
I. OUTERSTON HILL, MIDLOTHIAN.

In August 1938 Mr Adam Anderson, shepherd, noticed an urn protruding in the sheep-rubbed face of an old gravel pit 200 yards north-west of his house at Outerston Hill. On being informed, Mr J. W. Murray of Outerston told one of our Fellows, Mr J. C. Kay, who visited the site and recognised the importance of the discovery. The urn was then left in situ till the Trustees of the Arniston Estate could decide what to do with it. After they had informed the Museum Authorities, I went and removed the urn in the middle of November.

The site was on the crest of a gravel ridge running parallel to the Moorfoot range and forming the edge of what appears to the eye as a fairly level piece of rough pastureland stretching to the hills, while on the other side the ground slopes down toward Temple. The view of Moorfoots, Pentlands, and the plain of Lothian is very fine.

Below a slab of stone roughly 1 foot square and 2½ inches thick, whose top was 1 foot below the turf and one edge of which overlapped undisturbed gravel, was a cinerary urn erect and half-full of clean burnt bones of an
adult,¹ the other half being quite empty and free of earth. It stood on
the largest of four paving-stones, to one side of a pit dug in the gravel,
1 foot 3 inches deep and 1 foot 10 inches across at the top (fig. 1). The
pit had been filled with the remains of the pyre—burnt earth, hazel charcoal
(Corylus avellana), burnt pebbles, and a very few tiny fragments of bone.
The numerous pebbles may indicate that the cremation took place nearby,
on the gravel ridge. Besides the slab already mentioned, the pit was
closed by a rounded cobble 7 inches in length and a more massive block
9 by 12 by 4 inches, which were laid at a slant, their highest parts being
adjacent to the slab. Between these two lay a smaller squarish block.
Above these stones was clean gravel.

Besides the ashes, the urn contained part of a calcined flint flake
1 ½ by 1 ¼ inch with secondary working along the
upper surface of both sides (fig. 2), also a broken piece
of unburnt ox or deer bone 2 inches long (recently
fractured), which had been split and is rubbed in
places, and which suggests the thick end of a coarse
pin or bodkin.

A puzzling feature was the presence among the
burnt material in the pit of large pieces of a smashed
pottery vessel. A majority of the pieces were lying
below the thick block, which covered a sort of recess.
This recess was, however, not an earlier burial dis-
turbed, for its filling was exactly the same as that
of the rest of the pit. The sherds were distorted and cracked by heat, and
so had clearly been burnt on the pyre. Such a burnt offering of pottery
has hardly ever been recorded, but several instances have recently been noted
by Mrs Piggott in a Deverel-Rimbury urnfield at Latch Farm, Hants.²

The cinerary urn is of the overhanging-rim type (Pl. LXXIX, 1). Much
of the upper part of the vessel, including most of the rim owing to the
pressure of the covering slab, is missing. What remains is 11 ¼ inches in
height, estimated rim diameter 10 ¼ inches, 9 ½ inches at the shoulder, and
3 ½ inches across the base. The overhanging rim has been made by apply-
ing a layer of clay ⅜ inch thick to the upper part of the neck. The rim
is decorated with a varied and neatly made pattern of triangles and vertical
lines, which is not closely paralleled. The body is brown, and burnished
though containing large grits.

The auxiliary vessel is of rather exceptional type (Pl. LXXIX, 2, and fig. 4, 16). The base and about a quarter of the rest of the vessel are missing, and
the distortion caused by the secondary firing also makes the reconstructed

¹ The following can be identified: a number of the flat bones of the skull, fragment of mandible, pieces of vertebrae and ribs, fragments of forearm bones, and a piece of the head of a femur.
TWO BRONZE AGE BURIALS.

measurements approximate only: height 7 inches, diameter at rim 5 inches, at horizontal rib $5\frac{1}{2}$ inches, at base $3\frac{1}{4}$ inches. Immediately below the plain rounded rim—which is not bevelled like a food-vessel—is a continuous zigzag whipped cord impression. Two and a half inches below the rim is a horizontal raised rib, partly pressed out from the inside, on top of and underneath which are oblique incised strokes, the uppermost fairly deep. Above and below the rib the vessel is decorated with six rows respectively of oblique strokes, each row being defined by a continuous horizontal line, all incised with a sharp tool. The only undecorated part of the vessel is the bottom $1\frac{1}{4}$ inch. The walls, about $\frac{3}{8}$ inch thick, are partly bright red, partly grey, the latter being in places just a thin film. There is a proportion of large grits, but the surface is smooth. Although reminding one of the cordons of a cordoned urn, the rib is probably quite unconnected with that class of urn which is generally recognised as late in the series, for the covering of the whole vessel with decoration is more reminiscent of food-vessels on which oblique rows of incisions outlined with horizontal lines occur, as also whipped cord zigzags, although indeed both motifs are found equally frequently on cinerary urns. Moreover, the cinerary urn found in this grave is typologically not far from the beginning of the series. We may thus discount any real affinity with the Deverel-Rimbury rite mentioned above.

I have to thank Professor Low for examining and reporting on the bones; Mr M. Y. Orr on the charcoal; Miss Platt on the piece of worked bone; also Mr Anderson and Mr Murray for public-spiritedly leaving the urn protected in situ till it could be thoroughly examined, and to the former for assistance in digging it out. Lastly, thanks are due to the Trustees of the Arniston Estate for presenting the contents of the grave to the National Museum.

2. West Pinkerton, Broxburn, East Lothian.

At the beginning of January 1939 a portion of a beaker was sent to the Museum by Mr J. Rennie of South Belton, near Dunbar, whereupon I was sent to examine the site. At the end of December a tractor on the farm of West (Little) Pinkerton, near Broxburn, Dunbar, stove in the top of a short cist, and the piece of beaker was found in the corner.

The site is on the rising ground about a mile from the sea, to which there is a wide view. About 250 yards uphill to the south-west are the farm buildings of West Pinkerton.

There was no trace of a mound or cairn. The cover-stone of the cist was 2 feet below the surface, but only one corner remained in position, the rest having broken and fallen in so long ago as not to leave the slightest

1 Similar mottling, possibly also due to re-firing, occurs on a few other vessels in the Museum—4 incense cups and a very miniature food-vessel.
depression on the surface. It was part of this corner that the tractor broke into. The cover had been about 2 inches thick and 6 feet 4 inches long, and seemed to extend 1 foot 9 inches on the north-west and 10 inches on the south-east beyond the side-slabs, giving a breadth of at least 5 1/2 feet. Like the wall-slabs, which were 2 feet high, it was a single very even piece of yellow flaggy sandstone, probably carboniferous, which may have been quarried not far from the site of the grave. The long axis of the cist was 40° east of north, magnetic, i.e. towards the sea. The wall-slabs were 1 1/2 inch thick, except the south-west, which being only 1 inch had collapsed long ago. The south-west end-slab was 3 feet 1 inch wide and the north-east 2 feet 11 inches. They were 4 feet 9 inches apart on the north-west and 4 feet 6 inches on the south-east, and fitted fairly evenly, without any form of luting, between the side-slabs, which extended some 6 inches beyond them. The floor of the cist was almost entirely covered by a slab of grey flaggy sandstone 1/2 inch thick. Where this did not quite reach the sides, small additional pieces had been laid. This slab rested directly on the natural gravelly subsoil into which the cist had been sunk.

Directly on the floor were the remains of two middle-aged brachycranial males, heads to the north-east facing south-east (Pl. LXXIX, 4). The bones of the first had been laid along the south-east side-slab, no bit more than 9 inches from it. Part of the left foot was in articulation (unfortunately not shown in the photograph), but the left calcaneus lay against the skull at the other end of the cist. All the other bones were out of place. Thus the femurs lay end to end, alongside the corresponding tibiae, and beyond, near the left foot, were the two humeri side by side. It is clear that the bones had been picked up individually, except the foot mentioned, and laid carefully aside after skeletalisation.

Presumably this had been done at the burial of the second individual, for his skeleton lay undisturbed in a contracted position on its left side. It occupied the rest of the cist except for 1 1/2 foot beyond its feet. The right hand was up to the face. Behind the shoulders, as very commonly, had stood a beaker with a browny deposit in the bottom.

The skulls had been protected by a piece of the cover remaining in position and by another piece resting obliquely against the end-slab. An oblique piece had also protected the bones of the first skeleton, while much of the second had been crushed by part of the cover lying directly on top of it with not a speck of earth beneath. It was obvious that the position of the first skeleton could not have been due to a late casual disturbance. The size of the cist even suggests that the constructors may have anticipated the secondary interment, which may have taken place after an interval of a very few years. Corrie found two disturbed and one intact skeletons in a cist at West Puldrite, Orkney, but decided against a Bronze Age date partly owing to the height of the individuals, 5 feet 4 1/2 inches and 5 feet
TWO BRONZE AGE BURIALS. 233

6 inches; \(^1\) but our first skeleton may have been 5 feet 8 inches. It will be remembered that Greenwell and Mortimer frequently found several beaker interments under the same barrow and sometimes even in the same grave.\(^2\) Sometimes, however, a heap of bones was found near a skeleton.

The beaker as reconstructed measures \(6\frac{3}{4}\) inches in height, \(5\frac{1}{2}\) inches rim diameter, 5 inches at the bulge, and \(3\frac{1}{2}\) inches at the base (Pl. LXXIX, 3, and fig. 3, 2). It is red outside, but was apparently overfired and is black inside. Much has split along the lines of building. It is ornamented on the top of the flat rim by a single criss-cross. On the neck is first a row of parallel oblique strokes cut at the middle by a horizontal line, with another along the lower ends; then two rows of vertical chevrons, each with a horizontal line above and below. On the bulge is another chevron band with two horizontal lines above and below, while above the base are four horizontal lines. The whole decoration has been executed with the usual cogged instrument.

I must thank Professor Low for once again reporting on the skeletal material, and Dr J. Pringle for identifying the stones; also Mr Rennie for promptly acquainting the Museum of the discovery while leaving it undisturbed, and the grieve, Mr Fairbairn, for assistance during the excavation. Thanks are further due to His Grace the Duke of Roxburghe for adding the beaker to the National Collection.

3. THE BUILDING UP OF PREHISTORIC POTTERY.

The chief interest of the beaker is that, owing to the way in which it has split, it shows completely how it had been made in stages. Surprisingly little attention has been paid to the extent and manner in which prehistoric pots were built up, and some remarks may be all the more interesting as the matter has already been referred to this year before the Society both by Professor Childe and Mr Calder.

Previously Professor Childe remarked on it as a special feature at Skara Brae.\(^3\) Dr Callander drew attention to three other instances which he had come across, a food-vessel, a cinerary urn, and an Iron Age pot.\(^4\) In 1931 Piggott recognised it as a characteristic of Neolithic B, and added that it was a "trick of potting that persisted in England into the Bronze Age." \(^5\)

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\(^1\) Proc. Soc. Ant. Scot., vol. lxiii. 1928-29, p. 190. The taller individual had Nordic features and was aged about 18. For the physical features of the beaker folk, see Walmesley and Mogey, Ulster Journal of Archaeology, 1939, p. 96.


Fig. 3. Pots showing building stages: 1–3, Beakers; 4–7, Food-vessels. (1 : 2.)
Fig. 4. Pots showing building stages: 1, Rinyo; 2-7, Cinerary urns; 8, Incense cup; 9, Neolithic B; 10-15, Early Iron Age; 16, Outerston Hill. (1:3.)
Dr Mears has recently given a full account of a cinerary urn from Fife.  
Dr Curle noted that the Late Bronze Age domestic pots at Jarlshof had been built in zones.  
Miss Benton,  
and recently Callander  
and Sheppard,  
have noted Iron Age examples at Covelea, Eday, and Eastbourn, Yorks, respectively; Sheppard refers to a food-vessel illustrated without comment by Mortimer, and speaks of coiling, a matter which will be mentioned again later. It is true that there has thus been an increasing awareness of the building technique, but in 1937 Dr Callander summed up the position by saying:  
"In making the sepulchral and domestic vessels of the Stone, Bronze, and Early Iron Ages in Scotland, generally it was the practice to work up the clay from the base to the lip so that the wall was homogeneous, just as in wheel-turned pottery. But, as I have already pointed out, another method was occasionally employed both in the Bronze and Iron Ages."

Beakers had not been specifically mentioned, and so, starting with the West Pinkerton example, I looked over most of the broken and fragmentary beakers in the Museum, and then at other classes of pottery too, whole or fully restored vessels being perforce omitted. Often very close inspection is needed, not only because the better made a pot is the less its joints are visible and a source of weakness, but also because of the tendency of the clay to produce non-constructional fissures. Certain and probable specimens, however, were sufficiently numerous to substantiate the a priori supposition that all our prehistoric pots had been built in stages. The only exception was the Neolithic A group, which gave no examples except, as Piggott has already noted, the possibility of joins at the shoulder.

The number of examples of stages in the different classes were: beakers, 19, including string-ornamented beakers; food-vessels, 20; cinerary urns, 32, and in addition 9 where the evidence only showed, as in the Outerston

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2 Ibid., vol. lxxii. 1933-34, p. 205.  
5 Yorkshire Archaeological Journal, 1938, p. 40.  

8 Grace Crowfoot, Palestine Exploration Fund Quarterly, 1932, describes modern primitive pot-making. Pots are begun in the afternoon by shaping a large shallow bowl out of a lump of clay, then stones are placed all round it to prevent it sagging and it is left til next day. The next portion of the rim is applied as a rolled-out sausage, afterwards thinned with the hands, and finally small pieces are added where necessary to even up the rim. After two or three days' drying the base is made round with a knife used as a spokeshave.

The Kikuyu of Kenya have a different sequence, also for making round-bottomed pots. They start, not with the base, but with the lowest ring. When the ring is reached, the pot is turned upside down and left to dry, till the base can be supported. I owe this information to Mr Eliud Mathu, B.A.
Hill example, the addition of the overhanging rim; incense cups, 1; Iron Age, over a score of different sites in the north and 2 in the south.\footnote{Dr A. O. Curle has kindly pointed out to me that, later still, Viking hand-made pots were built in stages, see Proc. Soc. Ant. Scot., vol. 1ix. 1934-35, p. 306.}

A number of instances illustrate the architectural quality of the building up of parts or wholes. The West Pinkerton beaker (fig. 3, 2) had its base made of a slab of clay modelled up round the edge, causing as usual the centre of the base to be the thickest part and the outer edge to be concave. Then a strip of clay thinned along the bottom and top was pressed down on the inside, forming an oblique joint, sharp at the bottom and sloping up to the outside, where it curves outward and a little down. A second strip finishes the bulge of the vessel and turns out slightly to begin the neck. The first strip of the neck was for obvious constructional reasons applied to the outside. The next piece equally reasonably, considering the outward flare of the neck, returned to the inside, and was smoothed down to cover thinly the inside of the join between the last two strips. The rim was now finished off, not by flattening the top strip, but by adding what may best be described as a half-strip. Much the same method of rim-making is shown by a typical Neolithic B thickened rim from Glenluce (fig. 4, 9).

It is very interesting that practically the same sequence, except probably for an extra strip in the lower half, would seem to have been followed in the case of a worse-made beaker of similar form, also from East Lothian, whose very carelessly executed decoration seems meant for a somewhat similar chevron scheme (fig. 3, 3); the details of building are, however, not so clear. Another fairly complete section is that of a little beaker from Carn Beg, Arran (fig. 3, 1), which also shows a half-strip, and possibly a fractional one as well, added to form the rim. The shoulder-piece does not appear always to have been added on the outside.

The method of building up food-vessels was just the same, simplified by the greater thickness of the body. Of the four examples illustrated, fig. 3, 4 shows the simplest method of forming the shoulder and is nearly complete. Fig. 3, 7 is a shoulderless vessel with a rim formed by a partly modelled half-strip; its joints vary markedly in shape. The other two are thinner, and perhaps for this reason the joints are more oblique; fig. 3, 5 has a rather inexplicable form of rim, while fig. 3, 6 shows a carefully balanced shoulder strip. A vessel from Closeburn, Dumfries, had the shoulder strip applied to the outside. Here it may be noted that in none of the different types of pots examined was there any instance that suggested what should strictly be termed "coiling," that is to say, strips forming a continuous spiral from base to lip. Indeed it is more architectural, and, if you start from a pinched-up basic slab, also simpler, to make separate successive rings.

Turning to cinerary urns, one is surprised to see in how many stages
these great vessels were built, but it is not necessary to suppose that after the addition of each strip there was an interval to allow it to harden. The base started just like the beaker (fig. 4, 7), but the rim may become very complex. Dr Mears has already described the simple addition of the overhanging rim. Fig. 4, 3 shows an intricate collared example. An urn of unusual type from Ireland (Bell Collection) (fig. 4, 2) had its upper strips, at least, applied to the outside; but the strange two-piece rim is quite rational, for the potter, as always, wanted to build rather than model. An urn of biconical type has the rim made of a single strip added to the shoulder in a most stable manner (fig. 4, 4). One encrusted urn (fig. 4, 5) has a straightforward grooved shoulder, naturally treated by the potter as two shoulders, each with a joint, while the encrusted decoration consisting partly of oblique shoulder-stops has been added last. Applied decoration, one would think, should come so naturally to people who made their pots by applying one strip to another that it is surprising that it is not commoner. It would be interesting to see how often the cordons of cordoned urns are applied. Fig. 4, 6 shows a variation of the shoulder. An urn from Tillicoultry had all its building strips applied to the outside. Dr Mears’ urn approximates to simple “false-rim” joints morticing in the middle of the wall, like the much earlier coarse Skara Brae ware, of which fig. 4, 1 is an example from Rinyo, where the otherwise more normal outside morticing is also occasionally to be found.

A broken incense cup shows that its lower part is of one piece, presumably completed by just another stage, of which part remains (fig. 4, 8).

Coming finally to the Iron Age, Mr Calder’s coarse sherds from Eday have central morticing. A large vessel from Jarlshof (transitional) with its stages added to the inside (i.e. outside morticing) is interesting as showing how each stage might be made of several pieces joined obliquely (fig. 4, 15). These joins can be more easily pressed tight than the horizontal ones, and, though occurring at least once in each stage, are visible only in this one example. The base illustrated is possibly not of the same vessel. A sherd from Wiltrow has very close-set rings (fig. 4, 14). But a large number of the examples from earthhouses and brochs differ from those that we have so far considered in that the joints are only exceptionally visible in the section, while the potters did not smooth off the inside of the vessels. From Galson there is an exaggerated instance of the resulting step-like projections or folds (fig. 4, 12), of which a Romanizing rim from Covesea (with central morticing, however) (fig. 4, 10) and a base from Bac Mhic Connain (fig. 4, 13) are more normal. The base is unusual in having an addition to the outside to conceal the concavity. Fig. 4, 11 shows a sherd with an estimated rim diameter of \(\frac{7}{2}\) inches which has very narrow rings and is smoothed off neither inside nor out.

At the moment the chief interest of the potter’s stages is that always associated with peeping below the surface and studying the anatomy of things. The exterior is seen to reflect the skeleton, and the skeleton to be skilfully, indeed ingeniously, adjusted to quick and controlled building. Even from this point of view it may be hoped that plain black sections of pots will give way more frequently to ones showing the structure. But the problems raised by central, inside, and outside morticing, joints unsmoothed on the inside, Neolithic A jointless pots, or the finer details of the two beakers first considered, suggest that new points of comparison may in time be provided for the classifier.

I am indebted to Mr W. J. Macaulay for re-drawing the pottery.

The following are the Museum references of the illustrations:—

Fig. 3. 1, EO 309, Carn Beag, Arran; 2, EG 75, West Pinkerton, Dunbar; 3, EG 50, Seton, East Lothian; 4, EE 88, no provenance; 5, EQ 86, Fyvie, Aberdeenshire; 6, EE 123, Altyre, Morayshire; 7, EE 124, Kelso, Roxburghshire.

Fig. 4. 1, HDA 2, Rinyo, Rousay; 2, EB 7, Ireland; 3, EA 84, no provenance; 4, EA 67, Largo, Fife; 5, EQ 210, Mill of Marcus, Angus; 6, EA 75, Auchterless, Aberdeenshire; 7, EQ 298, Drunetzier, Peeblesshire; 8, EC 16, Couler, Lanarkshire; 9, EE 49, Glenluce, Wigtownshire; 10, HM 199, Covesea, Morayshire; 11, HR 797, Galson, Lewis; 12, GNA 371, Foshigarry, N. Uist; 13, GNB 131, Bac Mhic Connain, N. Uist; 14, HD 532, Wilrow, Shetland; 15, —, Jarlshof, Shetland.

SHORT CIST AT WEST PINKERTON, DUNBAR. NOTE ON THE HUMAN SKELETAL REMAINS. By Professor Alex. Low, M.A., M.D.

Unfortunately the bones of both skeletons are poorly preserved and are fragmentary.

Skeleton No. 1 is that of an adult male of good muscular development, about middle age, and approximately 5 feet 8 inches in height. The skull is represented by the calvaria, the base and facial skeleton being missing. The sutural lines of the vault are mostly obliterated, the superciliary ridges are prominent, and the outline of the vault, as seen from above, is a broad ovoid and relatively short, the skull being brachycephalic with a length-breadth index in the region of 85. The lower jaw is represented by the symphysis with three incisor teeth and a piece of the left angle with the last two molar teeth. Apart from a piece of sacrum there are no vertebrae or ribs belonging to this skeleton, only limb bones, mostly imperfect, being represented. Of upper limb bones there are the lower two-thirds of the shafts of both humeri, the head of a left radius, and small pieces of the shafts of both ulnae. The right femur except for head is intact, and the lower two-thirds of left femur; from length of right femur an approximate stature of 5 feet 8 inches is calculated. Right tibia is fairly complete and is well developed, showing lateral flattening of upper third of shaft—
platycnemia—and a squatting facet on the anterior margin of its lower articular end. The left tibia and the fibulae are much eroded. Of the bones of the foot the left calcaneus lay beside the skull-cap, while a piece of the right calcaneus lay in the opposite corner of the cist. Curiously, of the bones of the left foot three cuneiforms, cuboid, and the five metatarsals lie together near the lower end of the left femur.

Skeleton No. 2 is much decayed and, apparently undisturbed, lies on its left side in a flexed position; it is that of a middle-aged male. The skull is very imperfect, but so far as can be seen it has characters similar to those of the other skull; the body of a powerful lower jaw has a complete set of teeth with crowns much ground down but showing no trace of disease. Of the skeleton of the trunk there are twelve fragmentary vertebrae and a half-dozen fragmentary ribs. Of upper limb bones—shaft of left clavicle and piece of left scapula; shaft of right humerus and a left humerus, fairly complete, 32 cm. in length, and strongly marked; incomplete shafts of right and left radii and ulnae; and in relative position all the carpals, metacarpals, and three phalanges of the right hand; of lower limb—middle third of right femur and upper two-thirds of left fragments of right and left tibia and of right fibula; a large left patella and imperfect talus and navicular of left foot.