II.

A SHORT CIST AT WEST PULDRITE IN THE PARISH OF EVIE AND RENDALL, ORKNEY. By J. M. CORRIE, F.S.A.Scot.

During the summer months of last year, while making an archæological survey of the Orkney Islands on behalf of the Royal Commission on the Ancient and Historical Monuments of Scotland, an interesting discovery was made in a tumulus, one of a group that occurs in the Gorseness area of the parish of Evie and Rendall. The mound is situated at an elevation of a little over 100 feet above sea-level and lies quite near the northern boundary fence of the croft of West Puldrite in close proximity to a second and smaller tumulus of like construction (O.S. 6-inch map, Orkney, xcvi). Both of these mounds are composed, for the most part, of fairly rich soil and are now almost entirely covered with a coating of fine turf and heather. In the centre of the larger, which measures 40 feet in diameter by about 5 feet in height, an excavation to the depth of at least 2 feet had apparently been made at some former time, but, so far, I have been unable to glean any information in regard either to the date or the result of this investigation. When examining the tumulus it was observed that a small portion of one of the side slabs of a cist, with an apparently undisturbed cover-slab in position, was exposed by a rabbit scraping near the top of the mound at the west side.

On my return to temporary headquarters in the evening, the discovery was casually mentioned to Mr Alfred Wood, Stenaday, Finstown, a council member of the Orkney Antiquarian Society, and to one or two gentlemen who were holiday-making in the district. A desire having been expressed that an investigation should, if possible, be made and that I should supervise the work, a party, consisting of Mr A. Wood, Dr Mekie, Edinburgh University, Mr J. Mekie, of the Royal Infirmary, Edinburgh, and Master Harold Wood, Finstown, accompanied me on 27th August to West Puldrite, where permission to investigate the mound was readily granted by Mrs Spence, the proprietrix.

Very little labour was required to lay bare the fine large cover-stone of the cist. It had no more than a thin covering of soil, and we were soon able to raise it sufficiently to enable us to ascertain the contents of the grave.

The cist was found to contain the remains of three bodies, unaccompanied by grave goods of any description. The burial or burials possessed several features of interest. Two of the skeletons were in a

more decomposed condition than the third, which was fairly well preserved. All three skulls lay at the south end of the cist, the two belonging to the most decomposed remains resting on their chins and crowded together in the south-east corner, one facing the east and the other the west. The corresponding long bones of these two bodies were disposed in a heap alongside the east slab of the cist, and the much-decayed pelvis of one of them was found at the north end a few inches from the feet of the third and most complete skeleton. From the posture of the two skulls and the position of the long bones and single pelvis, it appeared clear that the remains of these two bodies had been pushed aside to make room in the grave for the third interment. The latter, as will be seen from the illustration (fig. 1), occupied at least two-thirds of the space within the grave, and the body had been deposited with great care in a contracted position. The skeleton lay on the right side, with the head, slightly inclined forward, at the south end of the cist. The knees were drawn up in line with the chest, and the heels to the thighs. All three skulls and some of the long bones of the complete skeleton were covered with what, at first sight, suggested a coarse woven material, but on examination through a strong lens this proved to be nothing more than a fibrous growth.

Fig. 1. Stone Cist at West Puldrite from the north.

The cist itself was carefully constructed of four slabs and a cover-stone of fine quality. The bottom of the grave was laid to a depth of 3 to 4 inches with a layer of fine putty-like clay of a slaty-grey colour, and the four corners of the cists where the slabs met were filled with clay luting of a somewhat lighter colour. At three corners the cist slabs were tightly wedged at the base by small stones which were covered over by the clay floor. The cist measured 4 feet 4 inches and 3 feet 11 inches internally along the east and west sides by 2 feet 10½ inches and 2 feet 7 inches across the north and south ends, and the depth was about 2 feet. The thickness of the slabs used in its construction was about 2 inches. The fine cover-stone was of almost rectangular form, with the south-east corner broken off. It measured on an average 5 feet by 3½ feet, and it fitted very closely on the trimmed

upper edges of the cist slabs. The main axis of the grave was north and south. The position on the west side of the mound might suggest that the grave was a secondary construction, but in the excavation at the centre of the tumulus there was nothing to suggest the former existence of a primary cist at that point.[1] The extensive use of clay as a luting is of particular interest.

It is to be regretted that we have no reliable indication as to the period of these burials. Although careful search was made both by Mr Wood and myself, no associated implements, weapons, or ornaments that would enable us to date the remains were found. We are, therefore, left to speculate upon the problem of age from the general characteristics of the interments and the condition of the bones themselves. The short cist in itself reveals nothing. Though usually regarded as specially characteristic of the Bronze Age, short cists continued in use well into the Iron Age, and from evidence obtained at the site of the Broch of Okstrow in Birsay, and Mansie's Knowes in Rousay, they are known to have survived in Orkney until post-Roman and Viking times.[2] In both of these cases, however, the burials were single interments and the graves were provided with an additional slab as a floor. In Orkney also short cists of an unusual two-storeyed type, containing more than one burial, have been discovered at Crantit and Newbigging, near Kirkwall, and on the farm of Backakeldy in Holm parish.[3] In these cases there was evidence of interment after cremation as well as of inhumation. At Isbister Mill in Rendall parish, however, another short cist of more or less usual form was found to contain the unburnt remains of two bodies, one of which partly over-lay the other and had apparently been deposited, possibly at a later time, with much less care.[4]

The West Puldrite discovery furnishes another example of these multiple or successive interments in a short cist, and in one case the burial took the definite form of a well-known contracted position. Moreover, the cist lay with its axis north and south. From these circumstances, and notwithstanding the absence of grave-goods, we are possibly justified in assuming that the West Puldrite interments are pre-Christian. The bones indicate a stature for the individuals in excess of the average of Bronze Age skeletons, and we shall see from Professor Low's report that there are features that suggest a Nordic influence.

[1] The remains of primary cists were observed in the excavated interiors of other mounds close by.

[2] *Arch. Scot.*, vol. v., part i., p. 76, and *Proceedings*, vol. xv. pp. 71–3.

[3] *Proceedings*, vol. xliv. pp. 215–7; vol. vi. pp. 411–8; and vol. lxii. pp. 263–8.

[4] *Ibid.*, vol. vi. pp. 415–6.

The thanks of the Society are due to Mrs Spence for allowing the investigation to be made and for other kind assistance. I have to acknowledge also the services of the gentlemen already named.

REPORT ON THE HUMAN REMAINS FOUND IN THE CIST.

By Professor ALEXANDER LOW, M.D., F.S.A.Scot.

The bones submitted for examination by Mr J. M. Corrie belong to three individuals.

The remains of the two skeletons "B" and "C" are those of an adult and of an adolescent about twenty-one years of age. The bones are in a fragmentary condition and show much erosion of their surfaces. The characters of the skulls indicate that probably both individuals were males.

The chief measurements of the intact long bones are: right humerus measures 314 mm. in length; right femur has a maximum length of 440 mm. and a *platymeric index* of 68·5; left tibia measures 348 mm. in length. The stature calculated from the length of the one entire femur is about 5 feet 4½ inches.

The skull of the young individual is much damaged, the whole of the face and base having decayed away. The following are such measurements as it has been possible to take:—

Glabello-occipital length	191 mm.
Minimum frontal diameter	92 ,,
Maximum breadth	138 ,,
Horizontal circumference	532 ,,
Cephalic index	72·3

The vault, viewed from the side, shows the frontal bone passing up with a rather full uniform curve to the bregma, the vertex flat, and the occipital pole well developed. The shape of the vault as seen from above is ellipsoidal. The skull has thick walls with rather prominent superciliary ridges, and is probably that of a male.

The other skull is represented by the left half of the vault, and the condition of the sutures show that the individual was probably well advanced in middle life. The skull is too imperfect to permit of any measurements, but so far as can be determined, both skulls present similar characters.

From an examination of the remains we conclude that the individuals were long-headed, muscular, and of low stature.

The skeleton "A" is in a fairly good state of preservation, and is that of a young male about eighteen years of age.

The skull is fairly complete except that the face is somewhat broken, and the right parietal region and part of the right half of the lower jaw are wanting.

The skull is small, thin-walled, and smooth, but has well-developed mastoid processes and shows no trace of closure of any of the cranial sutures. The measurements of the skull are detailed in the accompanying table.

SKELETON A.—MEASUREMENTS IN MM. OF SKULL.

Sex	Male	Alveolar breadth	60
Cubic capacity	1350 c.c.	Dental length	42
Glabello-occipital length	178	Sagittal arc, 1	125
Ophyro-occipital length	176	,, ,, 2	120
Nasio-inional length	170	,, ,, 3	122
Minimum frontal breadth	88 ap.		367
Maximum frontal breadth	...	Length foramen magnum	32
Parietal breadth	138	Transverse arc	288
Basibregmatic height	130	Circumference	504
Auricular height	104		
Basinasal length	94		
Basialveolar length	88	*Indices.*	
Nasialveolar height	70		
Nasimental height	119	Length-breadth	77·5
Maxillary breadth	...	Length-height	73·0
Bizygomatic breadth	118 ap.	Gnathic	93·6
Nasal height	50	Upper facial	59·3
Nasal breadth	22	Complete facial	100·8
Orbital height, R.	32	Nasal	44·0
,, ,, L.	31	Orbital, R.	...
Orbital breadth, R.	...	,, L.	86·1
,, ,, L.	36	Alveolar	120·0
Alveolar length	50	Dental	44·6

The skull viewed from the side is seen to be short and relatively high, with the frontal region full, the vertex rather flattened, and the occipital pole well developed. The sides of the skull are rather flat, and viewed from behind the skull appears "ill-filled."

The skull is ovoid in shape, when seen from above, and the narrowness of the frontal bone is a marked feature. The face is of moderate length but relatively narrow, with a facial index of 100·8; the orbits are rather small, somewhat rectangular, and of medium height, with an orbital index of 86·1; the nasal aperture is narrow and the nasal bones are long, narrow, straight, and project forwards. The palate is wide and high; the teeth are in excellent preservation and the crowns are not worn down; the dental length is relatively great.

The vertebral column is represented by all the vertebræ but in an

imperfect condition; there are some fifteen broken ribs and parts of both hip bones, which help in determining the sex. The measurements of the long bones that are preserved entire are detailed in the accompanying table.

SKELETON A.—MEASUREMENTS IN MM. OF BONES OF EXTREMITIES.

	R.	L.
Humerus	317	...
Femur:		
Maximum length	457	...
Oblique length	448	...
Upper third of shaft—		
Ant. post. diam.	24	23
Trans. diam.	33	33
Platymeric index	72·7	69·6
Angle of neck	130°	128°
Angle of torsion	25°	30°

	R.	L.
Tibia:		
Maximum length	352	350
Ant. post. diam.	35	35
Trans. diam.	25	25
Platycnemic index	71·4	71·4
Angle of torsion	28°	25°

Stature as calculated from femur, 5 feet 6 inches.

The bones of the limbs are stout and strongly marked, and give the impression of having belonged to a muscular young man. The femora show well-marked torsion along with increased curvature of their shafts, and this is associated with flattening below the trochanters (*platymeria*). The tibiæ also present a high angle of torsion, lateral flattening of the upper third of the shafts (*platycnemia*), and a "squatting" facet on the anterior margin of the lower articular surface.

As to the determination of age, the condition of the various epiphyses indicate that the skeleton falls within the eighteen-year period. The stature as calculated from the femur is 5 feet 6 inches.

While this skeleton shows certain of the characters of the short cist type, we note that the stature is greater, skull less broad, face longer and narrower, nasal aperture narrower, and nasal bones more projecting, indicating an admixture of Nordic characters.