

III.

EXCAVATION OF A KITCHEN-MIDDEN NEAR GULLANE,
EAST LOTHIAN. BY HARRY J. YOUNGER, F.S.A.Scot.

This excavation was carried out at the instigation of Mr James S. Richardson, Inspector of Ancient Monuments for Scotland. The situation of the midden is in the sand-hills at the eastern end of a bunker

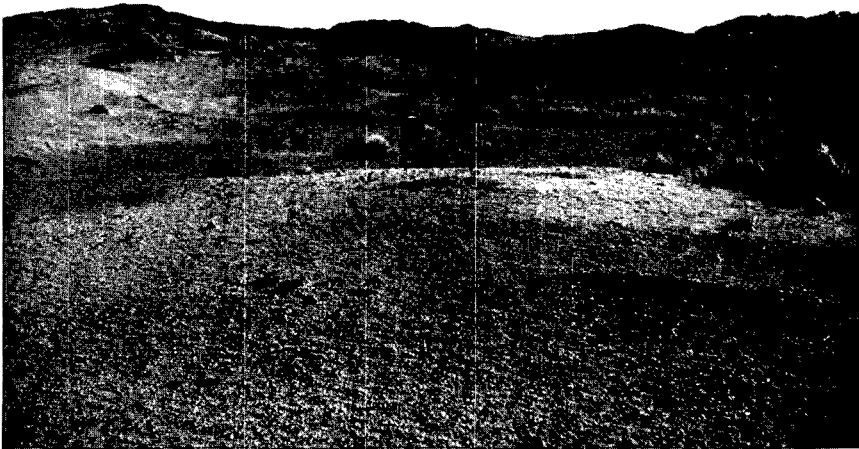


Fig. 1. View of the Kitchen-midden near Gullane.

which runs inland for some 200 or 300 yards from the east end of Gullane Bay. The bunker runs parallel to and about 150 yards north of the third hole on Muirfield Golf Course. It was Mr Richardson who identified the kitchen-midden as such. He has frequently walked over this ground and had always been expecting to find prehistoric relics. About two years ago he noticed that the wind had bared a small mound, revealing heaps of shells. An inspection of the surface soon showed traces of prehistoric habitation, such relics as animal bones and bits of pottery indicating the probability of an early Iron Age settlement. The ground at that time belonged to Colonel Hamilton Grant of Biel, and he readily

agreed to the suggestion that an excavation of the site should be undertaken. Shortly afterwards the ground was sold to the Honourable Company of Edinburgh Golfers, and it is due to their kindness that permission has been granted for the work to be carried out. As I happened to be living close to the site, Mr Richardson proposed that I should do the excavation.

Fig. 1 gives a view of the midden. The plan (fig. 2) shows that the shape of the midden is roughly oval, the longer axis being about 75 feet and the shorter 35 feet. These figures are only approximate,

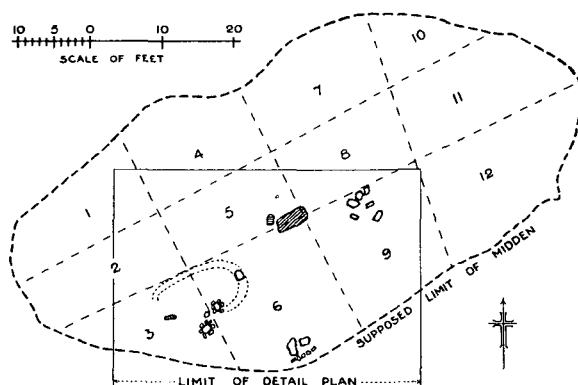


Fig. 2.

as the limits of the subject are naturally not at all clearly defined. There is a gradual slope down from the east to the west end.

The first stage of proceedings was to search the surface carefully. The commonest objects found were bits of bone, and these form the subject of a report at the end of this note. Other surface relics of archaeological interest will be dealt with when I give the list of the finds from the midden. After the surface had been cleaned up we began to remove the top sand, and soon came on traces of blackening at the west end of the midden, only a few inches below the surface. One naturally expected a fire-place, and efforts were made to expose the level on which it would be set, but it proved very difficult to assign an exact area which could be called such. My intention was to lay bare all the blackened area, leaving *in situ* all the stones in and around the probable site of the fire-place. Most unfortunately the site, when it was almost all laid bare, was visited by some wanton person who, in my absence, played havoc with it. Stones were pitched about, the blackened soil was dug into and utterly disturbed, and any hope of charting this important

area on its northern and eastern sides, but they could not be said to be at all definite, and the line of them is lightly marked on the plan. It is not possible to say that any particular area was a fire-place, as the blackening of the soil was very irregular, being well marked in some places and only slight in adjacent areas. One got the impression that fires had been kindled and the ashes strewn about anyhow, thus giving very irregular blackening over a fairly wide area. A further difficulty in fixing the *locus* of the fire-place was the presence of clay. This was found in varying quantities at different parts of the excavation, mixed up with the blackened subsoil. The largest single piece was one of about 500 cubic inches, lying at the western end of the blackened area, with a number of bones lying below it, and some small "chucky-stanes" mixed up in it. Close to this was a lump of prepared clay, such as could be held comfortably in the hand and showing, in fact, traces that it had been so held. Mixed with the clay at several places we found traces of a bright red substance which was analysed as a compound of iron and oxygen. Small amounts of charcoal also were found among the clay, but the quantities were too small to enable one to identify the wood from which it was made. Another substance found among the clay was a black granular gritty material which has been analysed as a compound of carbon, oxygen and iron.

Some 17½ feet north-east from the eastern end of the blackened soil there was a group of largish stones which suggested that there might be another fire-place. Excavation, however, showed no traces of discoloration of the subsoil. These stones were of whinstone and bastard sandstone. Fragments of pottery moulds were found amongst them. The ground slopes down to the north immediately below these stones, and at a depth of about 6 inches in this slope there were discovered eight pieces of what seemed to be a round-bottomed pottery vessel, two of the bits showing part of an everted lip. The fragments, some of which have been reassembled by Mr A. J. H. Edwards, are shown in fig. 4. At the first glance its form and texture suggested that it might be Neolithic, but recent discoveries in Scotland of round-based vessels in an Iron Age context make this attribution very doubtful. A curious incident was that along with these fragments was unearthed a cigarette card of the Prince of Wales opening the Shakespeare Theatre at Stratford-on-Avon in 1928. Fortunately the date marked on the card saved the excavator from the pitfall of trying to prove the card contemporaneous with the vessel.

There is reason to believe that bronze casting was carried out on the site, as numerous small pieces of moulds, crucibles and bronze were

collected. Here again a curious coincidence befell, as several large pieces of bronze were found with very curious markings on them. It was only after very careful scrutiny that it was ascertained that they were parts of the nose-cap of a modern shell. With a very little imagination it could easily have been suggested that they formed part of a prehistoric bronze ornament.

In addition to the fragments of moulds and crucibles, many pieces

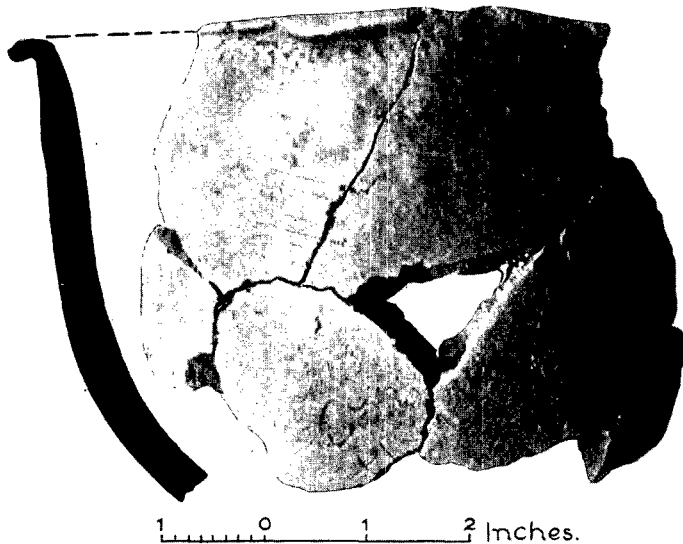


Fig. 4. Part of a Vessel of Pottery.

of rough pottery were collected, but none was large enough to enable one to see what were the shapes or sizes of the vessels.

The list of miscellaneous finds from the midden is quite considerable:

1. Plate of whale's bone, 7 inches long, 3 inches broad at its base, narrowing by two stepped shoulders to a point, and $\frac{1}{2}$ inch thick.
2. Jet bead, diameter $\cdot 45$ inch (fig. 5, No. 1).
3. Two portions of armlets of shale, the chord of each segment being $1\frac{1}{2}$ and 1 inch respectively (fig. 5, Nos. 2 and 3).
4. Small spotted object of stone?, length $\cdot 4$ inch, breadth $\cdot 25$ inch.
5. Quadrilateral whetstone, length of sides 1·8, 1·5, $\cdot 75$, and $\cdot 7$ inch (fig. 5, No. 4).

6. Piece of bronze wire, 1·1 inch long, hammered into quadrangular section of about $\frac{1}{16}$ inch, one end being chisel-shaped, the other imperfect (fig. 5, No. 5).

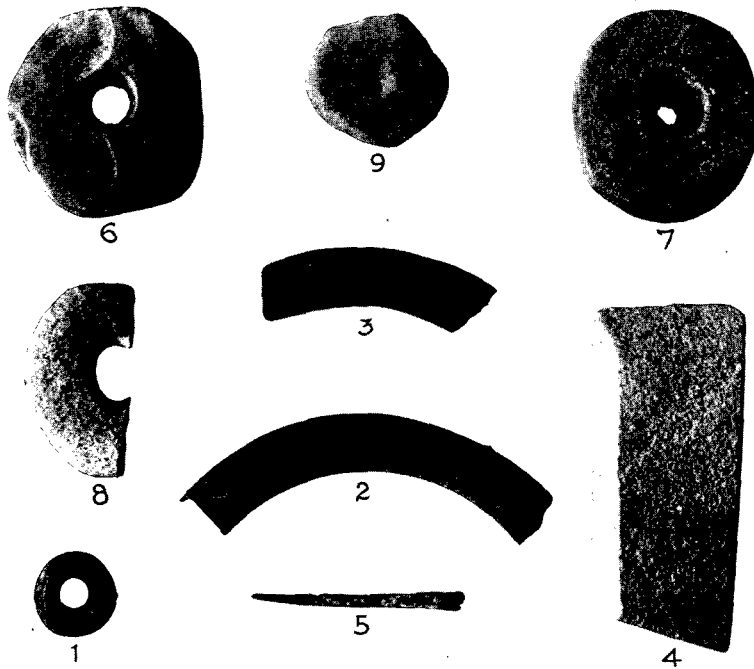


Fig. 5. Objects of Stone, Shale, and Bronze. (†.)

7. Three scrapers, one of quartz, two of chert.

Dimensions :

- (a) 1·1 inch long, ·7 inch broad, ·4 inch greatest thickness.
 (b) ·9 " " , ·8 " " , ·4 " " "
 (c) 1 " " , ·8 " " , ·2 " " "

8. Slightly chipped piece of flint.

9. Two hemispherical bone objects: (a) diameter of base 1·8 inch; height 1·2 inch; a hole is bored through it, the diameter of the hole at each end being ·25 inch; the passage narrows in the centre to a width of less than $\frac{1}{10}$ inch. The object resembles a whorl, but could not be one owing to the contraction of the passage (fig. 6).

(b) shows the perforation bored from the under side, not exactly at right angles, and tapering towards the top; the diameter of the base is $1\frac{9}{16}$ inch and the height $\frac{3}{4}$ inch.

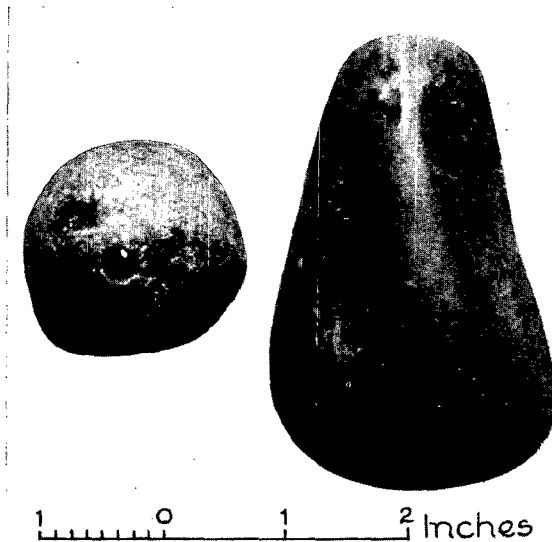


Fig. 6. Perforated bone Object and Hammer-stone.

10. Three hammer-stones.

Dimensions :

- (a) $4\frac{1}{4}$ inches long, circumference 9 inches. This is a very good specimen and shows exceptionally deep marks at the points of contact.
- (b) $3\frac{1}{2}$ inches long, circumference $6\frac{1}{4}$ inches. This stone has the thumb and forefinger grips clearly marked (fig. 6).
- (c) length 3 inches, circumference $3\frac{1}{2}$ inches.

11. Four perforated stone discs, two being complete and two incomplete.

Dimensions :

- (a) greatest diameter 1.1 inch, thickness .25 inch; the perforations are countersunk and concentric (fig. 5, No. 6).
- (b) similar dimensions, but the countersunk perforations are not concentric (fig. 5, No. 7).

- (c) similar dimensions, but the disc has been broken and only half remains (fig. 5, No. 8).
 (d) greatest diameter .75 inch; thickness .3 inch; only the beginnings of a perforation on each side are apparent (fig. 5, No. 9).

Large numbers of similar stones have been found in central Aberdeenshire. A paper on the subject is to be found in the *Proceedings*, vol. xxxvii. p. 166.

12. Four pot lids, two being good and two indifferent specimens.

Dimensions :

- (a) greatest diameter 3 inches, thickness $\frac{1}{2}$ inch.
 (b) " " 2 " , " .3 inch;
 (c) " " $4\frac{3}{4}$ " , " .45 inch;
 (d) " " 4 " , " $\frac{1}{2}$ inch.

13. Roman coin, has been examined by Sir George Macdonald who reports that it is of the reign of Theodosius I. (A.D. 376-394) and was minted at Constantinople. *obv.* DN THEODOSIUS PFAVG: bust of Theodosius r. laureate. *rev.* Victory l. holding wreath and palm: around VICTORIA AVGGG in ex. S CON.

14. A large number of pieces of pottery, crucibles, and of a mould, and bronze droppings. None of these in themselves are worthy of note. A certain number of flint chips were also found.

I am indebted to Miss Margery I. Platt, M.Sc., Royal Scottish Museum, for the following report on the animal and bird remains and shells found in the midden:—

The contents of this kitchen-midden excavated at Gullane so far as animal remains are concerned represent a varied assembly of animals, domestic and otherwise. Those of food value, bovine remains in particular, have been considerably broken up for various purposes at the remote period of their accumulation. Since then the fragments have become impregnated with mineral salts and, in consequence, are unusually hard, a fact consistent with their inclusion in a sandy soil. Most notable in this connection are the fragmentary remains of the whale, whose bones, usually so light and porous, have been transformed into extremely hard and heavy objects. Although the majority of the relics comprise those of animals used for food, the dog, pony, and birds undoubtedly had other uses. The various species are recorded below in order of their numerical importance.

Ox.

Remains of this domestic species are more numerous than those of any other animal. They are small in size, the majority probably being immature, and of a shorthorn variety. Many bones have been split longitudinally for the extraction of marrow.

Red Deer (Cervus elaphus).

This is not so well represented as the ox. Fragments of heavy antlers and a large-sized axis vertebra prove certain individuals at least to be of larger size than red deer of to-day. These particular relics are therefore of the old Scottish Red Deer, which were banished from East Lothian prior to historic times.

Pig.

Although the relics of this animal are very scanty, both young and mature animals are represented.

Horse.

Remains of this are very few, and indicate a breed of slender build.

Whale.

Fragments of limb bones and vertebræ of a very large whale occur. They are comparatively hard, not so brittle as in most cases, due to infiltration of mineral salts from the sandy soil.

Sheep.

Only four bones of this species remain, one being a portion of a massive horn. If these relics do not represent a later intrusion, then the presence of a large-horned breed similar to the Soay is indicated.

Dog.

Part of the single mandible of a dog is present which was evidently an animal of rather large size.

Birds.

The wing bone of a Guillemot (*Uria a. aalge*) and the pelvis of a Mallard (*Anas p. platyrhyncha*) are represented.

Shellfish.

Many shellfish, derived no doubt from the neighbouring beach, were

probably used as food. These include limpets (*Patella vulgata*), oysters (*Ostrea edulis*), razorshells (*Ensis ensis*), "buckies" (*Buccinum undatum*), a winkle (*Littorina littorea*), a scallop (*Pecten maximus*), and a sugar-shell (*Cyprina islandica*).

There were several bones of the rabbit, which are however of no archæological importance.

Evidence from the animal remains leads to the assumption that the relics are of late prehistoric or early historic date.