

#### IV.

NOTES ON THE CONTENTS OF A SMALL CAVE OR ROCK-SHELTER AT DRUIMVARGIE, OBAN; AND OF THREE SHELL-MOUNDS IN ORONSAY. By JOSEPH ANDERSON, LL.D., ASSISTANT-SECRETARY AND KEEPER OF THE MUSEUM.

On 30th April last, I received information from Mr John Munro, F.S.A. Scot., Oban, that a cave had been discovered by the workmen quarrying for the new municipal workmen's dwellings to be erected on the east side of the ridge of Druimvargie,<sup>1</sup> near the railway-station there. I went and saw the completion of the excavation, which had been promptly and successfully undertaken by Mr John Munro and Mr Dugald M'Isaac, and to them I am indebted for the particulars of the discoveries made previous to my arrival, and to Mr John Munro, jun., for a sketch plan and section of the cave and its deposits.

The ridge in which the cave is situated runs N.E. and S.W., and the cave is not in the side which looks toward the sea, but in the side facing a considerable extent of marsh, known as Loch-a-Mhuilinn, in which, some years ago, remains of what were judged to be pile-dwellings were found. At a height of 34 feet above the Ordnance *datum* line a road runs along this side of the ridge, on which the houses are being built. The upper part of the ridge is here a perpendicular crag, from the base of which a considerable *talus* of earth and stones descends to the level of the road. In clearing away this *talus* the mouth of the cave was discovered at a height of about 14 feet above the road.

<sup>1</sup> Druim-na-Mhargaidh = ridge of the market. It was formerly a market-stance.

The cave itself is not a sea-worn cave, but a weather-worn cavity in a mass of brecciated slaty rock, extending about 15 feet along the front of the cliff, and not more than from 8 to 10 feet inwards, the roof sloping down towards the back, and the sides sloping outwards. It is thus more of the nature of a mere rock-shelter than a cave. The *talus* in front covered the whole opening and extended for 6 or 8 feet above it. When uncovered by the removal of the *talus*, the cave was found to be partially filled with the material of the *talus*, but showing a clear space of from 2 to 3 feet between it and the roof. Towards the back of the cave a layer of shells, mingled with broken bones, appeared, and when the front part of the *talus* was cleared away this layer was found to be at least 4 feet in thickness, extending over the whole floor of the cave and at the mouth overflowing as it were into the substance of the *talus*. The upper part of this accumulation of shells and bones was largely mixed with ashes and black earth. Towards the back there were masses of stalagmite adhering to the rock, and towards the front there were large masses of fallen rock imbedded in the *talus*, especially at the N.E. side of the cavity, as if part of the roof there had fallen in. Several of these masses lay partially on the *talus* and partially on the layer of shells, so that they must have fallen since the commencement of the occupancy of the cave. Below the dark-coloured layer of shells the floor of the cave was composed of stony breccia, largely mixed with a reddish, earthy clay, and this breccia, for a depth of 3 to 4 feet, was sparsely mixed with shells, bones, and occasional patches of ashes.

The quantity of bones recovered was small compared with the quantity found in the last cave, and only the red deer, the wild boar, and the otter have been identified. The bones of birds appear to be those of small wild-fowl. The shells are those of the common edible molluscs of the neighbouring coasts, chiefly limpets, periwinkles, cockles, and oysters, and pectens of very large size. Crabs were represented only by the claws of their great toes, and but few fishbones were detected.

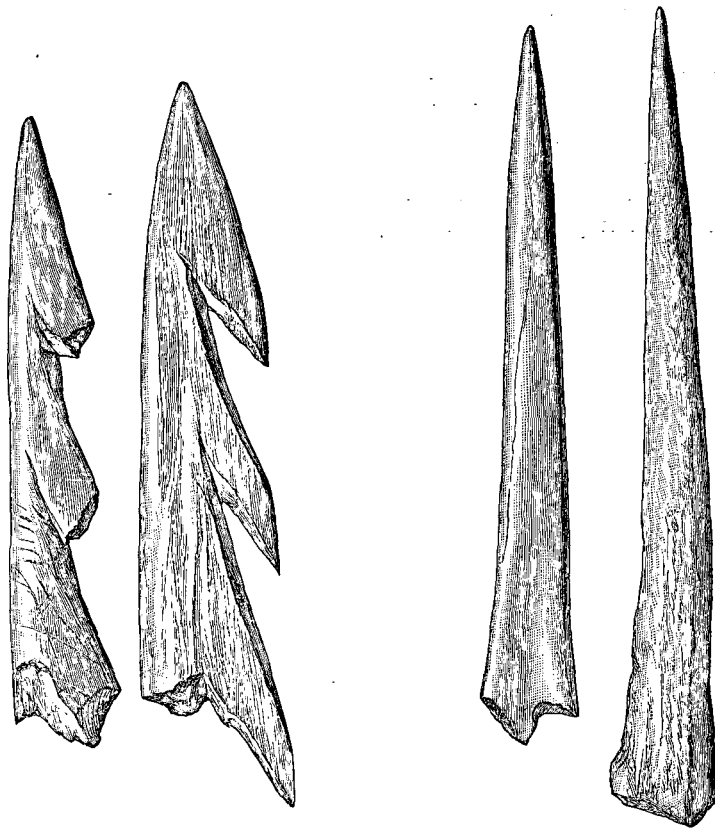
The implements found were of bone and stone. The bone implements included two harpoons, two borers, and a number of those round-nosed, chisel-shaped implements, of which so many were found in the Macarthur Cave.

These harpoons (figs. 1 and 2) are both different from any of those found in the Macarthur Cave, though they belong to the same class. They are both barbed on one side only, and neither of them is such a well-made or efficient weapon as the best of those from the Macarthur Cave, which were all barbed on both sides. Both of these, however, want the butt-ends, so that it is impossible to say whether they were perforated for a cord, or in what way they were adapted to the handle.

No. 1 is of bone, probably the leg-bone of a deer, and is incomplete, being broken across towards the butt-end, and having the points of the three barbs remaining also broken off. It is now  $3\frac{1}{4}$  inches in length, having the barbs all on one side, and about an inch apart, the stem tapering from butt to point, and being thickest along the unbarbed side, and rounded along that side, so that before the barbs were cut out the section would be somewhat like that of a razor or a very thick-backed knife. The sections cut away between the barbs have been cut from below upwards on both sides. In the case of the lower section a line of cutting has run obliquely upwards on the stem beyond the base of the barb as if it had been made by the saw-like action of the rough edge of a stone tool.

No. 2 is also of bone, and is of the same form and character as No. 1, except that the thickening to the unbarbed side of the stem is not so finely rounded off, but becomes almost angular in the lower part. It is  $3\frac{3}{4}$  inches in extreme length, the butt being broken off, and has three barbs on one side, all quite perfect. The upper barb is brought to a point towards the rear, but the other two are cut out of the side of the weapon with a length of  $\frac{3}{8}$  inch of the side, making an angle with the obliquity of the cutting, and thus strengthening the extremity of the barb when it would otherwise become thinnest and weakest. The cutting out of the barbs has been done in the same way as in the case of No. 1, and the cutting down from both sides is clearly visible in the angles at the termination of the cuts. The whole surface of this harpoon has been deeply striated longitudinally by rubbing with a very rough surface or scraping with the rough and sharp edge of a stone tool.

The borers (figs. 2, 3) are two in number, and made in the usual way from the distal end of a fibula or of a bone split longitudinally so as to be easily reduced by grinding to a tapering point. No. 1



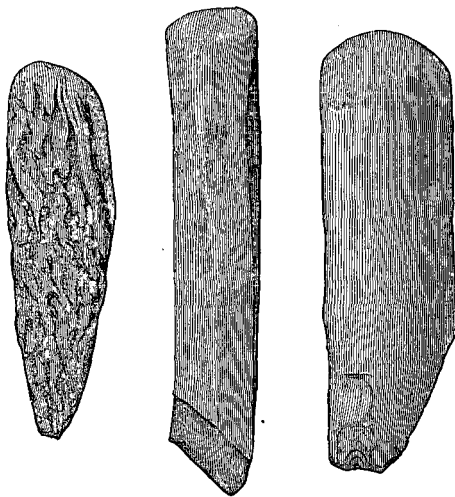
Figs. 1, 2. Bone Harpoons from Druimvargie Cave, Oban. ( $\frac{1}{2}$ .)

Figs. 2, 3. Borers of Bone from the Druimvargie Cave, Oban. ( $\frac{1}{2}$ .)

measures  $3\frac{3}{4}$  inches in length, No. 2  $4\frac{1}{4}$  inches. There are also a number of long bones split, with the distal ends tapering to a point, but not rounded or smoothed by grinding.

A piece of the forked part of the antler of a red deer, which has been broken across a little below the fork, shows in the broken section part of a circular perforation which must have been about an inch in diameter. The implement (whatever it was) has been broken across at too short a distance from the perforation to permit of any sure indication of its character and purpose, although it may be stated that such perforations in stag's-horn implements are common, both to the early and to the later phases of the Stone-age culture.

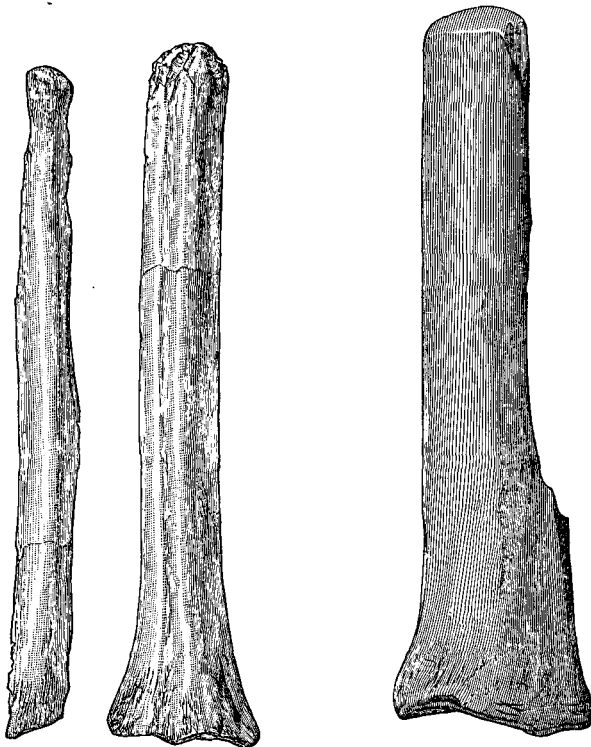
Perhaps the most remarkable feature of the Macarthur Cave was the enormous quantity of the bone implements of one particular type which it yielded (figs. 4, 5, 6),—a type up to that time quite



Figs. 4, 5, 6. Implements of Bone and Deer-horn from the Macarthur Cave, Oban. (†.)

unfamiliar to Scottish archaeologists, and, so far as I know, a type which had only been recorded by M. Piette from one or two caves in France. It consists entirely of splinters of long bones or of stag's horn, with one end bluntly rounded, somewhat like a round-nosed chisel or punch. The bulk of them are from two to three or four

inches in length, but a few are of the full length of the long bone from which they have been made, up to  $7\frac{1}{2}$  inches in length.<sup>1</sup>



Figs. 7, 8. Bone Implements from the Druimvargie Cave, Oban. ( $\frac{1}{2}$ .)

Fig. 9. Bone Implement from the Macarthur Cave, Oban. ( $\frac{1}{2}$ .)

Five of these larger-sized implements were found in the Druimvargie

<sup>1</sup> See M. Piette's *Supplément a Numero 4 (Juillet. Août)*, 1896, de la *Revue 'L'Anthropologie'*, pl. 24, fig. 8, for an implement of bone similar to those made from the split leg-bones of deer. See also a similar implement from the neolithic flint-factories at Spiennes, figured in the *Report of the International Congress of Prehistoric Archaeology at Paris*, 1889, pl. 17, fig. 36, and p. 598, where it is styled a 'skin-dresser.' Similar implements are used among the Esquimaux for this purpose.

Cave, four being made from the split leg-bones of deer and one from stag's horn.

No. 1, which measures 7 inches in length (fig. 7), is split off the ridged side of the bone. It is narrowed somewhat towards the point, which is rounded off as if by much use for some punching or scraping purpose.

No. 2 is  $7\frac{1}{4}$  inches in length (fig. 8), and is split off from the sulcated side of the bone. It is broader than No. 1 and the end is rounded off in the same way, but shows more traces of a punching use, which has not only abraded the end of the bone, but has driven off small flakes from the point backwards. [The identity of these implements, with those of the same type from the Macarthur Cave, will be seen at once by comparing them with fig. 9.]

No. 3, which is only 4 inches in length, has lost the butt-end. It is also split off from the sulcated side of the bone. It is rounded at the point and smoothly worn by use, and shows also one flake driven off from the edge backwards at either side.

No. 4 is  $5\frac{3}{4}$  inches in length, and is split off from the sulcated side of the bone. It is much thinner and flatter than any of the others, and the end is more slanted than rounded and smoothly worn at the prominent angle.

No. 5 is made of a splinter of stag's horn and is 6 inches in length. It is considerably curved, owing to the curvature of the horn, and the point shows a smoothly rounded and abraded surface.

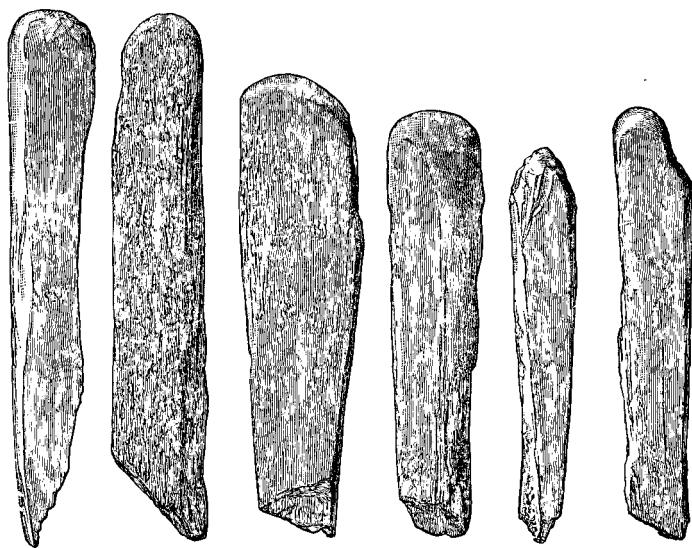
Of the smaller-sized implements of this description, ranging from 2 to  $2\frac{1}{2}$  inches in length, there are from the Druimvargie Cave 12 as against 140 from the Macarthur Cave. That they are precisely the same in character will be sufficiently evident from a comparison of the woodcuts (figs. 4-6 and figs. 10-15), one of which shows three of the implements from the Macarthur Cave, and the other, six of those from the Druimvargie Cave.<sup>1</sup>

There is one (the thirteenth) from the Druimvargie Cave which differs from the rest in being made of the tusk of the wild-boar, the

<sup>1</sup> Compare also figs. 19-23 from Caisteal-nan-Gillean. Implements of bone and deer-horn of precisely similar character to these have been recently found in a kitchen-midden or shell-heap on Inchkeith by Dr T. B. Sprague, F.S.A. Scot.

end of which is bevelled down from the inner side to a rather sharp chisel edge. That it has been used forcibly as a wedge or punch is also shown by the edge being broken at one corner and flaked away backward. The tusk from which the implement was made has been a very large one,  $1\frac{1}{8}$  inches across the flat side and  $\frac{3}{4}$  inch in thickness. Its length is only  $2\frac{1}{2}$  inches.

Only one piece of flint was found. It is a flake of sub-triangular section,  $2\frac{3}{4}$  inches in length, pointed at one end and expanding to an oval base which is flaked off to quite a thin edge with scarcely any



Figs. 10-15. Round-nosed, blunt, chisel-ended Implements of Bone and Deer-horn from the Druimvargie Cave, Oban. (4.)

secondary working. The edges on the pointed end, which is a triangle of  $1\frac{1}{2}$  inches in length with two sharp edges, sloping back to the roughly-trimmed apex of the section, are very sharp and strong, and might have served admirably for cutting out the barbs on the bone harpoons and scraping the surface smooth.



Four other stone implements were found. They are elongated, water-worn pebbles of slaty stone, varying from 6 inches to  $4\frac{1}{4}$  inches in length, about an inch in greatest breadth, and half an inch to three-quarters of an inch in thickness. They are quite evidently of the same character as the implements which have been already described as made of the split long bones of deer. They have been used at one end only, and that end presents the same abraded, round-nosed, and blunt chisel-like edge so characteristic of the bone implements. To make the resemblance even closer, one of the stone implements has its pointed end flaked away backwards as if by forcible use like a punch.

These four stone implements serve in a remarkable way to complete the correlation of the Oban Caves with the shell-mounds next to be described in the Island of Oronsay, from which we have the same fauna associated with precisely similar varieties of stone and bone implements.

*Caisteal-nan-Gillean, Oronsay*—I referred to this shell-mound in my description of the Macarthur Cave, Oban,<sup>1</sup> but I had not then seen the collections of implements from it and the other Oronsay shell-mounds. As these collections have now been acquired for the Museum from the representatives of the late Mr William Galloway, Corr. Mem. S.A. Scot., by whom the three mounds were explored, a detailed description of the implements, with such notes as can be recovered from Mr Galloway's jottings, is here appended.<sup>2</sup>

Caisteal-nan-Gillean is a sand-hill situated on the south-eastern shore of Oronsay, opposite the islet of Ghurd-mail, near the western extremity of a tract of pasture land and benty dunes known as Lagmor or the Great Hollow. It stands isolated between the general range of sand-dunes and the sea, and is thus a conspicuous landmark

<sup>1</sup> *Proceedings*, vol. xxix. p. 224.

<sup>2</sup> Mr Symington Grieve, F.S.A. Scot., who commenced the exploration of Caisteal-nan-Gillean, subsequently completed by Mr Galloway, has given an account of it, with special reference to the occurrence of the remains of the great auk among its fauna, and to his account I am indebted for part of the information which Mr Galloway's notes have failed to supply.—*The Great Auk or Garefowl: its History, Archaeology, and Remains*, 1885, pp. 47-53.

from the seaward. It is approximately circular and 150 feet in diameter at the base. Standing on links that slope towards the sea, its height on the eastern side is 30 feet, and on the western side  $21\frac{1}{2}$  feet, the mean height in the centre being thus about 25 feet. The surface of the hill was covered with turf having blown sand underneath it to a depth varying from one to five feet, the greatest depth being on the north side of the apex, thinning off to the outside. Below this covering an accumulation of shells and bones, in a series of layers mingled with sand and ashes, extended downwards for a total depth of about 8 feet. Underneath this refuse-heap the substance of the mound consisted of blown sand in layers, the upper part of each layer defined by a thin line of dark mould, with a few sea and land shells intermixed, but no implements or other remains of human occupancy.

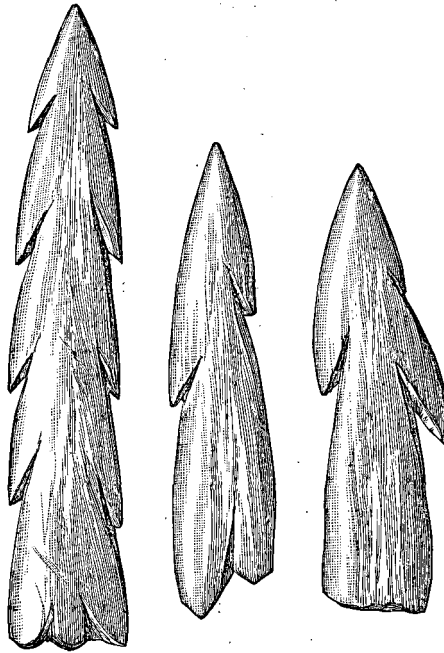
The implements found in excavating the shell-deposit were both of bone and stone. The bone implements consisted of eleven flat, barbed, harpoon-heads, two bone awls and the point of another, and a vast quantity of the round-nosed, chisel-ended splinters of bone and deer horn, which came also in such abundance from the Macarthur Cave at Oban. The stone implements included a vast quantity of those small, oblong, water-rolled pebbles of slaty rock, mostly about the size of a finger, which have one end abraded to a blunt, round-nosed, chisel-like edge, precisely similar in character to those found in the cave at Druinvargie.

The harpoons, unfortunately, have not been found in Mr Galloway's collection. They were exhibited by him at the Fisheries Exhibition, London, in 1883, and the boards on which the collection was arranged with descriptive labels are still extant, but although all the other specimens are fixed in their places, the spaces over the labels describing the harpoons are empty. By a fortunate coincidence, however, I am able, from a hasty sketch made in the exhibition by Rev. Dr J. M. Joass and sent to me at the time, to reproduce here (figs. 16-18) the general features of three of the missing harpoons. They are closely similar in character to those from the Oban Caves.

Of the awls or borers, one 3 inches in length has lost its point, showing a recent fracture. Another,  $2\frac{3}{4}$  inches in length, has its butt-end

rounded and abraded in a manner similar to the ends of the round-nosed bone implements, thus showing a different use for either end. A third awl or borer is represented by a portion  $1\frac{7}{8}$  inches in length of the pointed end, which is slightly curved.

The round-nosed, chisel-ended implements of bone and stag's horn number 150, of which 93 are of bone and 57 of stag's horn. They

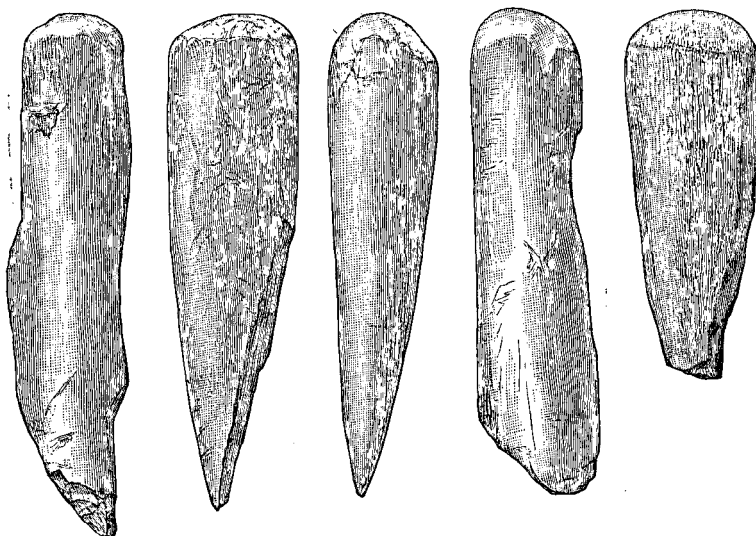


Figs. 16-18. Harpoon-heads of Bone found at Caisteal-nan-Gillean. (†.)

vary from  $1\frac{1}{2}$  to 3 inches in length. Five of them are shown of the actual size in figs. 19-23. Those of stag's horn are frequently broader than those of bone, the greatest breadth reached being  $1\frac{1}{4}$  inches. They generally end rearward in the original irregularly tapering form of the splinter from which they are formed, but in two or three cases the tool is a double one, and both ends are abraded and polished by use.

Eight fragments of perforated implements of stag's horn, mostly of larger size, show partial sections of circular perforations. Two of the largest seem to have passed through the horn obliquely and to have been at the least something more than an inch in diameter. A similarly perforated implement of stag's horn was found in the Druimvargie Cave at Oban.

A number of fragments of deer-horn, roughly cut or hacked all round the circumference and then broken across, show the method by which



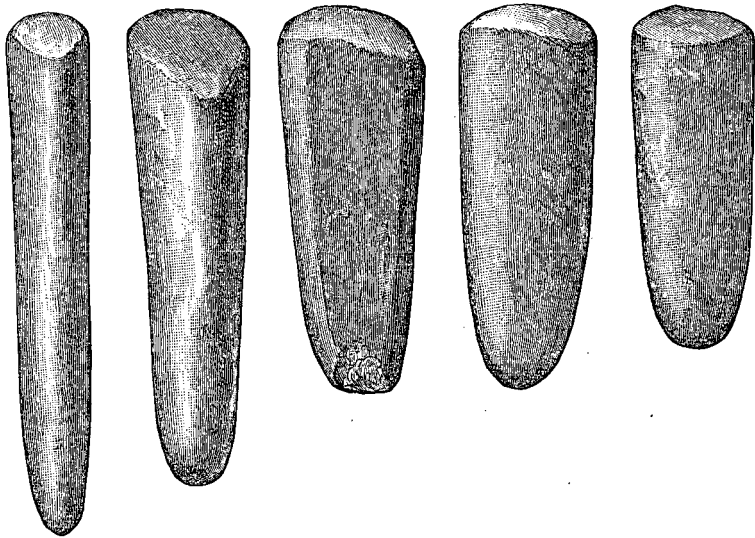
Figs. 19-23. Five Implements of Bone from Caisteal-nan-Gillean. (†.)

the material from which these tools are made was reduced to the requisite size.

Of the stone implements by far the most numerous are the finger-shaped pebbles, with one end abraded to a blunt, round-nosed, chisel-like edge similar to that of the bone implements. They are altogether 210 in number. Five of them are shown of the actual size in figs. 24-28. About one-half of them range in size from  $1\frac{1}{2}$  inches to 3 inches in length, and from the thickness of a little finger to that of a thumb.

The others mostly range from about 4 to 6 inches in length, but a few are larger, the longest reaching 9 inches. As in the case of the bone implements of similar character they only show abrasion by use at one end, and occasionally the abrasion is accompanied by breaks or slight flaking of the surface from the used end backwards.

Two small anvil-stones, water-worn pebbles about 4 inches by 3



Figs. 24-28. Five of the Stone Implements, from Caisteal-nan-Gillean. (†.)

inches and  $1\frac{1}{2}$  inches in thickness, bear evidence of use by abrasions in the centre of their flatter sides.

About 50 chips and splinters of flint, varying in size and character from half a nodule to the merest chip, were also found. None of these present secondary working, and nothing of the nature of an implement in flint was discovered, although the number and variety of the chips and fragments found seems to imply that flint implements of some kind were made on the spot.

The animal remains of the refuse-heap were those of existing fauna of the West Coast, with the exception of the great auk which has recently

become extinct. The most abundant were those of the red deer and otter; the marten, the wild-boar, the grey seal, and the common seal being also found less abundantly. The birds were the great auk, wild-swallow, guillemot, and razor-bill. Of fishbones there were one or two cetacean, and the wrasse, grey mullet, dog-fish, and skate. The shells were chiefly those of the limpet, pecten, oyster, cockle, periwinkle, whelk, etc. Crabs were represented in considerable abundance by the claws of their great toes.

*Croch Sligach.*—In 1884 Mr Galloway excavated a second shell-mound in Oronsay, known locally as Croch Sligach, which literally means shell mound, and implies that the name was given to it on account of the shell-heap.

The contents were apparently similar to those of Caisteal-nan-Gillean. No list of the fauna has been preserved, and it was found impossible to assign the bones that remained unassigned in Mr Galloway's collection to either of the mounds. But the bone and stone implements were found to be distinctly labelled for the most part, and so far as they are concerned the record is secure.

From Croch Sligach there are 36 of these round-nosed, chisel- or punch-ended splinters of bone or deer-horn. They present precisely the same features as are common to those from Caisteal-nan-Gillean and from the two Oban Caves. They are from  $1\frac{1}{2}$  to 3 inches in length, abraded and polished by use at one end only, the other end showing the irregularly tapering form of the original splinter from which they were made. Two only present evidence of use at both ends. Of these one has both ends alike, rounded and abraded in the usual way, the other having one end rounded and the other slanted and finely polished by friction. A thin, flat splinter, about an inch in breadth, shows also a highly-polished, flattened, and slightly-bevelled face at the rounded end.

The stone implements include about 150 of the oblong water-worn pebbles of blue slaty stone, abraded at one end only in the same manner as the bone implements, and exactly similar in character to the stone implements from Caisteal-nan-Gillean. The greater part of these are of the finger-like form, varying from  $1\frac{1}{2}$  inches in length to 3 inches in

length. About a dozen have a length of from 4 to 7 inches and one measures  $8\frac{1}{2}$  inches in length, with a breadth of about  $\frac{3}{4}$  inch and a thickness of  $\frac{1}{2}$  inch.

Nine oblong, rounded pebbles, indented on the middle of their broader faces, appear to be anvil-stones, and three smaller and more oblong, indented towards one end, appear to be hammer-stones.

About 90 flint chips and splinters, varying from half a nodule to the merest splinter, and showing traces of secondary working in one instance only, bear testimony to the fact that nodules of flint were broken and probably worked upon the site.

From this shell-mound, which contained limpets of very large size, some measuring  $2\frac{1}{2}$  by  $2\frac{1}{4}$  inches in diameter and  $1\frac{1}{2}$  inches in height, there are a large number of smaller-sized limpet-shells which appear to have been pierced, the perforation being almost always to one side of the apex. It has been suggested that these may have been strung as a necklace, but as the perforations vary a good deal in size and position, and there is no special reason for concluding that they were made with this intention, I do not adopt the suggestion. Some of the very large limpets have holes in the side of the shell which seem to have been produced by a blow, and it is known that even at a recent period the bait gatherers on the West Coast have been in the habit of dislodging the limpets from the rocks by a smart blow from the end of an oblong stone carried for the purpose, and called by a Gaelic name signifying "limpet-hammer." That some of the longer varieties of these stones abraded at the ends by use may have been so used is only possible, but one can scarcely assign this as a probable use for the smaller size of abraded stones, no bigger than the little finger, or for the splinters of bone and deer-horn which are similarly abraded at one end.

*Croch Riach.*—A third shell-mound called locally *Croch Riach*, "the grey mound," was also explored by Mr Galloway, but no record of his observations appears to have been preserved. In his collection, however, the implements assigned to it are sufficient to show that it was precisely of the same character as *Caisteal-nan-Gillean* and *Croch Sligach*.

There are 20 of the round-nosed, chisel-like or punch-like implements of bone and deer-horn: Of these only four are of deer-horn. Of the stone implements of the same class with abraded ends there are 50. As on the other sites, the majority are of the finger-like class, varying from  $1\frac{1}{2}$  to 3 inches in length; a few are from 4 to 6 inches in length; and one is  $7\frac{1}{2}$  inches in length,  $\frac{3}{4}$  inch in greatest breadth, and  $\frac{1}{2}$  inch in thickness.

There are no hammer- or anvil-stones from this site, but a small collection of flint chips, about 40 in number, and none of which show secondary working, completes the resemblance of this mound to the others.

It is evident that these three shell-mounds in Oronsay and the Macarthur and Druimvargie Caves at Oban belong to the same archæological horizon,—a horizon which has not heretofore been observed in Scotland, but closely corresponding with the intermediate layers in the cavern of Mas d'Azil, on the left bank of the Arize in France, explored and described by M. Piette, and which he has seen reason to claim as filling up the hiatus that has been supposed to exist between the palæolithic and the neolithic. In these intermediate layers of fluviatile deposit, overlying layers containing remains of the extinct fauna and flint implements of the 'Magdalenian' type, he has found hundreds of these flat harpoons, associated with bone implements of the round-nosed, blunt, chisel-ended form, and oblong pebbles with abraded ends of similar character, all associated with existing fauna and with abundance of red-deer remains.