

## I.

ON SOME REMAINS OF THE STONE PERIOD IN THE BUCHAN DISTRICT OF ABERDEENSHIRE. By THOMAS F. JAMIESON, Esq., ELLON.

Along both sides of the river Ythan, near its junction with the sea, there seems to have existed a settlement of people who used flint tools, and lived a good deal upon the shell fish that are found in the adjoining estuary. There are several spots on either bank of the river, between the village of Ellon and the sea, where I have observed a great quantity of flint chippings and flint flakes, the debris, as it were, of a manufacture of stone weapons; and so thickly are these flints scattered about, that one can sometimes point with confidence to the very spots where the people seem to have sat and wrought at them. This is the case in some places amongst the drifted sand near the sea, and also to a less extent in a field on the farm of Mains of Waterton.

I have likewise remarked a great many artificially chipped flints in the surface of the fields near Ravenscraig Castle, on the north bank of the Ugie; and the Rev. Dr Forsyth, in the "Statistical Account of the Parish of Belhelvie," mentions the occurrence of a quantity of yellow flints on the alluvial soil near the sea there; and amongst them some well-formed arrow-heads, he says, are frequently found. These flint arrow-heads occur on the surface of the fields all over the district, and are picked up by the ploughmen when harrowing, although it is rare now to meet with them.

The source from whence the natives of this part of Scotland might have obtained their flints can readily be pointed out. There is a low moory ridge, extending from the coast near Peterhead, for about eight or nine miles inland, to a place called the Bog of Ardallie. The height of this ridge is from nearly 300 to 500 feet above the sea, and it is all over-spread with water-worn pebbles of flint, generally in greatest abundance along the crest of the ridge. These flints have been derived from some bed of chalk that probably once existed here, as the characteristic fossils of the Chalk period may be detected in them. The flint gravel is several feet thick in some places, as, for example, in the Den of Bod-

dam. Patches of the same nature occur in a few other spots in the north-eastern part of Aberdeenshire, but nowhere in anything like the same abundance as along this ridge. The natives therefore could have no difficulty in obtaining any quantity of flint. I have observed that the flint flakes and chippings sometimes occur in considerable abundance near the beach, and only a few feet above the present reach of the tides. We have also on both sides of the estuary of the Ythan old mounds of shells, somewhat like the Kjökken-möddings of Denmark, and situated occasionally so low that a depression of three feet, or less, would expose them to the inroad of the sea. Flint flakes and chips occur on the surface of some of these mounds, amongst the decayed shells, and more plentifully in the neighbourhood of them, so that there is every reason to suppose the shell-heaps were made up by the chippers of the flints. From this low position, I infer that there has been no noticeable elevation of the land since the lowest of these shell heaps were formed, nor since these flint chippings came to be where they are. There is good evidence, however, of an elevation of the coast having taken place here, to the extent of six or eight feet, within a very recent geological period; for on both sides of the estuary I have observed elevated banks of estuary mud, containing remains of shell fish, all of the kinds now living in the river, with the exception of one species, the *Scrobicularia piperata*, which seems to have died out in this locality; and I may mention that I have seen no remains of this species in the shell mounds. Part of the village of Newburgh is built on this old estuary mud, and the shell-bed was well exposed lately in cutting a deep drain through the croft land to the north of the village, and likewise on the opposite bank of the river near Waterside.<sup>1</sup> As some of the shell-heaps are situated on the top of this raised sea-margin, and fringe of estuary mud, I think there can be no doubt that the people to whom they belonged continued to live here long after this slight rise of the coast took place.

The relation of the shell heaps and flints to the blown sand also shows them to belong to a comparatively recent period; for the shell heaps are

<sup>1</sup> Some further remarks on this subject will be found in a paper communicated by me to the Geological Society of London, "On the History of the Last Geological Changes in Scotland," and which will appear in the August Number of the Quarterly Journal of that Society for this year (1865).

situated on the top of some thickness of drift sand, while seams of it are interstratified with the decayed shells and charcoal, showing that drifting of the sand had previously begun and continued to go on during the period the shells and rubbish were accumulating.

The amount of blown sand along the coast here is very great, forming some immense piles, and it has overspread a large tract of what was once a parish called Forvie, now part of Slains. This desolation of the land of Forvie, the traditions say, was owing to a sudden catastrophe that occurred some centuries ago, but the exact date of which is unknown. It is quite possible that some extraordinary gales may have occasioned a sudden dispersion of the sand, if large masses of it had previously been heaped up in the neighbourhood; but there can be no doubt that its accumulation must have been going on gradually for a very lengthened period—in fact, ever since the establishment of the present coast line.

There are some places where, owing to the direction of the eddies of wind, the sand does not lodge. At one of these spots, in the Forvie district, there is a bank, having only a thin covering of sand, where I discovered traces of what seems to have been an encampment of the flint folk. Flint flakes and chippings of various shapes are scattered all over the surface, and on turning up the ground with a spade, I found a stratum of black carbonaceous matter below which the reddish clay subsoil is quite discoloured, as if there had been numerous fires. This is in the midst of the Forvie sands, not very far from the sea beach. Probably many similar spots are now hidden by the sand. At Annochie, on the coast of St Fergus, where a brickwork was at one time in operation, there is a spot in which a good many bones and teeth of various animals are met with underneath a thin layer of blown sand. These bones occur in a bed of blackish sandy loam, a foot or two feet thick, and along with the bones there are many stones, which seem to have been exposed to the action of fire; there are also a good many periwinkle and limpet shells. I did not remark any flints. The bones and teeth seem to belong chiefly to domestic animals.

The shell heaps at the mouth of the Ythan occur chiefly on the north side of the estuary, along an uninhabited desolate tract of blown sand. There are, however, some on the south side. These heaps are generally from thirty to ninety yards in length, and are situated on mounds of

blown sand. The stratum of shells is sometimes only a few inches deep; in other cases, layers of shells and sand alternate with one another to a depth of several yards; and in one mound there is a thickness of four or five feet, consisting entirely of shells. The most plentiful species is the mussel, but there are also a good many cockles and periwinkles—all of them large and full-grown specimens. Intermixed with the shells there is always a number of stones, which have evidently been in a fire; and one of the largest mounds is strewn all over with small stones, a great many of which have a scorched appearance. There is also always a mixture of charcoal, or what seems to be remains of charred turf, with some bits of burnt twigs. On some of the mounds there appear to have been small fires here and there, as if for cooking. In these spots clusters of burnt stones occur on the surface, along with a more than usual quantity of charcoal; while the sand underneath occasionally shows a reddish tinge, as if from the effect of fire. I also found a few teeth<sup>1</sup> and bits of bones on the surface, and a flint or two may be picked up with the appearance of having been in the fire. No metal nor pottery has been observed; but as the mounds have not been much dug into, something of the sort may yet be found. In examining some of these mounds, I was accompanied on one occasion by my friend Mr Robert Dawson, from Cruden, and we dug for an hour or two among those on the north side of the river that lie immediately opposite Newburgh, but we did not find anything except shells, charcoal, and burnt stones; not a single bone nor flint occurred. On the south side, near the village of Newburgh, there is a pit excavated in a thick mass of blown sand, where a stratum of blackish loam occurs full of decayed shells, and covered by a thickness of from two to three feet of sand. In this loamy stuff we got some small bits of decayed bone, and a few pieces of red earthenware coarsely and irregularly glazed; these seemed to be fragments of a good large jar. This loamy layer may, however, be a much more recent affair than the shell mounds just described.

At the Den of Boddam there are a great many small pits or excavations, which have long been known under the name of the *Picts' Camps* or the *Picts' Houses*. This Den of Boddam is a small, narrow, winding

<sup>1</sup> Dr Turner, who examined these teeth, says they belong to deer and oxen.

hollow, along which runs a little rivulet or ditch. It lies on the north side of the Stirling Hill, where the great granite quarries of Peterhead are situated. The ground is destitute of trees or bushes, and is covered with heather and peaty turf. The excavations are scattered over the surface of a sloping bank facing the south, giving it a sort of honey-combed or pock-pitted appearance. These pits (which are quite shallow, only a foot or two deep) are made in the flint gravel, and are therefore dry in the bottom. They are a few yards in diameter, but are so irregular, and so mouldered by the lapse of time, that no precise dimensions can be assigned them. They extend, or rather did extend, over several acres of ground, but the operations of agriculture have now obliterated a good many of them, and will probably soon efface the greater part of those that yet remain. I did not observe any heaps of manufactured flints, but Mr Dawson informs me that there is one spot where he has seen a large quantity of chippings, apparently the debris of a manufacture. Nothing certain seems to be known about this curious place, but its traditionary name shows the pits to be of ancient date. The late Provost Grey, who wrote the excellent article on Peterhead in the "Statistical Account of Aberdeenshire," says that these pits are generally known as the "*Picts' Camps*;" and the Rev. Dr Pratt, in his entertaining book on Buchan, states that tradition calls them "*the houses of the Picts*." They look very like the site of an encampment such as the Laplanders make at the present day, who congregate in small huts rudely constructed of turf and sticks; and if our old flint folk were of the same race as the Lapps and Finns—as seems not unlikely—we might suppose that this was one of their retreats. The sheltered, secluded nature of the spot, and its situation on a dry sloping bank facing the sun, would adapt it well for the purpose.

Stone cists, containing sepulchral urns of rudely-manufactured pottery, have been found in various parts of Buchan. They generally occur on some dry gravelly eminence, frequently several of them together. The fact of flint chips and arrow heads being often found in these cists along with the urns, connects them with the period to which belong the shell heaps and other remains I have been describing. These cists have usually been made by digging a square hole, four feet deep or so, and lining the sides of it with large flat stones, on which were placed

covers of the same material. The space enclosed by the stones is generally too small to have allowed a corpse to have been placed at full length; and in most instances few or no bones are met with: there is merely an urn, with a little charred matter in it, and some bits of flint. In one cist, however, I have seen, along with the urn, the remains of a human skull, together with some bones, a shell of the pearl mussel (*Unio margaritifera*), and a few flints.

Another cist, at a few yards' distance from this one, was carefully enclosed with a layer of fine puddled clay. At Cross-stone, near Ellon, a cist was got, containing about a hatful of split flints. Some of the pieces I found to match exactly, showing the original shape of the flints. They had been small flattish pebbles, with a smooth, water-worn surface; and had been neatly cleaved in two by a smart blow on the edge of the pebble.

Traces of rude graves are to be found on the surface of some barren eminences or low hills. In these cases, one observes a small cluster of gray moss-covered stones, like the foundation of a little cairn, but more regularly arranged. On clearing away these stones a spot is found in the centre, containing some charcoal and yellowish earth, with perhaps a flint knife or arrow head, and more rarely a rude urn. My attention was first directed to these old graves by Mr Charles Dalrymple, who discovered and opened a few of them in this neighbourhood.