

III.

NOTES ON STONE CISTS AND AN ANCIENT KITCHEN MIDDEN NEAR DUNDEE. BY ALLAN MATHEWSON, Esq., CORR. MEM. S.A. SCOT.

At the promontory known as the Stannergate, about 2 miles east from Dundee, operations have been for some time carried on for making a timber pond, an extension of Dundee Harbour; materials for the embankments, &c., being procured by quarrying into the hill between the railway and the river. Strictly speaking, this cannot be correctly termed a hill, for, previous to the making of the railway a number of years ago, it formed part of the high land lying on the north bank of the Firth of Tay, which, at this point, terminates abruptly in a cliff about 30 feet in height.

In clearing away the soil from the surface of the rock, a number of stone cists were found, and still lower down a large deposit of shells, which appears to be an ancient Kitchen-midden. Underneath this deposit of shells there was an old sea-beach which rested immediately on the rock. In order to rightly understand the position of this section, it must be explained that, on either side of the river, there are a series of these raised beaches occurring at intervals of from 4 to 10 feet; up to a certain height these are exceedingly well marked and easily distinguishable, but denudation has destroyed nearly all traces of the higher ones. The most prominent of those on the north side of the river is the one known as the 25 feet sea-beach; that is, 25 feet above the Ordnance Survey datum line. The following section will give a better idea of the excavations than any explanation that I can give:—

Earth in which the cists were found,	4 to 5 feet.
Undisturbed earth,	7 to 8 ,,
Kitchen-midden,	1 to 3 ,,
Gravel of raised beach, resting on rock,	1 to 2 ,,

A great number of cists were discovered, but after the shell-bed was all removed, very little attention was paid to them; and generally they were

removed by the workmen before any one had an opportunity of examining them.

In the earth, exactly above the shell-bed, twelve cists were found, eight of which were long cists and four short. All contained bones, but in one only (one of the short cists) was there any other traces of man. This



Fig. 1. Urn from Cist at Stannergate
($4\frac{1}{2}$ inches high).

single exception was an urn of the food vessel type (fig. 1), made of a very sandy clay, apparently little else than the mud of the river. It is highly ornamented, as is usually the case with urns of a similar type; the ornamentation consisting of lines impressed by means of a cord, and indentations made by some triangular-shaped implement.

It is to be regretted that some competent person was not present when these cists were discovered, because—as is usually the case—they were all filled with earth which had filtered in through the crevices of the stones. This should have been carefully removed and examined, as any implements or articles usually found with interments such as these are very apt to escape the notice of any but a practised eye. This is probably the reason that the urn is imperfect, a large part of the side being wanting; it must have been complete when deposited in the cist; and the earth being taken out by a spade, thereby breaking the urn, the part wanting would no doubt have been found had proper search been made for it.

When making the railway cutting a number of years ago, and only a few yards north from where the cists at present under consideration were discovered, there were found a number of similar stone cists.

In the Statistical Account of Dundee, in the year 1792, by Dr Small, the following notice occurs:—“Along a good part of the shore on the estate of Craigie (the Stannergate is part of Craigie), several urns of unburnt clay

containing ashes have been found, and several stone coffins with bones; and though the most of these are of the common form, some without any difference in the size of the bones are only 3 feet square." Further west from the shell-bed, all the cists that I saw were long ones, and in one instance as many as five were got together. The only peculiarity I noticed about them was, that over them was a layer of white pebbles; on various occasions I have noticed the presence of these about stone cists, but never so numerous as in this instance.

Part of the shell-bed had been removed before any particular attention had been drawn to it, but when it was noticed that embedded in it was a large quantity of charcoal, as earnest an examination as possible under the circumstances was given to it; and the following observations are the result of many visits paid to it in my leisure time, in some of them accompanied by Dr James Geikie, F.R.S., and Mr James Durham, F.G.S., &c.

The shells of which it was composed were mostly those of adult animals, and were principally those of the Mussel (*Mytilus edulis*), Periwinkle (*Littorina littorea*), Whelk (*Buccinum undatum*), Cockle (*Cardium edule*), and Limpet (*Patella vulgaris*). Most of the shells were broken, and in nearly if not every case, the valves of the Mussel and Cockle were separated. Mixed with the shells was a large quantity of burnt wood, but owing to the damp situation, most of it was but a mass of black material; in some portions of it, however, the fibres of the wood could be traced very distinctly. This charcoal was not confined to any particular portion of the shell-bed, but was found throughout every part of it.

A number of pieces of bone were also found, a few of them obviously artificially split, but none of them could with any degree of certainty be called an implement. One of the pieces, in particular, shows traces of having been cut with a knife or some sharp implement, and was found in the southern part of the shell-bed.

The general explanations of these split bones is that they have been split to obtain the marrow which they had contained, but it has been often pointed out in the Society's "Proceedings" that an equally good reason for the splitting of the bones may have been that they were used to make

bone implements. Many of the bones found in kitchen-middens, split in this manner, certainly could not, from their small size, have been split for their marrow, which could have been far more readily obtained than by the laborious process of splitting, unless, indeed, as Dr Smith has pointed out, the bones were thus broken to make broth.

In addition to the bones already mentioned, there were also found one or two tines of deers' horns, which Professor Nicholson of St Andrews says are certainly those of the red deer.

All the articles found in the kitchen-midden along with the urn found at the same time are now in the Museum of the Dundee Naturalists' Society.

About the centre of the midden I came upon a large stone—a rough slab of Old Red Sandstone—which had evidently been used as a hearth or fire-place. It measured 2 feet by 2 feet 8 inches and 4 inches in thickness, supported by a number of smaller stones placed below it, either to keep it level or to raise it a little above the surface of the heap. It was fused on its upper surface as if a fire had been built on the top of it, and was the only stone of any size that I observed among the shells.

Diligent search was made for any stone or metal implements, and though a number of very curiously-shaped stones were found, none were obtained that could undoubtedly be called an implement, until, after many visits and much careful examination, Mr Hutchison, architect, and I were each fortunate enough to find a little piece of yellow flint, showing plainly that they had been chipped by man. Nodules of flint are found in the boulder clay farther east at Barry and Carnoustie, along with pieces of chalk, clearly proving that at some period there were beds of chalk in the neighbourhood.¹ Subsequently, however, a small and finely polished celt of flinty slate (fig. 2) was found by one of the workmen. It is

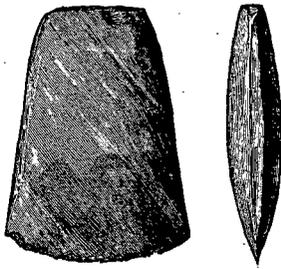


Fig. 2. Polished Celt.

¹ In the earth in which the cists were found, and considerably farther west than the midden, there was found a large nodule of flint with a thickish coating of chalk.

2 $\frac{5}{8}$ inches in length, 2 inches across the cutting face, and 1 inch wide at the narrow part, its thickness being $\frac{5}{8}$ ths of an inch.

As to the precise age of this interesting deposit very little can be said. The cists which were found at the same time may have had no connection with it. Between them there was some 8 feet of undisturbed earth, which may have taken a very long time to accumulate ; besides, the cists being found in the soil exactly above the kitchen-midden it seems apparent that the one had no direct connection with the other.

As will be seen on reference to the section, the shell-heap rested immediately on the gravel of the raised sea-beach ; and as it thinned out towards the sea, the shells and charcoal were interstratified with the sand and gravel of the sea-beach in such a manner as could only have resulted from the action of the waves. Taking all the circumstances into consideration, this deposit is among the earliest traces of man that have been discovered in the locality.

It is difficult to give a correct measurement of the deposit, owing to the length of time that took place between its discovery and clearing it away ; but from my own observations and inquiries at the workmen, it measured *at least* 100 feet long by 60 feet wide, and to form a deposit of such a size the place must have been a haunt of man for a long period.