

V.

LATE BRONZE AGE CEMETERY: BEING AN ACCOUNT OF THE
EXCAVATIONS OF 1935 AT LOANHEAD OF DAVIOT,
ABERDEENSHIRE, ON BEHALF OF H.M. OFFICE OF
WORKS. BY H. E. KILBRIDE-JONES, F.S.A.Scot.

In the account of the excavations of 1934 at the stone circle at Loanhead of Daviot¹ attention was drawn to the secondary character of the short cist (to the east of Minor Cairn No. 8), its contents, and its covering structure. Excavation had perforce to be discontinued following the discovery of the cist, owing to the lateness of the season; and work was therefore continued last season at the point where it was discontinued in 1934, the object being to discover the limits of the cairn-like structure covering the short cist. Almost at once we came upon the late Bronze Age cemetery, although its presence was entirely unsuspected. Fortunately the ruined mediæval earthen dyke² lay directly across the diameter of the cemetery, thereby assisting in the preservation of the site. Unfortunately, it was necessary entirely to remove it before work could proceed.

The cist proved to be situated immediately on the edge of the cemetery. It was not included within the cemetery, but served, so to speak, as a link between the early Bronze Age (the period of the Stone Circle) and the late Bronze Age (the period of the cemetery), being itself of middle Bronze Age date; for it was clear that it was a later addition to Minor Cairn No. 8 of the Stone Circle. It will thus be observed that the dividing line of large stones, noted in 1934, was in reality a division, as tentatively suggested at the time; the people who constructed the cist and its covering structure wanted a definite line of demarcation between it and the stone circle. When we study later the pottery from the cemetery we shall discover that the North-Eastern Bronze Age remained apparently uninterrupted from its earliest period to its latest.³

The removal of the mediæval earthen dyke revealed more stones of the cairn-like structure to the north-east. With the addition of these newly discovered stones the area formerly occupied by the cairn-like

¹ *Proc. Soc. Ant. Scot.*, vol. lxxix. pp. 168-223.

² *Ibid.*, p. 192.

³ Apart, that is, from an intrusive element to be noted later.

structure seems to have been roughly 16 feet by 12 feet. Taking into consideration the above facts, and the interruption here of the cemetery dyke, it seems probable that the structure covering the cist was actually a cairn, which, rising to a height of perhaps 4 or 5 feet, would render a dyke unnecessary at this point.

LATE BRONZE AGE CEMETERY.

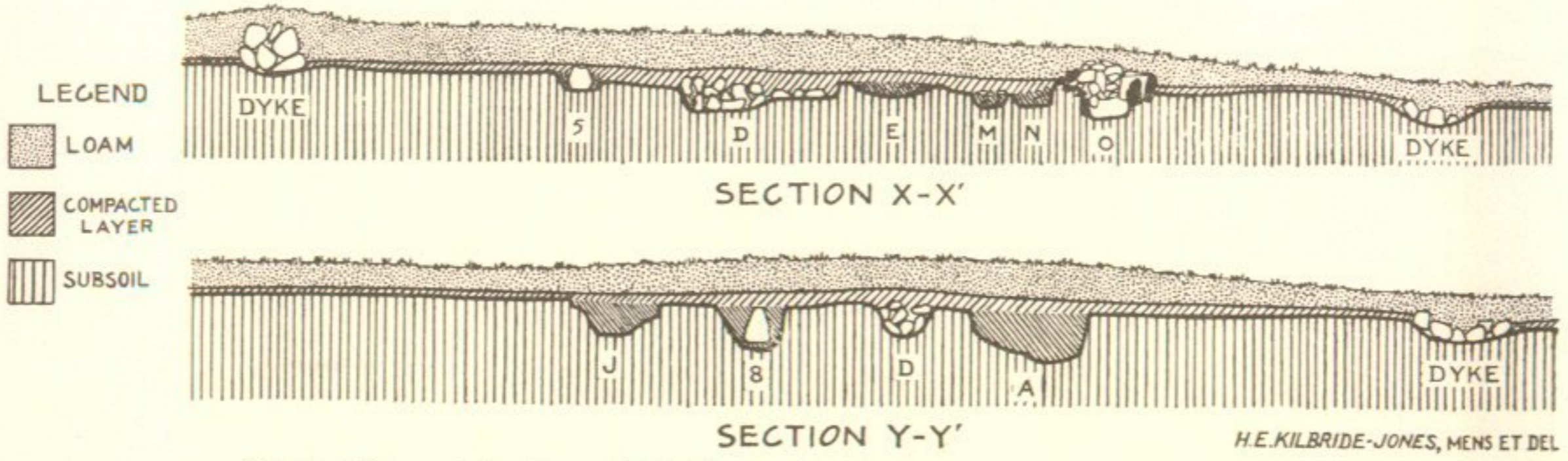
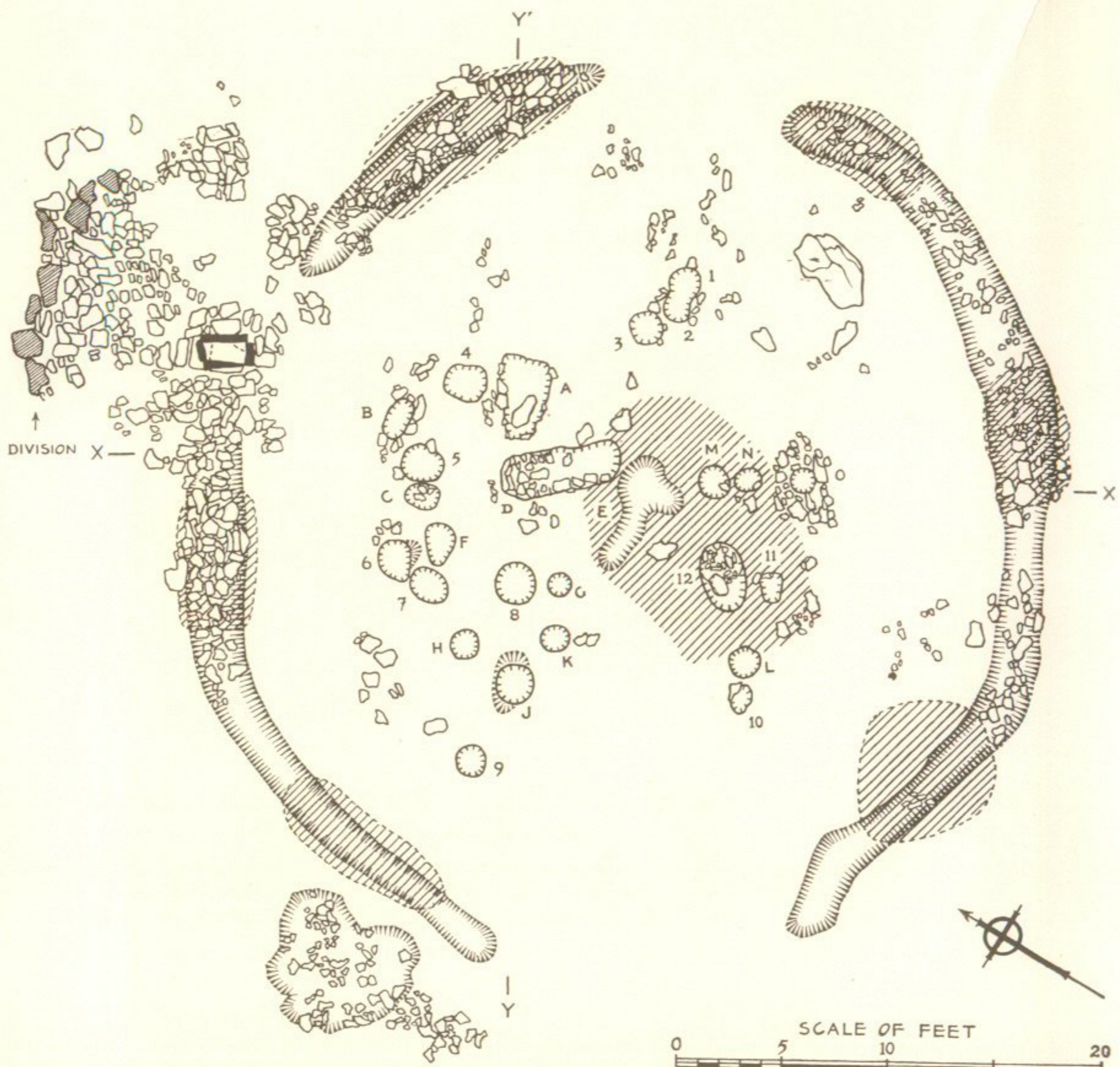
The cemetery to be described is the first of its type, and the first to be found adjacent to a stone circle. It is possible, however, that cemeteries may later be discovered adjacent to other stone circles, since Cinerary Urns were discovered to the west of and just outside the stone circle known as Druid Stones, near Inch.¹ This coincidence, and the fact that sporadic finds (such as cists and urns buried singly) have often come to light in the neighbourhood of stone circles, should encourage systematic exploration of the surround of a stone circle.

We know that, as the Bronze Age progressed, it became common for later generations to bury their dead within some part of the structure of cairns of early Bronze Age date; and in this way some cairns became the repositories of numerous secondary burials. This could hardly have been considered to be a satisfactory method of disposing of the dead, so that we might be justified in regarding the circular cemetery to be the result of a natural translation from the round cairn to a flat burial ground. In both cases, burials were scattered indiscriminately around a primary interment.

The area within the boundaries of the cemetery at Loanhead of Daviot had been cleared of all superincumbent soils down to subsoil level prior to its being utilised as a place of interment. This is in direct contrast to the area occupied by the covering cairn of the short cist, where the cairn stones had been placed upon a stratum of about 3 inches of hard, reddish-brown soil, in the same manner as the minor cairns of the Stone Circle.

The limits of the cemetery were defined by a circular boundary ditch, which varied considerably in depth and width: the maximum depth was 10 inches, and the minimum, on the west side, less than 3 inches, whilst the width, from being no greater than 1 foot 6 inches on the west side, increased to a maximum of 3 feet 6 inches on the east side. The ditch was interrupted in three places: on the north-east and south-west sides for distances of 8 feet 9 inches and 13 feet 6 inches respectively, to provide entrances to the cemetery within, and on the north side to avoid the cist and its covering cairn. This indicates conclusively that

¹ *Proc. Soc. Ant. Scot.*, vol. xxxv. p. 239.



H.E. KILBRIDE-JONES, MENS ET DEL

Fig. 1. Plan and Sections of late Bronze Age Cemetery at Loanhead of Daviot.

the cist and its covering structure antedate the cemetery, a contention upheld by the contents of the first, namely, an Incense Cup which in reality is a diminutive Food Vessel.

A dry-stone dyke enclosed the cemetery. The foundations of the dyke were laid within the boundary ditch, so that the dyke was confined within its limits. The dyke, the stones of which were vertically placed, still remained to a height of 1 foot 10 inches on the north-west side



Fig. 2. Section of Stone Dyke enclosing Cemetery, with foundation ditch in foreground.
(*Note.*—Stones on right have been removed from ditch.)

(see fig. 2), but elsewhere it was very ruinous, and in many parts (as on the west side) entirely absent. It is to be regretted that it was so ruinous near the entrances.

The south-west entrance seems to be slightly out-turned; and to the left, on entering, is a peculiar, irregularly shaped artificial depression, which had been picked out of the soft rock to a depth varying from 3 to 5 inches. Within this depression were found the remains of a construction, which must have toppled over in a southerly direction. Its nature, of course, cannot be determined; and there was no corresponding structure, or depression, on the opposite side of the entrance, neither were there any analogous structures near the north-east entrance.

Scattered over the floor of the cemetery were numerous stones (all

marked on plan). Probably all were dyke stones. It would seem that there had been a partial collapse of the dyke on the south side during the early history of the site, since stones, which had obviously fallen inwards, lay directly upon the cemetery floor.

One may presume that the floor, from having been at first of cleared subsoil, would gradually have accumulated an even layer of fine, blown soil. This would explain why the soil covering the cemetery floor was noticeably free of small stones. The hard reddish-brown layer, which was so typical of the stone circle site, was here entirely absent.

EVIDENCE OF FIRE.

At certain points in the boundary ditch (marked by diagonally hatched areas on the plan (fig. 1)) considerable evidence of fire was noted. Fires had been kindled on either side of each entrance, and also midway between those entrances on the south-east and north-west sides of the cemetery, making a total of six fires. The areas upon which these fires had once burned were clearly identifiable by the reddening of the subsoil, and also by the large amount of charcoal and ash which was found. All the fires, with one exception, had been kindled within the limits of the ditch; the exception is that on the east side of the south-west entrance. And just as the fires had died down, so were they left when the dyke was built over them.

On the plan (fig. 1) appears a large central, diagonally hatched area. Here the subsoil had in places been burnt an intense red, and toward the north end of the area charcoal and ash were found to a depth of 2 inches. Amongst this ash, minute particles of calcined human bone were numerous, whilst toward the middle of the area an amount of larger calcined human bone was found. There can be no doubt that here had been lit the pyres upon which had been cremated the remains of those interred within the cemetery. The reddened soil covered an area of 12 feet 6 inches by 9 feet 6 inches, and since the soil was redder and the ash deeper at the north end, it is probable that the area itself grew in length and breadth with the increase of the number of cremations.

BURIALS.

In the exact centre of the cemetery is a curiously shaped shallow pit (fig. 3; and E on plan, fig. 1), exactly 6 feet long and barely 5 inches deep. It is orientated east and west; and at the west end for a distance of 2 feet 11 inches it is narrow, being no more than 1 foot 7 inches wide. Suddenly, however, it expands, mostly in a southerly direction, to a greatest width

of 3 feet 6 inches, and then tends to narrow again at the east end. It was filled entirely with the charcoal and ash of the pyre; but on the bottom cremated human bones were found, flat bones of skull being discovered at the east end, the remains of a pelvis about midway from east to west, and clearly distinguishable leg-bones at the west end. In the south expansion cremated bone was also found, and at the very edge of the south expansion a pendant of sandstone (fig. 10, A), measuring $1\frac{3}{4}$ inch long by $1\frac{7}{16}$ inch wide, was discovered. We may regard this as the initial interment.

There is really no means of determining in what order the remaining interments took place, although in the case of those within urns of a single type it is possible, from the later study of development, to discover in what order those urns were buried. But their number is small. For the present the burials will be considered in the order in which they are numbered on the plan, fig. 1.¹

Burials Nos. 1 and 2 (fig. 5, A) were contained within two inverted Cinerary Urns of the enlarged Food Vessel type.² Both urns and their contents had been buried within a double pit. Urn No. 1 contained the cremated remains of a child, aged three to four years,³ whilst No. 2 contained the remains of an adult. Presumably this was parent and child, who had been buried together. The double pit contained pure yellow earth, which was barely distinguishable from the surrounding subsoil. The diameter of each pit was 1 foot 6 inches and greatest depth 9 inches.

Barely 6 inches away was Burial No. 3, also contained within an inverted Cinerary Urn, this time of the overhanging rim type. The urn contained the cremated remains of an adult. The pit was of diameter 1 foot 7 inches and was 8 inches deep. It was filled with dark soil,

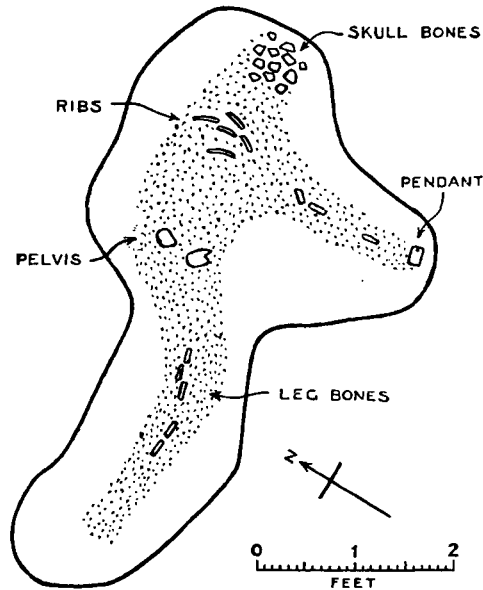


Fig. 3. Sketch Plan of Burial E (primary interment in centre of Cemetery).

¹ The plan and section of each individual pit will be found in fig. 4.

² Discussion of the urns themselves is deferred, and appears under the heading "Pottery."

³ See Professor Low's Report in Appendix I. for particulars of the human remains.

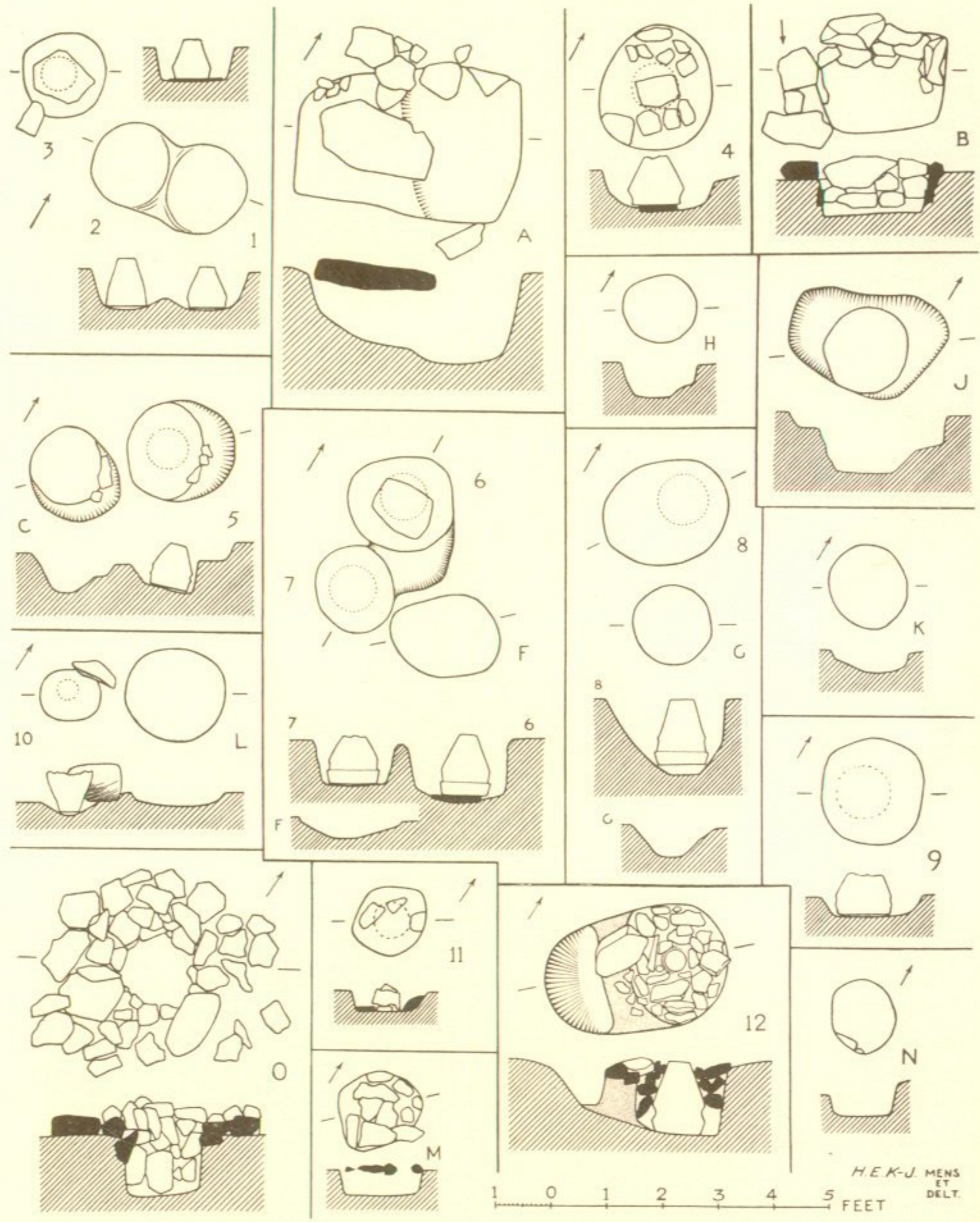


Fig. 4. Plans and Sections of Pits. (Arrows indicate N. point.)

and upon the base of the pit was a stone 11 inches long by $9\frac{1}{2}$ inches wide upon which the mouth of the urn rested.

Pit A was 4 feet long, 2 feet 8 inches wide, and 1 foot 10 inches deep. Along the north-west edge were numerous stones, and lying more or less centrally at floor-level was a large stone, 2 feet 2 inches long by 1 foot 2 inches wide. The pit was full of dark soil, the top layers of which contained an amount of ash and charcoal. Altogether, seven individuals had been interred here, one of whom was a child. At the bottom, at the north-east end of the pit, was a depression, as though it had perhaps been scooped out as an afterthought. This hollow contained the cremated remains of an adult, which had been carefully covered over with yellow soil, hard packed, and barely distinguishable from the base of the pit at the south-west end. Thereafter the cremated remains of the remaining six individuals had been thrown in, more or less in two lots, the whole pit being subsequently filled with dark soil, and ash gathered from the pyre had been thrown in at the uppermost level.

Burial No. 4 (fig. 5, B) was that of an adult, whose cremated remains were contained within an inverted Cinerary Urn of the enlarged Food Vessel type. The pit was oval, being 2 feet 3 inches by 1 foot 11 inches, and it was 9 inches deep. It was filled with clean, yellow soil. The mouth of the urn rested on a stone measuring 9 inches by 7 inches, and this stone was surrounded by eleven others, most of which had been carefully laid around it, to provide, presumably, a paved base to the pit.

B was a peculiar quadrangular-shaped pit and was 2 feet 3 inches long, 1 foot 7 inches wide, and 9 inches deep. It was orientated east and west. Round it, upon the cemetery floor, were several stones, apparently not *in situ*. The south side of the pit was carefully lined with stones of different sizes, whilst the west and east sides were lined for half their length only, at those ends abutting the south side. The remaining north side was unlined. On the base of the pit were the cremated remains of an adult. The pit had been filled with dark soil, the top layers of which contained an amount of ash.

Burials No. 5 and C were juxtaposed in such a way as to suggest that the two pits had been dug at the same time. Both pits have been hurriedly and crudely dug; in both cases small stones embedded in the subsoil seem to have restricted the diameters of the pits. These small stones could have been removed with very little trouble. The inverted Cinerary Urn, of overhanging rim type, found in Pit No. 5, although small, contained the cremated remains of two adults. The urn was packed in with dark soil containing a small amount of ash. Pit No. 5 was 1 foot 10 inches in diameter and 11 inches deep in the centre. Pit C,

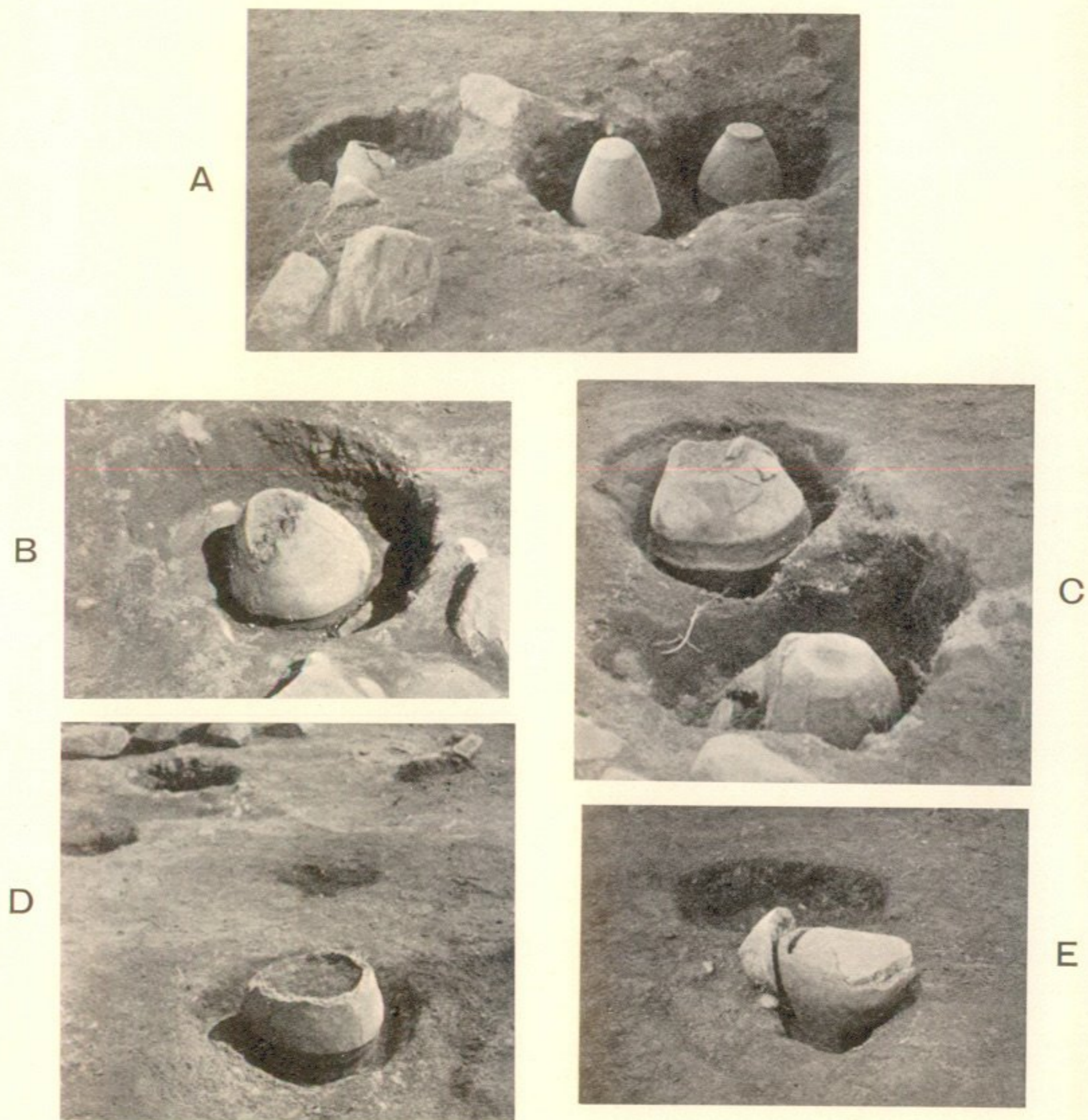


Fig. 5. (A) (reading from right to left) Urns Nos. 1, 2, and 3; (B) Urn No. 4; (C) Urns Nos. 6 and 7; (D) Urn No. 9; (E) Urn No. 10, showing stone closing mouth, and ash-pit L beyond. All urns *in situ*. (The numbers of the urns correspond to the numbers of the burials.)

which was 1 foot 8 inches in diameter and 9 inches deep in the centre, contained the cremated remains of an adult, and the bones were mixed with the dark soil and ash with which the pit was filled. At floor-level there were three small stones placed more or less centrally on the top of this filling.

D was a trough-like pit, 6 feet long and 2 feet 5 inches in breadth at the widest point. It varied greatly in depth, being 9 inches at the south-east end, but it became deeper towards the north-west end, where it was 1 foot 1 inch deep. It contained nothing apart from a large amount of fine dark soil, fairly loosely packed, and numerous stones. The average size of these stones was roughly 8 inches by 5 inches, and they had the appearance of having been gathered up to the south-west side of the pit, some even having been scooped up on to the cemetery floor.

Pits Nos. 6 and 7 (fig. 5, C) each contained an inverted Cinerary Urn of the overhanging rim type. Pit No. 6 was 1 foot 10 inches in diameter and 1 foot 2 inches deep; Pit No. 7 was 1 foot 6 inches in diameter and 11 inches deep. Urn No. 6 was inverted over a stone measuring 1 foot 1 inch long by 10 inches wide placed centrally on the bottom of the pit. Urn No. 7, however, rested upon carefully smoothed earth at the base of the pit. Each urn contained the cremated remains of one adult. Both pits were filled with dark earth; but the ash gathered from the pyre, instead of having been thrown in in the upper layers, as in the case of certain previous pits, had here been interred in a separate pit, F, hard by. This ash-pit was of irregular shape, measuring 2 feet by 1 foot 5 inches, and it was only $4\frac{1}{2}$ inches deep in the middle.

Urn No. 8, also of the overhanging rim type, was contained in an oval pit measuring 2 feet 3 inches by 1 foot 10 inches. The pit was roughly cone-shaped, being 1 foot 5 inches deep at the centre. In consequence of the shape of the pit, the mouth of the urn rested on the sides of the pit instead of upon the base; and the fact that the two only made contact at odd points had caused the collapse of the urn. The latter contained the cremated remains of an adult. It was packed in with dark soil; but the ash gathered from the pyre, following the actual cremation, had been interred in a separate pit, G, also cone-shaped, of diameter 1 foot 4 inches and 7 inches deep in the centre.

Pit H contained the cremated remains of two children. The bones lay on the base of the pit, which was of diameter 1 foot 3 inches and 8 inches deep. It was filled with dark soil, which also contained an amount of ash. Pit K, which was 1 foot 6 inches in diameter and only $5\frac{1}{2}$ inches deep, contained the cremated remains of an adult. It had been filled mostly with ash. Pit J was rather more elaborate. In the centre it

was 1 foot 1 inch deep and 1 foot 6 inches in diameter. On the base were the cremated remains of a young adult. The pit had been filled with dark earth; but on opposite sides (the north-east and south-west sides) pockets had been made to contain the ash and charcoal gathered from the pyre. The north-east pocket was 6 inches deep, and the south-west $3\frac{1}{2}$ inches.

Pit No. 9, (fig. 5, D), of diameter 1 foot 11 inches, was shallow, being only 4 inches deep; and this fact accounted for the absence of the base and lower walls of the inverted Cinerary Urn of enlarged Food Vessel type which it contained. Within the urn were the cremated remains of an adult. The urn had been packed in with yellow soil mixed with an amount of ash and charcoal, and the shallowness of the pit implies that originally a small mound of soil must have covered that part of the urn protruding above ground. But this mound, together with that part of the urn named above, had been kicked away by early Iron Age folk, as will be seen hereafter.

Urn No. 10 (fig. 5, E), also of the enlarged Food Vessel type, was within the smallest and shallowest pit in the cemetery. It was but 11 inches in diameter and only 3 inches deep; but the urn had been protected on the north side by a stone, measuring 11 inches by 9 inches, set on edge. Apparently the stone had only partly served its purpose, for although the urn was intact below the top edge of the stone, it had been destroyed above it. This was the sole Cinerary Urn from this cemetery which had been buried in an everted position; and the mouth had been closed by a slab of stone, measuring 11 inches by $8\frac{1}{2}$ inches. Had the urn been inverted, it is probable that the stone would have been underneath, for it may be assumed that, in the case of other urns found inverted over such stones, both the stones and urns had been lowered simultaneously into the pit. Urn No. 10 contained the cremated remains of an adult. It had been packed in with clean yellow soil; and an ash-pit, L, of diameter 1 foot 9 inches and 3 inches deep, and barely 6 inches distant, accompanied the burial.

Pit No. 12 (fig. 6) was large in comparison with those previously considered. Originally it had been 3 feet 4 inches long, 2 feet 3 inches wide, and 1 foot 3 inches deep at the north-east end; but it had subsequently been artificially partitioned off, reducing the length to 1 foot 9 inches. That part which had thus been partitioned off was subsequently used as the ash-pit. The pit itself contained an inverted Cinerary Urn, of the overhanging rim type; but, unfortunately, the urn had been packed in with stones (see fig. 6). It was soon evident that the removal of the stones would allow the urn to collapse, the latter being in

a very friable condition, which condition undoubtedly was partly due to the weight of the stones themselves. Subsequently, the base and half of the urn were removed intact. The contents were of more than usual interest: not only did the urn contain the cremated remains of three individuals—an adult and two children—but amongst those remains was found the bone toggle shown in fig. 10, D.

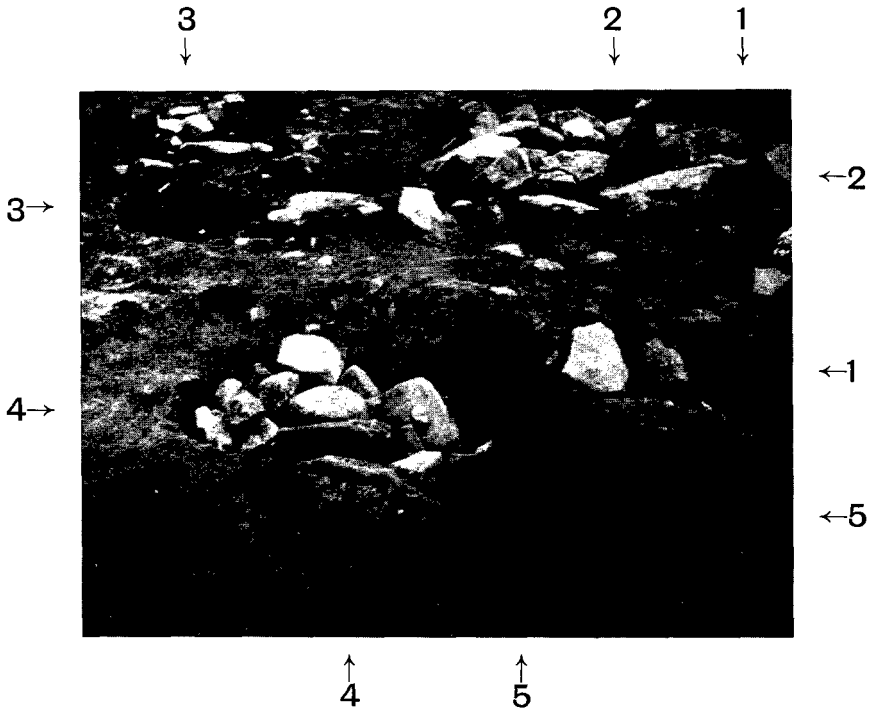


Fig. 6. (1) Burial No. 11 (Iron Age Urn); (2) Pit and Cairn O; (3) Burial M; (4) Burial No. 12, showing Cinerary Urn *in situ*, and packed in with stones, and also artificial partitioning of pit to provide (5) an ash-pit alongside.

A little more than a foot away, and to the south-east, was another pit, No. 11, of diameter 1 foot 3 inches and 5 inches deep. It was rather irregular, and crudely dug; some stones, embedded in the subsoil, protruded on the base, providing an uneven surface for the urn to rest upon. In consequence, this urn, which was inverted and of early Iron Age type, was very fragmentary: the base had collapsed within, and the rim was considerably damaged. Within were the rather scant cremated remains of an adult. The urn had been packed in with very dark soil, containing much ash and minute pieces of charcoal. Like No. 12, this pit was situated within the limits of the pyre.

Two other pits situated within the limits of the pyre were M and N. The former was of irregular shape, being 1 foot 6 inches in greatest diameter and $5\frac{1}{2}$ inches deep; the latter was 1 foot 2 inches in diameter and 5 inches deep. The walls of both had been carefully squared up with the bases. Pit M, which contained the cremated remains of a child, was full of black earth and much fine charcoal, and at floor-level the whole had been covered with stones carefully fitted together. Pit N also contained the cremated remains of a child. It, too, was full of black earth and charcoal.

The sole pit to be covered by a cairn was O. The cairn was approximately 4 feet 9 inches in greatest diameter. It consisted for the most part of a single layer of stones, laid directly upon the cemetery floor; but near the centre there was a second layer of rather smaller stones, thus giving a raised effect in the middle. The removal of these stones revealed a stone-lined pit, 1 foot 5 inches in diameter and 1 foot 1 inch deep, situated in the centre of the cairn. The stones which lined the pit had been carefully fitted in, one with the other, and all were secure and earth-fast; but there were considerably fewer stones lining the south side of the pit than was the case with the north side, where they reached almost to the base of the pit. The pit had been filled with dark reddish-coloured soil, fairly hard packed, but its removal revealed nothing—the pit was empty of remains.

The sole object found outside the pits was the portion of a sword-mould (fig. 10, C). It was found against the cemetery dyke, 12 feet 6 inches south-west of the cist, and within the cemetery. It was separated from the subsoil by rather more than 2 inches of soil. Its position suggests that it had been kicked against the dyke, which would further explain its disintegration into four parts, some being 2 or 3 inches apart.

SECONDARY FLOOR.

A floor (upon the "compacted layer" in the sections of fig. 1), corresponding to the secondary floor of the Stone Circle, was found to exist here also. It was 9 inches above the cemetery floor near Pit D, 6 inches above the pyre, and rather more than 3 inches about two feet from the surrounding dyke. Near the dyke itself, earth tended to be slightly heaped. Scattered over this secondary floor, which was clearly distinguishable owing to the compacted nature of the soil, were numerous small and badly rolled sherds of early Iron Age ware. Amongst these were a few rims but no bases. The rims will be illustrated in a subsequent paper: here suffice it to say that amongst them were types representative of

Periods II–IV of the local Iron Age. Also upon this secondary floor, between Pit D and Pit No. 8, were several small sherds of a Beaker, including a portion of the rim. Probably the Beaker had been disinterred from the Stone Circle, and may have come from the Centre Pit, if not from one of the Minor Cairns when these were cleaned out by the early Iron Age folk (as enlarged upon in the first report). On the north side of the south-west entrance, and just within the cemetery, were found three pot-covers, two of a slaty material and the third of granite. The first two were $3\frac{1}{2}$ inches and $2\frac{3}{8}$ inches in diameter, whilst the last was $2\frac{1}{8}$ inches in diameter. All were roughly chipped to shape. Near them was also found a quartz pebble, $2\frac{1}{4}$ inches long, which had been utilised as a hammer-stone, one end being heavily pitted.

POTTERY.

Of the twelve urns recovered, five were of the enlarged Food Vessel (E.F.V.) type, six were of the overhanging rim (O.H.R.) variety, and the last was of early Iron Age date. Of the twelve, those of the E.F.V. type are the most highly decorated, whilst in the case of the O.H.R. type, decoration is confined to two urns only. The Iron Age vessel is quite plain.

Urn Nos. 1 and 4 (fig. 8) are similar with regard to form of rim and outline, but they differ in the matter of decoration. The former is decorated with parallel lines of incisions, made with a spatula $\frac{7}{16}$ inch wide. These incisions were made when the urn was inverted, and from the right, the spatula having been held in the right hand, whilst the pot was slowly revolved by the left hand. Alternate rows of incisions face, for the most part, in opposite directions, giving a rough herring-bone effect. The inside of the rim was similarly decorated with two rows of incisions. The urn is $8\frac{1}{16}$ inches high and $7\frac{1}{2}$ inches wide at the mouth. Urn No. 4, which is $10\frac{1}{2}$ inches in diameter at the mouth and was originally about 11 inches high, is similar, but it is cord ornamented with herring-bone decoration between the rim and shoulder only.

These two urns carry forward the same tradition in regard to form of rim and outline which was represented by the Incense Cup found last year in the short cist. In all essentials the three outlines and rims are the same; only in size and decoration do these vessels differ. Now, the Incense Cup was merely a diminutive Food Vessel, and it further resembles Food Vessels which have been discovered in this region. The present pottery is, therefore, a useful illustration of continuity of tradition unaltered, even with the change of custom. Moreover, the

only two parallels to urns Nos. 1 and 4 come from Bridge of Banff (same herring-bone pattern but with incisions closer spaced) and from Abden, Kinghorn, Fife (whipped cord herring-bone pattern, very slight variation of rim). The southernmost specimen of this type comes from Uddingston, Bothwell, Lanarkshire, but here it has undergone slight variation of rim and outline, and the decoration tends to follow that of the O.H.R. type. From the same locality (Kyle Park, Uddingston) comes a rather squat urn, with the same incised herring-bone decoration; but although the outline is similar to the North-Eastern specimens, the rim has been flattened at the edge.

Urn No. 9 (fig. 9) preserves the grooved shoulder of the degenerate Food Vessel. The diameter at the mouth is $12\frac{1}{4}$ inches and the original height was probably in the neighbourhood of 16 inches. This urn also has the simple incised herring-bone pattern for decoration, and here it was accomplished with a spatula $\frac{1}{2}$ inch wide. Urns with similar rims and outlines have been found at Newton of Montblair, Banff (encrusted, with incised herring-bone decoration); Edzell, Forfar (similar decoration to No. 1—rudimentary lugs on groove); Mill of Marcus, Forfar (encrusted, incised herring-bone decoration below rim); Woodhead, Dunning, Perthshire (cord herring-bone pattern, edge of rim slightly flattened); Westlea, St Andrews (rudimentary lugs on groove); Westruther, Berwick (incised herring-bone, rim flattened on outer edge); and from Lintlaw, Berwick (encrusted, incised decoration, flattened edge to rim).

It is thus obvious that, not only is the herring-bone pattern typical of the E.F.V. type of Cinerary Urn, but the type itself belongs essentially to the North-East. So soon as the form travels south, modification sets in. This ably supports Fox's theory to the effect that the home of the Encrusted Urn (which, more usually, is of the E.F.V. type) must be sought in Scotland.¹ Most probably the Encrusted Urn originated in the North-East.

Unfortunately the present urns from Loanhead give little indication as to which one was buried first. No. 1 was in a deep pit, No. 4 was in a pit of less depth (in proportion to the size of urn), whilst the pit for No. 9 was merely 4 inches deep. The idea has been postulated elsewhere in the present paper, that the level of the cemetery floor would naturally rise with the increase of time, due to accumulations. If this had directly any effect on the depth to which a pit had to be sunk into the subsoil, No. 1 (with No. 2) must have been buried first, No. 4 second, and No. 9 last.² Both urns Nos. 4 and 9 were partly destroyed

¹ *Ant. Journ.*, vol. vii, p. 115 *et seq.*

² These remarks find corroboration in the general discussion.

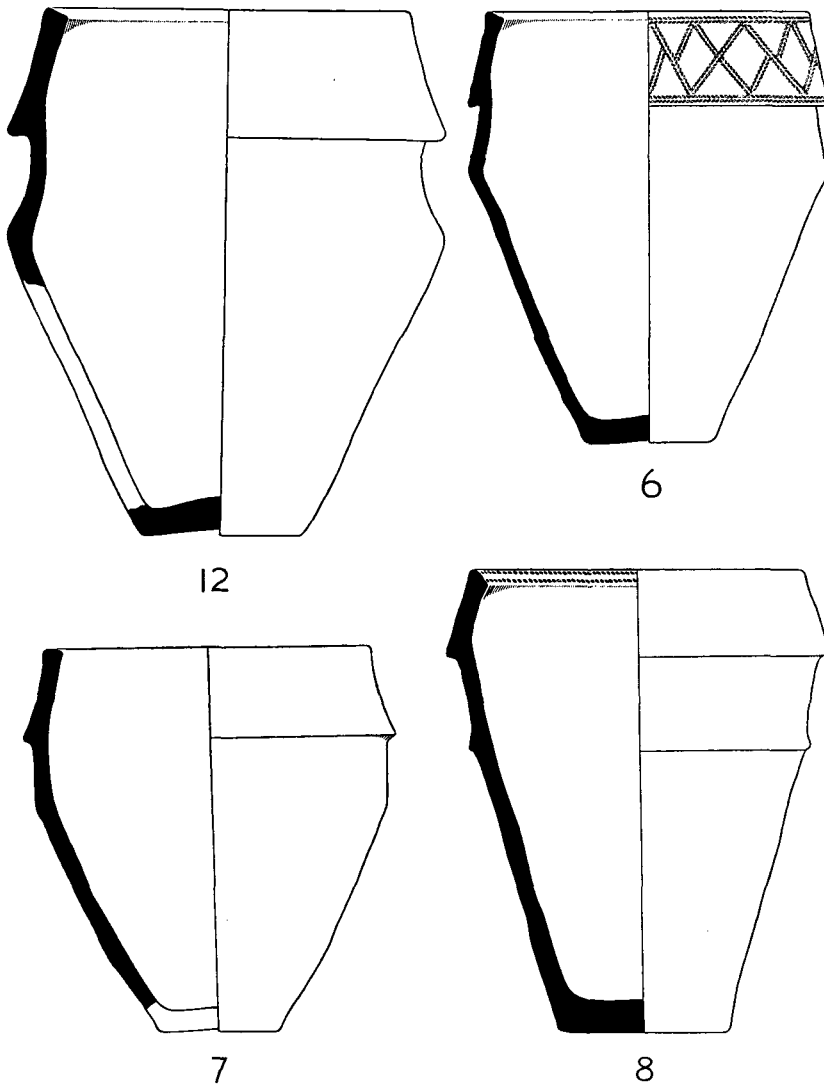


Fig. 7. Cinerary Urns of Overhanging Rim Type. ($\frac{1}{2}$.) (Note.—The numbers of the urns correspond to the numbers of the pits in which they were found.)

by Iron Age folk wandering about the area, so that the bases, probably concealed by a covering of earth, must have protruded above the level of the secondary floor; for below that level both urns were intact.

Any theories in regard to form of rim and outline need to be

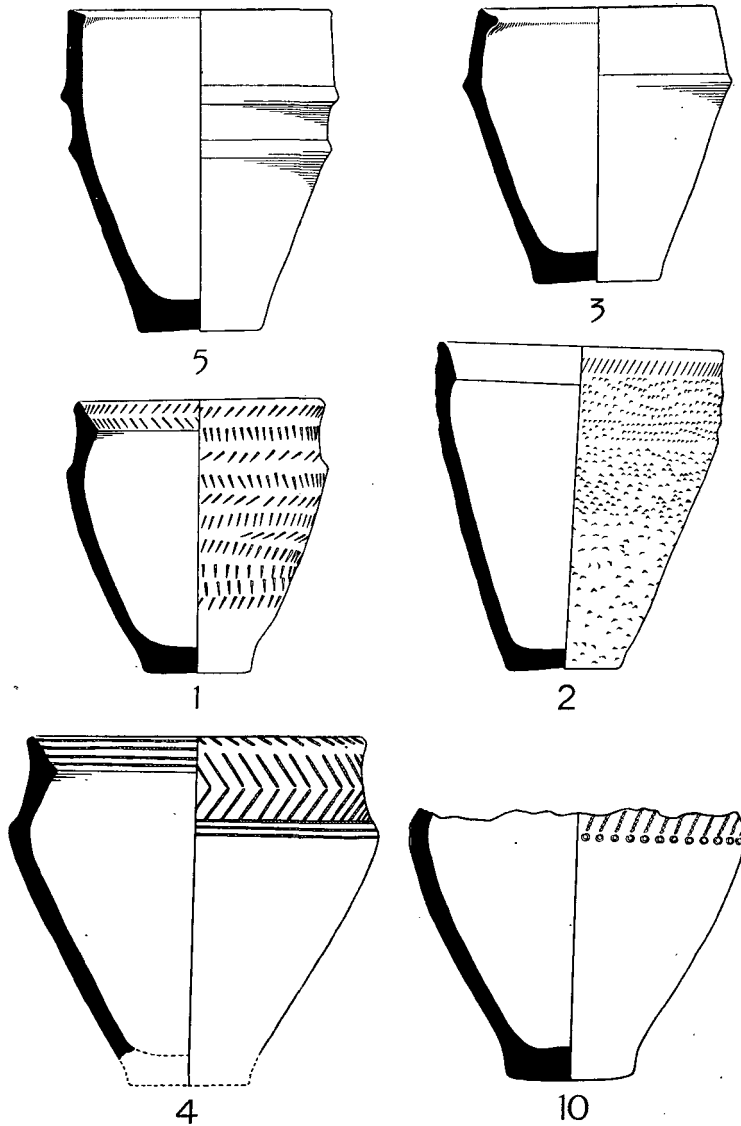


Fig. 8. Nos. 5 and 3, Cinerary Urns of Overhanging Rim Type; Nos. 1, 2, 4, 10, Cinerary Urns of enlarged Food Vessel Type. ($\frac{1}{2}$.)

formulated with care, since urns Nos. 1 and 2 must have been buried simultaneously, seeing that they were found within a double pit. Yet No. 2 (fig. 8) is wholly unlike No. 1. In fact, No. 2 is unique, having no

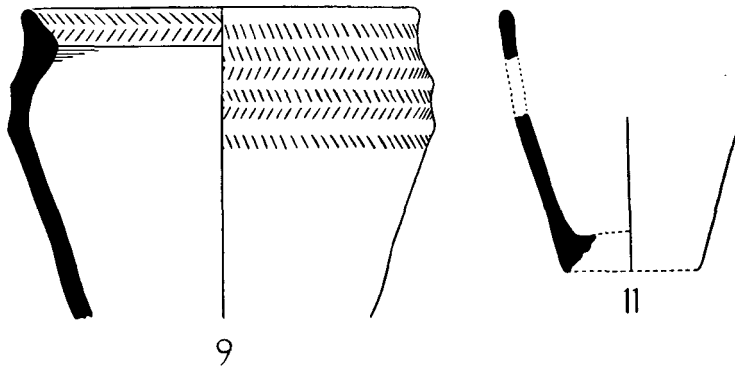


Fig. 9. No. 9, Cinerary Urn of enlarged Food Vessel Type;
No. 11, early Iron Age Vessel. (¼).

parallels. It is $10\frac{1}{2}$ inches high, and the diameter at the mouth is $8\frac{3}{8}$ inches. It is decorated from rim to base; below the rim is a line of diagonal incisions, and from these to the base the decoration consists of stabs done with a right-angled point. These were at first executed more or less in rows, but soon the potter's patience gave out, and thereafter they became mere jabs at random. The shoulder of the urn is not very pronounced, and here the potter has drawn his (or her) index finger round the entire circumference, perhaps in representation of a rudimentary groove. About half an inch above this there is another, even less pronounced; and a third is to be found round the whole circumference just below the rim. There are, of course, Food Vessels bearing three grooves, and this may represent the complete degeneration of that form.

The fifth E.F.V. type urn, No. 10 (fig. 8), is unfortunately incomplete, that part above the shoulder being almost entirely missing. Little, therefore, can be said about it. But the decoration was probably much in accordance with No. 4, except that here, upon the shoulder, is decoration carried out with the broken leg-bone of a bird. This form of decoration is rather uncommon as applied to Cinerary Urns, and is, in all but one instance, peculiar to urns of the E.F.V. type. A point worth remarking upon is the rather globular shape of urn No. 10. This is unusual. Probably the urn was about 11 to 12 inches in height and about 10 inches in diameter at the mouth.

Since urns of the O.H.R. type are more or less common to most parts of this country, this discussion must be confined to the six specimens from the present cemetery. These form a fine series, showing the degeneration of rim and outline. The earliest specimen is urn No. 12

(fig. 7), which was found to be $16\frac{1}{4}$ inches high and $11\frac{1}{4}$ inches in diameter at the mouth. It is undecorated. It is a moderately early example of the type, with pronounced overhanging rim, and concave neck and prominent shoulder. In Nos. 6 and 7 (fig. 7) the overhanging rims are less pronounced, the necks have more or less straightened out, and the shoulders have lost their prominence. There is thus a gap of years between No. 12 and Nos. 6 and 7, but Nos. 6 and 7 themselves are presumed to be more or less contemporary, one with the other. In view of the slight differences of rim, neck, and shoulder, however, and of the fact that the pit for No. 7 was of less depth than the pit for No. 6, it is possible that a short interval may separate these two burials, No. 7 being, therefore, later than No. 6. Urn No. 6, which was $13\frac{1}{4}$ inches high and 10 inches in diameter at the mouth, is decorated between neck and rim with cord ornament arranged in the form of lozenges. No. 7, which was 12 inches high and 10 inches in diameter at the mouth, is undecorated. Since its base slightly protruded above the level of the secondary floor, that part is now missing.

Further changes have taken place in the degeneration of the form since the manufacture of No. 7, as is plainly evident from a study of urn No. 8 (fig. 7). This urn, which was $14\frac{5}{8}$ inches high and $10\frac{1}{4}$ inches in diameter at the mouth, and which was decorated only on the interior of the rim with two parallel lines of cord ornament, shows the complete straightening out of the neck, with consequent disappearance of the shoulder. But the former existence of the shoulder is indicated now by a cordon, which is purely symbolical in purpose.

So far the rim had undergone little change, but with urn No. 5 (fig. 8) we observe that the overhanging rim had likewise suddenly degenerated, its former presence being marked also with a cordon. With this degeneration of rim we note a decrease in size, No. 5 being 10 inches high and $8\frac{1}{4}$ inches in diameter at the mouth. But degeneration did not stop there: with the decrease in size, and in order to preserve the proportions of the vessel, the cordon representative of the shoulder was dropped. We observe this outcome in urn No. 3 (fig. 8), which is but $8\frac{1}{2}$ inches high and $7\frac{1}{2}$ inches in diameter at the mouth. Both Nos. 5 and 3 are undecorated. Urns Nos. 5 and 3 do not belong to the form known as the cordoned type of Cinerary Urn; in fact, No. 3 is a degeneration peculiar to the North-East. A similar urn comes from the Haddo House Estates in the same county, whilst a later and much smaller example was found at Foulford, Cullen, Banffshire,¹ along with another urn very much like No. 5. Perhaps the type represented by

¹ *Proc. Soc. Ant. Scot.*, vol. xxxi. p. 216.

No. 3, seeing that it is purely local, was influenced by the E.F.V. type of Cinerary Urn.

The final urn, No. 11, is of early Iron Age date. Unfortunately it is incomplete, and was badly crushed when found, a state due to its having protruded above the level of the secondary floor. The vessel must have been about $7\frac{1}{2}$ inches diameter at the mouth and about $8\frac{1}{2}$ inches in height. In every way it corresponds to Type I, Period I, of the local Iron Age,¹ the fragment of rim found with it being of the formless type typical of that period. In the comparatively small base and wide mouth may be seen the influence of the Cinerary Urn form, a form which was still being closely followed in the early Iron Age, as indeed was made manifest last year.² But the present vessel is earlier than any discovered last year.

In regard to order of burial, that of the O.H.R. type would be Nos. 12, 6, 7, 8, 5, and 3. Of the E.F.V. type the order was probably Nos. 1 (with 2), 4, 10, and 9. The final burial was No. 11. It is thus obvious that each urn was buried at random, although there seems to have been a preference for the north side of the cemetery.

GENERAL DISCUSSION.

The unique character of the cemetery has already been discussed. It is the first of its kind; and thanks to the fact that it is situated on land now under the guardianship of the Commissioners of H.M. Works, it was possible for the Ancient Monuments Department to authorise the systematic investigation of the site. The present author wishes to acknowledge his indebtedness to the Department, and particularly to Mr J. S. Richardson, Inspector of Ancient Monuments, for the opportunity afforded him of excavating the site on behalf of the Department.

Most cemeteries hitherto discovered have been chance finds, so that there has been little to show apart from the Cinerary Urns which they contained. We are thus deprived of the opportunity for comparison, so that it only remains here to discuss the peculiarities of the present cemetery at Loanhead of Daviot.

In the cemeteries at Westwood, Newport, Fife,³ Gilchorn, Angus,⁴ and Maxwelltown, Dumfries,⁵ the urns are said to have been arranged in circles and semi-circles, so that the circular character of the Loanhead cemetery may not be exactly unique. The circular arrangement may simply have been suggested by collective burials in round cairns, where secondary

¹ *Proc. Soc. Ant. Scot.*, vol. lxix. p. 197.

² *Ibid.*, remarks on Type I, No. 9 (fig. 10, No. 2).

³ *Ibid.*, vol. vi, p. 388.

⁴ *Ibid.*, vol. xxv. p. 447.

⁵ Childe, *Prehistory of Scotland*, p. 130.

interments surrounded, at odd points, the primary central burial. In the present cemetery the same haphazard arrangement of burials exists around a central primary interment. This perhaps emphasises a little the continuity of tradition which is clearly shown by the pottery. But if a circular cemetery is hardly unique, there was hitherto no evidence to show that any one had been surrounded by a dyke. The enclosed cemetery at Loanhead of Daviot is therefore unique in that respect.

For analogies to the double entrance we have to go no farther than the Kintore district, where small stone circles, at Broomend of Crichtie and at Foularton, were surrounded by ditches, but the interior was approachable by means of two causeways.¹ Similar causeways, which seem to be usually on the north and south sides, give access to certain of our cairns.² In view of the fact that some of such enclosed areas seem to have been consecrated ground, the purpose of the ditch was merely to form an obstruction to prevent the layman from setting foot on hallowed ground. There seems to be no reason for doubting that the dyke at Loanhead of Daviot served the same purpose as the above ditches, especially as it was itself built within a shallow ditch; although the ditch may have been occasioned by purely practical reasons, since its presence was necessary for the method of building the dyke here employed. The lowest course of stones had been laid against the sides of the ditch: inside these there were placed two lines of other stones, all being on edge, and between these again were packing stones. In this way the dyke was built, course after course, but with the inevitable result that it narrowed towards the top. But the method employed made for solidity, and there was less chance of the stones being displaced by natural or other means, than would have been the case had they all been laid horizontally.

There is considerable discrepancy in the width and character of the two entrances. That on the south-west side was slightly out-turned. There can be little doubt that the construction which originally stood to the left of this entrance was in some manner connected with it; but its purpose is obscure. Apparently it was of some height, to judge from the manner in which the stones fell southwards.

It is probable that in the case of most cemeteries the ground would have been consecrated before the initial interment took place. At Loanhead of Daviot that ceremony of consecration or purification of the site had been accompanied by the lighting of six fires. The remains of those fires were found undisturbed, beneath the dyke, and all were

¹ *Proc. Soc. Ant. Scot.*, vol. liv. p. 154.

² *Ibid.*, vol. lxx. p. 278.

within the ditch; so that the site must have been consecrated immediately after the making of the ditch, and following the clearance of all superficial soil from the area thus enclosed. The fact that the newly cleared site was surrounded by fire implies that the whole of that enclosed area was regarded as having been purified by fire.¹

The depth of ash and charcoal, the amount of intermixed cremated human bone, and the large area which these remains of the pyre covered, testify to the number of cremations which had taken place in the middle of the cemetery. Since the ash was deepest in the exact centre of the cemetery, the first cremations probably took place there; in which case it is doubtful whether burial No. 12 was actually buried beneath the remains of the pyre, as would be implied by its now being within the area covered by the later conflagrations. In the case of burials M, N, and No. 11 there can be no doubt that they were deliberately buried within the limits of the pyre as it then existed; for whereas the small amount of earth which had penetrated among the stones filling Pit No. 12 was entirely free of ash and charcoal, the fillings of all the above three pits consisted for the most part of ash and minute pieces of charcoal. This might serve to suggest that burials M and N (both being those of children) were comparatively late; and in regard to No. 11 there can be no doubt at all that it is the last of the urn burials, since this particular urn was the only one of early Iron Age type found within the cemetery. The proximity of burial No. 11 to burial No. 12 suggests that all trace of No. 12 had been lost at this time. There was a considerable period of time separating the two burials, for whereas the former belongs to the earliest Iron Age, No. 12 was the first of the overhanging rim type of Cinerary Urns to be interred.

There can be no doubt that E is the initial burial. Here it is obvious that the pit was specially shaped to accommodate the human form. The body had been laid upon its side, facing south, and with the arms extended in that direction. The hands must have clasped the sandstone pendant (fig. 10, A). Thereafter the pyre must have been erected over the body, and the body was cremated as it lay. The cremated bones lay in order within the pit, those easily recognisable being the flat bones of skull at the east end, a portion of pelvis near the middle, and a few pieces of leg bones towards the west end. One cannot imagine that the undertakers would trouble themselves to set out the many fragments of cremated bones in their correct order. Apparently also,

¹ It will be recalled that the interior of the stone circle at Cullerlie (*Proceedings*, vol. lxix. p. 217) had been consecrated by fire after the erection of the monoliths, but prior to the laying down of the enclosed cairns. But at Cullerlie the whole floor had been subjected to heat, whereas at Loanhead, as we have seen, the fire merely surrounded the site.

just as the pyre died down and burnt itself out, so was it left; for, apart from the bones, the pit was full of ash and charcoal alone, the

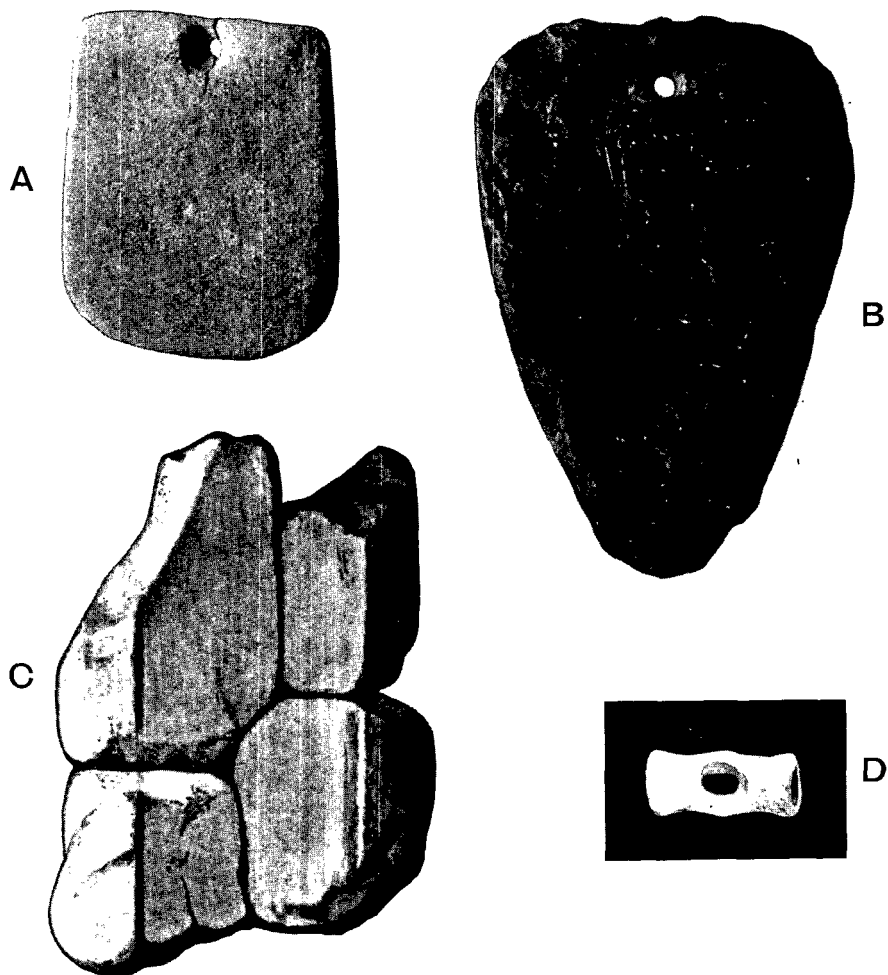


Fig. 10. (A) Sandstone Pendant, found in burial E; (B) Slate Pendant; (C) Portion of Sword-mould; (D) Bone Toggle, found in urn No. 12. (†.)

latter occurring in large pieces. It was thus the first cremation which had taken place on the site, and the whole ceremony may have been purely a ceremonial affair.¹

Pendants accompanying burials are rare. One, of slate and orna-

¹ It is curious that all subsequent cremations took place upon this burial.

mented, was found beneath a degenerate overhanging rim type of Cinerary Urn (which stood everted) at Seggiecrook, Kennethmont,¹ in the same county. Another, also of slate and heart-shaped (fig. 10, B), was found in a small cairn, along with sherds of early Iron Age ware, on the north side of the stone circle at Loanhead of Daviot, during clearing operations undertaken by H.M. Office of Works. Others have been picked up at random. One, of steatite and possessing two serrated edges, is in the possession of Mr John Reid, of Inverurie. In every case they seem to have been fashioned from material which cannot be acquired locally.

The grave D is of considerable interest. Obviously it had never been intended for an interment, and the fact that the majority of the stones contained within it had been scooped up on to the south-west side seems to indicate that they had thus been swept aside to allow of something within to be removed. No doubt this grave was intended to contain the bodies ere they were cremated, pending the necessary arrangements being made for the actual cremation ceremony. The body would presumably be covered over with earth and stones until it was required.²

There seems to have been no predetermined order of burial: the interments were apparently placed as fancy dictated. Thus we discovered a jumble of interments in which enlarged Food Vessel type and overhanging rim type Cinerary Urns were closely juxtaposed, and mostly on the north side of the cemetery. Elsewhere there were few burials. But in regard to the burials themselves, there was a noticeable dissimilarity between those contained within urns of the enlarged Food Vessel type and those of the overhanging rim type. In the case of the latter, all were accompanied by ash gathered from the pyre following the cremation of the corpse; and this ash was either interred with the urn, or, more often, in separate shallow ash-pits situated alongside the urn-pits. The ash-pits accompanied those pits which contained the earliest specimens of this type of urn (No. 12, and the next three in order of descent, Nos. 6, 7, and 8); whereas, in the case of the degenerate specimens, Nos. 5 and 3, the ash had been thrown into the urn-pits with them. Of enlarged Food Vessel type urns, three were unaccompanied by ash or charcoal, the urn-pits having been filled only with clean yellow soil. The two exceptions are No. 10, which had an accompanying ash-pit, L, and No. 9, which had

¹ *Proc. Soc. Ant. Scot.*, vol. xxxix. p. 186.

² *Antiquity*, vol. viii. p. 59 *et seq.* The Scandinavians kept the body in a grave for ten days, until they had finished cutting out and sewing garments for the corpse. When in the grave, the corpse was covered, first with wood and then with earth; and when it was removed we are told that it had in no way altered, except for colour.

been buried with ash and charcoal. On the analogy of the degenerate overhanging rim urns having been buried with ash from the pyre, urn No. 9 was perhaps the last of the enlarged Food Vessel type to have been interred. No. 10 would then be earlier. No. 10 was also the sole everted urn. There is thus a sharp contrast in custom apparent here: on the one hand overhanging rim type urns interred with the ash from the pyre, and on the other hand three enlarged Food Vessel type urns unaccompanied by ash; and one wonders if both forms of interment took place more or less simultaneously, or whether the cemetery was utilised at different times by two different communities. The urns themselves give us little information with regard to the actual state of affairs, since both types are represented by both early and late forms: but, of the two, the enlarged Food Vessel type is local (as demonstrated on p. 292), and it seems that the overhanging rim type of urn is representative of an intrusive element in the district. And the makers of the enlarged Food Vessel type of urn in later times seem to have suffered a conversion, for pit No. 10 was accompanied by an ash-pit, and pit No. 9 contained ash and charcoal.

The only relic associated with an urn was the toggle (fig. 10, D) found in urn No. 12 amongst the cremated remains of one adult and two children. The urn was the earliest of the overhanging rim type found within the cemetery. Toggles are rare. One was found in the small cemetery at Seggiecrook, Kennethmont,¹ lately referred to. It is very like the Loanhead toggle and was found in an overhanging rim type urn. Another toggle was found in grave 8 at Dalmore, Alness, Ross,² in an Encrusted Urn (debased overhanging rim type); whilst a third, slightly differing from the above specimens, was found with an overhanging rim type urn at Over Migvie, Kirriemuir, Angus.³ This gives a total of four toggles, and all were found in the north-eastern corner of Scotland,⁴ in each case in association with Cinerary Urns of the overhanging rim type. These toggles are said to have Danish parallels.⁵

Of the remaining relics the quartz hammer-stone and the three pot-covers from the secondary floor demand no further comment; but the discovery of the portion of sword-mould within the cemetery is of some significance. The portion, which was in four fragments, consists of the matrix and part of the outer envelope or casing of clay. The type appears to be very similar to the moulds found by Dr Alexander Curle at Jarlshof.⁶ The peculiar significance of the discovery of this fraction of

¹ *Proc. Soc. Ant. Scot.*, vol. xlii. p. 217.

² *Ibid.*, vol. xiii. p. 257.

³ *Ibid.*, vol. lxiv. p. 31.

⁴ The cemetery at Dalmore may be said to be on the outskirts of the north-eastern area.

⁵ Childe, *Prehistory of Scotland*, p. 136.

⁶ *Proc. Soc. Ant. Scot.*, vols. lxvii., lxviii.

sword-mould at Loanhead of Daviot is in its close association with the cemetery; for it is curious, as Professor Childe has recently remarked,¹ that implements or ornaments of late Bronze Age type have never been found in association with Cinerary Urns in Scotland. Although the present sword-mould was not found in association with a burial, it at least establishes the fact that, even if the ornaments or weapons of the departed were not actually interred with him, he undoubtedly possessed such things in life. Moreover, the discovery of the mould also indicates manufacture of swords on or near the site, which means that the population was not dependent upon itinerant smiths for its weapons.²

In regard to the burials themselves, Professor Alexander Low, who has most kindly examined the many pounds of cremated bone recovered, has been able to identify thirty-one individuals, eight of whom were children under the age of six years. Of these, none was under the age of three years. This large number may merely be due to a high rate of mortality among the young; but their ages are of interest, since it will be remembered that last year fifty pieces of the skull bones of children, of perhaps two to four years of age, were recovered from the Centre Pit of the Stone Circle.³

I wish to record my grateful thanks to Professor Alexander Low, Aberdeen University, for kindly reporting upon the numerous cremated remains found within the cemetery, and to Mr M. Y. Orr, of the Royal Botanic Garden, Edinburgh, for his report upon the charcoal. I also wish to record my appreciation of the services of D. Catleugh, who was for two years the leading labourer. The great patience which he displayed, and the care with which he carried out my instructions, contributed greatly to the success of both seasons' excavations.

¹ Childe, *loc cit.*, p. 166.

² An interesting question raised here is—Which of the two communities (the makers of the enlarged Food Vessel type urns, and the makers of the overhanging rim type urns) was responsible for the manufacture of swords? Probably the latter, who may further have been responsible for the introduction of the weapon into the district.

³ *Proc. Soc. Ant. Scot.*, vol. lxix. p. 214.

APPENDIX I.

INVENTORY OF SKELETAL REMAINS FROM BRONZE AGE
CEMETERY AT LOANHEAD OF DAVIOT, ABERDEENSHIRE,
EXCAVATED BY HOWARD E. KILBRIDE-JONES, 1935.—By
PROFESSOR ALEXANDER LOW, M.A., M.D.

Each parcel contains cremated bones. There are numerous pieces of long bones varying from $\frac{1}{2}$ an inch to 3 inches in length, but in the process of cremation they have become much warped and splintered so that it is not possible to identify them. No animal bones have been identified. In every case it has been possible to identify some parts of the human skeleton. Where duplicate parts have been identified we have evidence of two individuals. It is of interest to note that parts of certain bones recur in lot after lot, especially flat bones of skull and ear bones, possibly due to the protective action of the great amount of water present in the brain.

Pit No. 1.

Identified.—About 30 pieces of flat skull bones—very thin, with practically no diploë; right and left petrous bone and unerupted upper first molar teeth; fragments of limb bones.

Evidence of 1 *child* 3 to 4 years of age.

Weight of cremated bone, 3 ozs.

Pit No. 2.

Identified.—Twenty-eight fragments of skull—mostly parietal and frontal, right and left petrous bone, fragments of upper and lower jaw and a lower incisor tooth; fragmentary vertebræ and ribs; pieces of radius and ulna; 5 pieces pelvis; fragmentary left patella and a metatarsal of great toe. Other fragments.

Evidence of 1 *adult*.

Weight of cremated bones, 2 lb. 9 oz.

Pit No. 3.

Identified.—Forty-five fragments of skull including a piece of orbital margin and of lower jaw; 6 fragmentary vertebræ and shaft of ribs; 3 phalanges of fingers; fragments of femora and right os calcis.

Evidence of 1 *adult*.

Weight of cremated bones, 1 lb. 3 oz.

Pit No. 4.

Identified.—About 35 pieces of skull bones—parietal, occipital, frontal, right petrous bone and mastoid, right and left halves of upper and lower jaws, fragmentary; pieces of 12 vertebræ and ribs; fragments of left scapula, upper and lower ends of humerus, radius and ulna; 2 carpal and 3 metacarpal bones; 7 fragments of pelvis; head and fragments of condyle of a femur; piece of shaft of tibia and articular surface of a left astragalus.

Evidence of 1 *adult*.

Weight of cremated bones, 2 lb. 7 oz.

Pit A. (First Accumulation of Bone.)

Large collection of thoroughly cremated and very fragmented bone with numerous pieces of charcoal. Impossible to identify the bulk of the fragments—no animal bones can be identified.

Identified.—Forty fragments of skull bones and 12 teeth of more than one individual; 18 imperfect vertebræ; sternal ends of 2 right clavicles; 4 pieces of humeri; 12 fragments of adult pelvis—at least three adults; pieces of 3 femora; several imperfect phalanges.

The fragments represent the remains of *at least 3 adults*.

Weight of cremated bone, 7 lb.

Pit A. (Second Accumulation of Bone.)

Many splintered, cracked, and distorted pieces of bone.

Identified.—Some 30 pieces of adult skull—evidence of *at least 2 individuals*; about 12 pieces of the skull of a *child about 6 years of age*; 6 somewhat imperfect teeth; fragments of vertebræ and ribs; pieces of arm and forearm and finger bones; 3 pieces of femora; head of a tibia and fragments of several bones of foot.

Skeletons of *at least 2 adults and 1 child*.

Weight of cremated bone, 4 lb. 5 oz.

Pit A. (Single Burial at Base.)

Identified.—Sixteen pieces skull including fragments of parietal, occipital, upper and lower jaw; fragments of vertebrae and ribs; pieces of a humerus; last phalanx of a finger; fragment of a pelvis; pieces of a femur and a tibia.

Evidence of 1 *adult*.

Weight of cremated bone, 1 lb.

Pit B.

Identified.—Twenty-four pieces of skull bones—parietal, occipital, frontal, piece of mandible; piece shaft radius; 2 pieces pelvis; very fragmentary long bones.

Evidence of 1 *adult*.

Weight of cremated bone, 1 lb. 4 oz.

Pit No. 5.

Identified.—About 50 fragments of skull bones—parietal, occipital, and frontal; there are *two pairs* of petrous bones and fragments of upper and lower jaws; the other pieces of bone are much fragmented, but ribs and vertebræ are present; pieces of shafts of ulna and radius and 3 middle phalanges of fingers; pieces of pelvis, 1 tuberosity showing epiphysis un-united; pieces of upper and lower end of a femur and of os calcis and astragalus.

Evidence of 2 *individuals*: 1 *adult* and 1—20 to 25 years of age.

Weight of cremated bones, 2 lb. 6 oz.

Pit C.

Identified.—Ten fragments of skull bones, mostly parietal; fragments of 5 vertebræ and 3 ribs; 3 fragments of humerus; some fragments of pelvis; pieces of 2 femora and a tibia; left astragalus; fragments of long bones.

Evidence of 1 *adult*.

Weight of cremated bone, 1 lb.

Pit E.

Many fragments of bone with adherent charcoal dust.

Identified.—Forty pieces of flat bones of skull—parietal, occipital, frontal; also pieces of right and left petrous bone containing internal ear—sutures have been quite open; pieces of ribs; lower end of humerus and a wrist bone; 4 pieces of a rather robust pelvis (? male); small pieces of lower end of femur, upper end of tibia, and a patella.

No duplicate parts identified. Probably the *skeleton of an adult male under 40 years*.

Weight of cremated bones, 1 lb. 5 oz.

Pit No. 6.

Identified.—Twenty-six pieces of skull bones—parietal, occipital, frontal, right and left petrous bone, pieces of alveolar margins of upper

and lower jaws; fragments of 6 vertebræ and 6 ribs; pieces of shaft of radius and ulna; piece of pelvis; upper third of femur; fragmentary left patella; pieces of tibia and astragalus; other bones very fragmentary.

Evidence of 1 *adult*.

Weight of cremated bone, 2 lb. 14 oz.

Pit No. 7.

Identified.—Eighteen pieces of skull bones including a right and a left petrous bone, pieces of upper and lower jaw, and an upper molar tooth; 10 fragments of vertebræ; fragments of shafts of ribs; upper and lower articular surface of a humerus; piece shaft ulna; 3 phalanges; lower ends of 2 femora and a fragmentary os calcis. Many fragments of long bones.

Evidence of 1 *adult*.

Weight of cremated bones, 2 lb. 7 oz.

Pit No. 8.

Identified.—About 30 pieces of skull bones—parietal, occipital, frontal, right and left petrous bones, left mastoid process, and fragments of lower jaw; 5 fragmentary vertebræ and 8 ribs; piece of right clavicle; pieces of forearm bones and a fifth metacarpal; 2 pieces of femur and articular surface of astragalus. Many fragments of long bones.

Evidence of 1 *adult*.

Weight of cremated bones, 2 lb. 9 oz.

Pit H.

Identified.—Forty pieces of skull bones—obviously 2 *children*, an older and a younger; right and left petrous bones of the older child; pieces of upper and lower jaw with milk teeth; piece showing condyle of occipital not joined up; 2 odontoid processes with epiphyses for tip not joined; many pieces of small vertebræ and ribs, arches of some not joined with bodies; piece lower end humerus, epiphysis not united; 2 or 3 pieces of pelvis; pieces lower end of femur; head of tibia; right and left astragalus; fragmentary os calcis.

Evidence of 2 *children*—1 *probably about 3 years of age and the other about 5 years of age.*

Weight of cremated bones, 13 oz.

Pit J.

Identified.—Sixteen pieces of skull, including piece of upper jaw with tooth sockets; 9 fragmentary vertebræ; 5 pieces of ribs; pieces of

humerus; heads of 2 femora; 7 pieces of pelvis; many fragmented bones.

Evidence of 1 *young adult* 20 to 25 years.

Weight of cremated bone, 2 lb. 3 oz.

Pit K.

Many fragments of long bones.

Identified.—Thirty pieces of bones of skull—left upper orbital margin, parietal, occipital, alveolar margin of left upper jaw with wisdom tooth in position, and alveolar margin of left half of lower jaw with wisdom tooth in position; fragments of ribs and 6 vertebræ; fragments heads of right and left humeri; piece of right ulna and 5 small wrist bones; 6 fragments of finger bones. No duplicate parts identified. *Skeleton of an adult.*

Weight of cremated bones, 2 lb. 3 oz.

Pit No. 9.

Mostly fragments of long bones.

Identified.—Five pieces of parietal; small piece of temporal; lower molar and 2 premolar teeth; 2 imperfect phalanges of finger.

Evidence of 1 *adult*.

Weight of cremated bone, 5 oz.

Pit No. 10.

Identified.—Thirty-five pieces of skull bones—parietal, occipital, right orbital margin, right and left petrous bones; fragments of 6 vertebræ; 3 pieces of radius; head of right femur; fragments of lower end of femora; right and left patellæ; lower end of a tibia; heads of right and left first metatarsal. Many fragments of long bones.

Evidence of 1 *adult*.

Weight of cremated bone, 1 lb. 14 oz.

Pit No. 11.

Identified.—Small pieces of parietal bone, petrous bone, mandible; middle phalanx of a finger; piece of pelvis.

Evidence of 1 *adult*.

Weight of cremated bone, 9 oz.

Pit No. 12.

Many fragmentary pieces of bone—1 adult and 2 children.

Adult Identified.—Some 30 pieces of bones of skull—frontal, parietal, and occipital, sphenoid, margin of left orbit, left petrous, alveolar margin

of upper jaw, 2 pieces of lower jaw; fragments of vertebræ including axis and ribs; of left clavicle; of heads of right and left humeri, radius, ulna, metacarpal bones, and phalanges of hand; fragments of pelvis, right and left femora, fibulæ, and bones of great toe.

Two Children Identified.—Some 25 pieces of thin flat bones of skull; 2 pairs of right and left petrous bones containing internal ear; 5 temporary teeth; 10 fragments of vertebræ including a second cervical vertebra with the odontoid process not fused; right clavicle with epiphysis not fused; small scapula, humerus, and ulna; 2 pairs of tuberosities of young pelvis; upper ends of a pair of femora, epiphyses of head not joined up; fragments of lower end of femur; right patella; upper epiphyses of a pair of tibiæ; pair of astragali showing well-marked squatting facets, and a second pair of imperfect astragali.

Weight of cremated bones, 5 lb. 5 oz.

Pit M.

Many delicate fragments of bone.

Identified.—Thirty pieces of bones of skull—thin parietal, occipital, and frontal, fragments of right and left petrous bones, right and left condyles of lower jaw of child; some fragments of vertebræ and ribs; fragments of lower end of humerus; 3 pieces of a young pelvis; piece of head of a femur.

Skeleton of child perhaps 5 to 6 years of age.

Weight of cremated bones, 11 oz.

Pit N.

Identified.—Some 40 pieces of thin flat bones of skull; angle of a mandible; right and left petrous bone; 3 milk teeth; very small fragments of long bones.

Evidence of a child 3 to 4 years of age.

Weight of cremated bone, 3 oz.

Pyre.

Identified.—Twenty pieces of flat skull bones; fragments of 2 vertebræ; middle phalanx of a finger; fragments of limb bones.

Evidence of 1 adult.

Weight of cremated bone, 8 oz.

APPENDIX II.

ROYAL BOTANIC GARDEN,
EDINBURGH, 4.

I have now completed my examination of the charcoal material, and enclose the results herewith. In each case I have expressed the result in percentages. You will notice that I refer to *Willow-Poplar*. I have linked these two woods together, because in charcoal it is impossible to distinguish between them, the chief distinction being the nature of the medullary rays as seen in radial section, and this can only be seen in specially prepared microscopic preparations. The presumption is, however, that in most, if not all, cases the wood is that of Willow, although one cannot be certain.

- PYRE.—Willow-Poplar 80 per cent.; Oak 15 per cent.; Birch 4 per cent.; Hazel 1 per cent.
 FIREPLACE No. 1.—Willow-Poplar 73 per cent.; Hazel 27 per cent.
 „ No. 2.—Oak 78 per cent.; Willow-Poplar 22 per cent.
 „ No. 3.—Oak 50 per cent.; Hazel 38 per cent.; Willow-Poplar 6 per cent.; Birch 6 per cent.
 FIREPLACE No. 4.—Willow-Poplar 58 per cent.; Oak 30 per cent.; Hazel 12 per cent.
 FIREPLACE No. 5.—All Oak.
 BURIAL H.—Willow-Poplar, with one or two fragments of Oak.
 „ J.—Hazel 48 per cent.; Willow-Poplar 36 per cent.; Oak 11 per cent.; Hawthorn 5 per cent.
 BURIAL K.—All Oak.
 „ M.—Willow-Poplar 50 per cent.; Oak 48 per cent.; Birch 2 per cent.
 BURIAL No. 9.—Willow-Poplar 89 per cent.; Oak 8 per cent.; Hazel 3 per cent.

M. Y. ORR.