form. It is ornamented by two deep saw-cuts drawn diagonally across the back in the form of a St Andrew's cross. The butt-end of the comb is much polished by the friction of some soft substance.

Long-handled Comb, made from the lower part of a shed antler of red deer, 4 inches in length, $2\frac{1}{2}$ inches wide at the base of the teeth, which are twelve in number, and fully 1 inch in length. The butt-end of the comb is formed of the burr of the antler, and, as in the previous comb, the horn is hollowed out into a somewhat gouge-shaped form at the base of the teeth. A hole nearly $\frac{1}{4}$ inch in diameter has been made at one corner of the comb for suspension.

Long-handled Comb of deer's horn, $4\frac{1}{2}$ inches in length, $2\frac{1}{4}$ inches wide at the base of the teeth, which are eight in number, somewhat rounded and sharp-pointed, and fully an inch in length. Like the previous two, this comb is gouge-shaped, the softer interior of the horn being removed, in this case perhaps by decay.

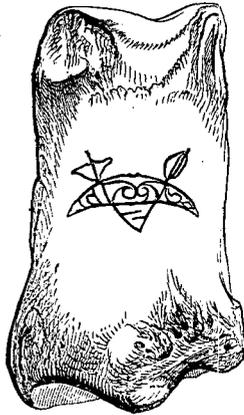


Fig. 16.

Fig. 16.—Bone with Incised Ornament similar to that of the Sculptured Stones. (Natural Size.)

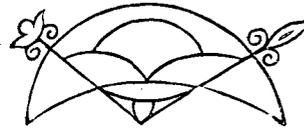


Fig. 17.

Fig. 17.—Symbol or Ornament on Sculptured Stones.

Long-handled Comb of deer's horn, almost precisely similar in form to the last, $4\frac{1}{2}$ inches in length, $2\frac{1}{2}$ inches in width at the base of the teeth, which seem to have been twelve in number. Only two now remain entire, and they are $\frac{3}{4}$ inch in length.

Long-handled Comb, 4 inches in length, $2\frac{1}{4}$ inches across the base of the teeth which are twelve in number, and have been fully an inch in length. The upper part of the handle of this comb is rudely ornamented with a line cut across it parallel to the line of implantation of the teeth, and between this line and the butt-end of the comb two lines cross each other diagonally like a St Andrew's cross. Below the crossed lines two other lines run diagonally across the teeth.

Part of the handle of a long-handled Comb of deer's horn, 2 inches in length.

Long-handled Comb of bone (perhaps imperfect), 3 inches in length, $1\frac{1}{4}$ inch across the base of the teeth, which are fully an inch in length, and $\frac{1}{8}$ inch apart.

Portion of the toothed end of a long-handled Comb of bone, 2 inches across the base of the teeth, which are sixteen in number, $1\frac{1}{2}$ inch in length, and cut with a very fine saw.

Piece of the Bone of a Whale, $10\frac{1}{2}$ inches long, and $3\frac{1}{2}$ inches wide, nearly $\frac{1}{2}$ inch thick, convex and smooth on one side, concave and roughly dressed on the other, having the one end sawn off square, and the other brought to a blunt rounded edge.

Piece of the Bone of a Whale, 15 inches in length, nearly $1\frac{1}{2}$ inch in breadth, tapering to a point, and triangular in section, the back being rounded, and fully $\frac{3}{4}$ inch thick.

Piece of the Bone of a Whale, 13 inches in length, and about $1\frac{1}{2}$ inch square, roughly cut to shape with a sharp implement.

Phalangeal Bone of a small Ox, having incised on the centre of the convex surface the "crescent-shaped ornament," traversed by the "double sceptre" (see fig. 16), similar to that which is of such common occurrence on the "Sculptured Stones of Scotland" (see fig. 17).

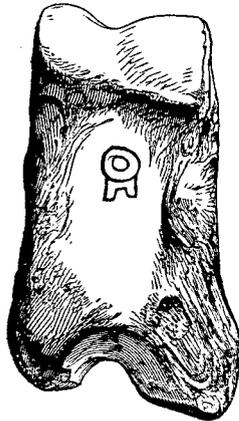


Fig. 18.

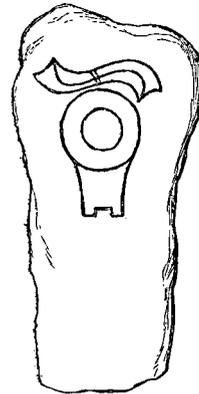


Fig. 19.

Fig. 18.—Bone with Incised Figures. Reverse Side. (Natural Size.)

Fig. 19.—Sculptured Stone, Kintradwell, Sutherlandshire (45 inches long).

The symbol or ornament represented in fig. 17 is copied from the standing stone at Crichie. Kintore, and is the commonest and most widely-distributed of all the symbols of the Sculptured Stones. It occurs with a great variety of detail, but the general form is much the same, and the figure given above has an almost exact resemblance, with the exception of one or two additional flourishes, to that of the stone from Firth, Orkney, now in the Museum. On the opposite side of the bone to that represented in fig. 16 there is incised another figure or symbol (see fig. 18), which is also characteristic of the ornamentation or symbolism of the Sculptured Stones. This peculiarly-shaped symbol is sculptured on the stone at Kintradwell in Sutherlandshire (see fig. 19).

Phalangeal Bone of an Ox, having on one side incised marks showing no distinct form.

Phalangeal Bone of an Ox, one of the articular ends of which is hollowed as if to receive the tang of some metal implement.

Articles of Bronze.

Bronze Pin, $2\frac{1}{4}$ inches in length, with globular head, unornamented.

Bronze Pin, 2 inches in length, with round head, flattened on the top, and having a flat band on the side, which is ornamented with cross-hatched lines. Half-way along the length of the pin are two bands of ornamentation in parallel lines.

Broken portion of a Bronze Pin, $3\frac{1}{2}$ inches in length.

A number of minute Fragments of Bronze, probably of a small Fibula.

Articles of Iron.

Small square-sided Bell of Iron (fig. 20), which bears indications of having been "brazed" or coated with bronze. It measures $2\frac{1}{4}$ inches in height, 2 inches in breadth, and 1 inch in width, and has had a small looped handle on the top. It is made in the usual way in which these small early square bells have been made, of a piece of thin sheet-iron bent into the required shape, and clamped together. It is of small size, but not so much smaller than the enshrined Bell of Kilmichael Glassary (fig. 21) as to raise a doubt of its ecclesiastical character.

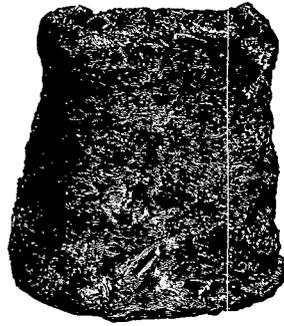


Fig. 20.—Bell from Broch of Burrian.



Fig. 21.—Bell of Kilmichael Glassary.

Lozenge-shaped Piece of Iron, with tang, the lozenge-shaped part being $2\frac{3}{4}$ inches long by $1\frac{1}{4}$ inch wide in the middle, and the tang 2 inches in length. It is probably a spear or dart head, but it is so thickly encrusted with oxidation that it is impossible to tell whether the edges have been sharp or not.

Leaf-shaped Arrow-head of Iron, with remains of tang for insertion in the shaft. It measures 2 inches in length by $\frac{1}{2}$ inch in greatest breadth.

Knife-blade of Iron, with thick rounded back, and tang for insertion in the handle. It measures 4 inches in length by $\frac{1}{4}$ inch in greatest breadth of blade, the point being long, and tapering gradually from the middle of the rounded back.

Knife-blade of Iron, with thick back, $2\frac{1}{2}$ inches long, with tang for insertion in the shaft, 1 inch in length.

Portions of two other Knife-blades or Spear-heads of Iron, $2\frac{1}{4}$ inches in length, encrusted with remains of vegetable fibre.

Portions of Knife-blade of Iron, with tang $1\frac{1}{2}$ inch in length.

Hollow tapering Object of Iron, $3\frac{1}{4}$ inches in length, $\frac{3}{4}$ inch in diameter, probably the ferrule of a spear shaft.

Iron Ferrule, apparently of a Spear-shaft, 3 inches long, and $\frac{3}{4}$ inch in diameter.

Iron Ferrule, apparently of a Spear-shaft, broken on one side, and showing remains of the wooden shaft, with a rivet passing across it.

Four Broken Rivets of Iron, three with square heads and one round.

Two Broken Rings of Iron, an inch in diameter.

Five Pieces of Iron Implements of indeterminate character.

Portion of the point end of an Iron Tang, $1\frac{1}{4}$ inch in length, with the wood adherent in which it has been imbedded. As it has been driven in parallel to the grain of the wood, it might probably be the tang of a knife-blade or spear-head, with remains of the shaft in which it was inserted.

Pottery.

Portion of the side of a large Vessel of reddish Clay, hand-made, but smoothed inside with a tool, the marks of which are still perceptible. The vessel has had a slightly everted lip, and has been slightly bulged towards the middle of its height. The clay is well burned, and free from grit.

Portion of the same vessel, showing part of the lip.

Part of the bottom and sides of a globular flat-bottomed Vessel of reddish Clay, well smoothed on both the inside and outside surfaces, but imperfectly fired. The flat bottom is $4\frac{1}{2}$ inches diameter, and in form and texture the vessel has resembled the modern Lewis "Craggans," though somewhat better made.

Two portions of the sides of the same, or a similar vessel.

Portion of a flat-bottomed vessel of reddish Clay, with straight sides, the interior retaining marks of smoothing by a tool.

Portion of a flat-bottomed cup-like Vessel of brownish sandy Clay, thick, and imperfectly fired. The bottom seems to have been about $2\frac{1}{2}$ inches in diameter.

Small portion of the bottom and side of a coarsely-made Vessel of reddish Clay, thick and gritty, and imperfectly fired.

Portion of the side of a bowl-shaped Vessel of reddish sandy Clay, with part of a neatly-moulded lip.

Portion of the side of a straight-sided Vessel of reddish Clay, with slightly bevelled lip, clean on the inside, much blackened and encrusted on the outside.

Portion of a straight-sided Vessel of brownish Clay, fine in texture, and very thin, being only about $\frac{1}{8}$ inch thick, with straight edge. It is greatly blackened and encrusted on both sides.

Portion of a large Vessel of Red Clay, smoothed by hand on both sides, and having an everted lip.

Portion of the bottom of a cup-shaped Vessel of reddish Clay. The bottom of this vessel

seems to have had a diameter of about 2 inches. The clay is fine in texture, and perfectly free from grit. The vessel appears to have been made very thin, and whether from an accidental circumstance, or in order to stiffen the soft clay and enable it to sustain its own weight, it has been mixed with grass. The sole fragment of this vessel which has been preserved has split in consequence of this admixture, and the ribbed impressions of the leaflets of the grass are preserved in the clay like the prints of fossil leaves.

Twelve fragments of hand-made Pottery, varying from about $\frac{1}{8}$ inch to fully $\frac{1}{2}$ inch in thickness.

Four fragments of a Vessel of reddish Clay, showing a slightly everted lip, with an ornamental border of short oblique indentations.

Fragment of a Vessel of greyish Clay having an everted lip, and underneath it an ornamental border of oblong projecting knobs, and remains of an incised chevron pattern underneath.

List of the Manufactured Articles found at Burrian.

BONE.	BRONZE.
*39 Round pins, different patterns.	*3 Bronze pins.
*26 Flat pins, for the hair.(?)	A few bits of bronze, nails, &c.
*7 Bodkins.	IRON.
*3 Needles.	*2 Dart heads.
*1 Bone implement, grooved at one end.	*1 Hatchet.(?)
*1 Part of a drill.(?)	*2 Knife blades.
*3 Bone dice.(?)	*1 Ring, broken.
*2 Bones, engraved with symbols.	*8 or 9 pieces of iron articles, use unknown,
*11 Hair combs, finely cut and ornamented.	STONE.
2 Hammer heads.(?)	20 Stone whorls.
2 Axe heads.(?)	1 Flat quartz pebble, curiously marked
2 Bone clubs.(?)	with streaks of oxide of iron.
1 Bone, shaped like a knife.	Lava, many pieces.
1 Spade or hoe.(?)	*1 Stone, with cross and Ogham inscription.
1 Bone whistle.(?)	1 Stone, with symbols and geometric figures.
3 Handles for knives or tools.	1 Mortar for grinding.
3 Bones pointed for boring.	1 Do., broken.
1 Scraper.	Stones for grinding, <i>many</i> .
12 Long handled combs.	Stone pot covers, <i>many</i> .
10 or 12 Bones, use unknown.	*1 Vessel of steatite, broken.
POTTERY.	Pieces of 3 querns.
Many broken pieces, quality like common	1 Perforated stone sinker.(?)
flower-pots.	A few flint flakes.
GLASS.	2 Pieces of encrinite.
*1 Blue bead.	Round quartz pebbles, <i>many</i> .
*1 Small piece of a glass vessel.	

N.B.—The Asterisks (*) denote articles supposed to belong to the second occupation.