

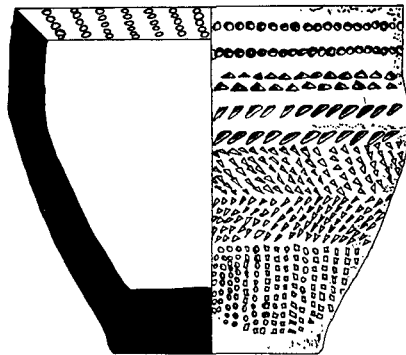
RECENT DISCOVERIES OF SHORT CISTS IN ANGUS AND EAST PERTHSHIRE

by HERBERT COUTTS, F.S.A.SCOT.

DURING a three-year period from 1961 to 1963 farming and sand-quarrying operations in Angus and east Perthshire revealed a number of short cists. Out of the seven discovered, six proved to be completely 'flat', although it should be pointed out that, in every case, the land on which they were situated had, at one time or other, been used for farming and small barrows could easily have been destroyed by persistent ploughing. Skeletal remains were recovered from each of the cists; four contained inhumations and the other three cremations. Food Vessels accompanied the burials found at Newmonthill cemetery, Hodgeton Farm and Mains of Airlie while a beaker was discovered at Fallaws Farm. A full report¹ on these recent discoveries is given below.

Newmonthill Cemetery, Forfar. N.G.R. NO 462502

Newmonthill cemetery lies to the south of the centre of Forfar and is situated on a ridge of ground rising away from the town to the south-west. While working



1. Food Vessel from a short cist at Newmonthill Cemetery, Forfar. (Scale $\frac{1}{3}$)

on an extension to the cemetery, workmen clearing ground with bulldozers uncovered two short cists. Cist No. 1 was discovered on 19th October 1961 and two days later Cist No. 2 was found about 10 ft. away from No. 1 and lying at right angles to it.²

As Cist No. 1 was badly crushed by a bulldozer detailed measurements were impossible. However, careful investigation revealed the approximate internal dimensions; they were 3 ft. by 2 ft. by 1 ft. 3 in. Orientated east-west the cist was

¹ Published with the permission of the Director of Dundee City Museum, James D. Boyd, D.A., F.M.A., F.S.A.SCOT., under whose authority work on these cists was undertaken.

² We are greatly indebted to Mr J. E. Smith, the Forfar Cemetery Superintendent, for informing us of this find.

roofed by a capstone and consisted of brown sandstone slabs with a sand and gravel floor. A Food Vessel (fig. 1), in fragmentary condition, was recovered from the south-west corner, where it was found lying adjacent to the skull of the crouched skeleton of a mature female. (For a detailed report on the skeletal remains see Appendix.) Cist No. 2, uncovered intact, was found to have been constructed of the same kind of sandstone slabs as No. 1 (Pl. VIII). Orientated north-south, it was deliberately shortened at the northern end and measured internally 2 ft 6 in. by 1 ft. 6 in. by 1 ft. 6 in. In this case the cist had been roofed with a rather small capstone and was encircled on three sides by packing stones. As in No. 1 the floor consisted of the natural sand and gravel subsoil in which the cist was set. The cremated skeletal remains of a child were recovered. The fragmentary Food Vessel discovered in Newmonthill cist No. 1 has been reconstructed and is now in Dundee Museum. Of rather uneven construction, it is red-brown in colour on the exterior but the interior surface is a darker brown and sooty in appearance. 1.56 in. below the rim it is partly encircled by a slight moulding which is emphasised by two rows of triangular stamps, one row above and one below the moulding. The body of the Food Vessel is well covered with whipped cord impressions, triangular stamps and toothed stamp decorations. The rim measures 0.63 in. thick, slopes internally and is decorated with slanting whipped cord impressions. The vessel is 5.5 in. high, has an external diameter of 6.25 in. at the mouth and 3.69 in. at the base.

Hodgeton Farm, Inverkeilor. N.G.R. NO 638491

Hodgeton Farm, situated at the top of a steep slope on the north side of the Valley of the Lunan, consists of former agricultural land which has been much disturbed in recent years. On 9th February 1962, during sand-quarrying operations in a field at the farm, a short cist was discovered.¹ When they arrived at the site members of the Museum Staff found that the cist had collapsed over the edge of a deep pit, cut by one of the mechanical excavators, leaving only an end stone and part of a floor stone *in situ*. Constructed of red sandstone slabs the cist contained the cremated skeletal remains of a mature male.

Greymount Farm, Rattray. N.G.R. NO 232470

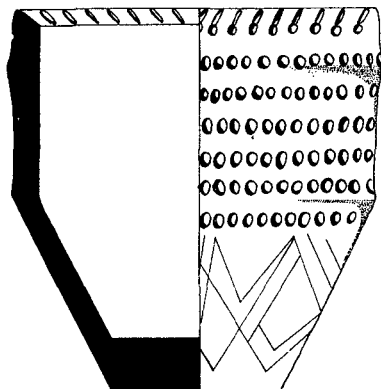
On 14th February 1962, while ploughing in a field at Greymount Farm, Rattray in Perthshire, a ploughman uncovered a short cist.² The cist was situated about 200 yds. from the north side of the Alyth-Blairgowrie Road, in a heavy loam field which slopes gently towards the north. Orientated east-west, and measuring internally 3 ft. by 2 ft. by 2 ft., it was built of large, rough sandstone slabs. Rubble packing which encircled the cist on its exterior had been placed at the foot of the slabs. The floor was paved with flat stones and the complete cist was covered by a very large capstone. The skeletal remains of a mature male were found on the floor of the cist.

¹ Many thanks are due to the contractor, Mr W. C. Clark, who gave every assistance to the Museum Staff on this occasion and also when they returned to investigate the second cist discovered in December 1962.

² We are most grateful to the farm manager, Mr Grant, for informing Dundee Museum of this find.

Hodgeton Farm, Inverkeilor. N.G.R. NO 640491

During sand-quarrying operations in a field at Hodgeton Farm, Inverkeilor, on 20th December 1962, a short cist was discovered. Situated 148 yds. east-north-east of the one uncovered on 9th February 1962, the cist was revealed by a mechanical excavator but it collapsed over the edge of a deep pit cut by the excavator before Museum Staff arrived at the site. Fortunately, the excavator-driver succeeded in rescuing a Food Vessel (fig. 2) from inside the cist. Although an estimation of the measurements and orientation was impossible, the cist was seen to have consisted



2. Food Vessel from a short cist at Hodgeton Farm, Inverkeilor, Angus. (Scale $\frac{1}{2}$)

of the same kind of sandstone slabs as used in the other Inverkeilor short cist. The skeletal remains of a mature female were recovered.

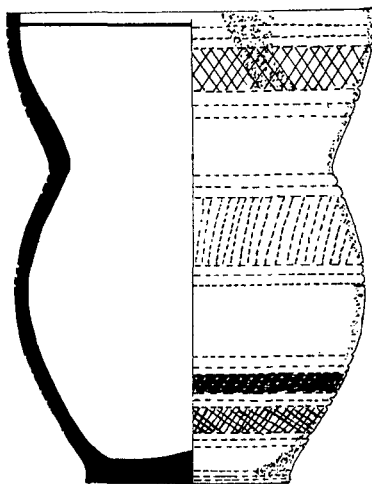
When the Food Vessel was removed from the cist, it was completely intact. Consisting of a dark brown gritty paste, the vessel is partly conical in shape and is encircled by two raised mouldings, one at the shoulder, 2.81 in. below the lip, and the other three-quarters way between the shoulder and the rim. The upper part of the exterior of the vessel is well decorated with six rows of oval stamps and the lip is encircled with a row of cuts made by a blunt tool; the same instrument has been used to make a row of slanting impressions on the internally sloping rim. The area below the shoulder is decorated with crudely executed, intersecting treble chevrons and a row of oval stamps. The vessel is 6.13 in. high, has an external diameter of 5.63 in. at the mouth and 2.63 in. at the base. The rim is 0.37 in. thick.

Fallaws Farm, Monikie. N.G.R. NO 509409

On 8th May 1963, while ploughing a field at Fallaws Farm, Monikie, a ploughman uncovered a short cist.¹ The field in which the cist was discovered is on high ground overlooking the surrounding countryside and lies 300 yds. due west of the farmhouse. To the south-west the land slopes away gently to the Downie Moor burn. The cist, orientated east-west, was constructed of rough, brown sandstone

¹ We are indebted to Dundee Corporation's Waterworks Department for allowing us to excavate this cist and informing us of its discovery.

slabs and measured internally 3 ft. 6 in. by 2 ft. 6 in. by 2 ft. Lying 1 ft. below the present ground surface it was roofed by a large capstone. A Beaker (fig. 3), in fragmentary condition, was found in the north-east corner of the cist's sand and gravel floor, adjacent to the skull of the contracted skeleton of a mature female.



3. Beaker from a short cist at Fallaws Farm, Monikie, Angus. (Scale $\frac{1}{2}$)

The Beaker has been reconstructed and it is now in Dundee Museum. It has a smooth red-brown exterior surface but the interior is more grey in colour. The decoration is in four zonal bands, which consist of toothed-comb cross-hatching, horizontal lines and acute lines, all executed with equal skill. The Beaker is 7.38 in. high, has an external diameter of 5.6 in. at the mouth, widening to 5.87 in. at the middle of the body and narrowing to 3.25 in. at the base. The rim is 0.25 in. thick.

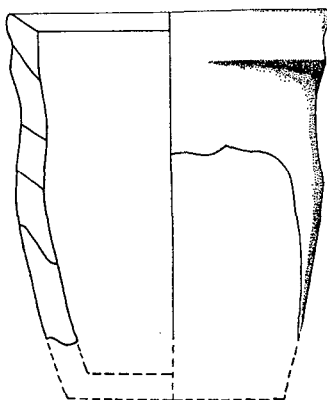
Mains of Airlie. N.G.R. NO 301508

On 11th May 1963, while sand-quarrying operations were being carried out in a field at Mains of Airlie, workmen discovered a short cist in the side of a natural hillock.¹ The field where the cist was found is on high undulating land. To the east and south the land falls away to the Canty burn and lying $\frac{1}{4}$ mile to the west is the steep gorge of the Isla. The cist, discovered 3 ft. 6 in. below the top of the hillock was, at the western end, partly covered by packing stones and small boulders. Orientated east-west, and constructed of brown sandstone slabs, it measured internally 3 ft. by 1 ft. 10 in. by 2 ft. 6 in. The floor was of sand and the complete cist was roofed by a large capstone. Fragments of a pottery vessel and a few cremated skeletal remains were recovered.

The Food Vessel (fig. 4), consisting of a friable gritty paste, is dark buff in

¹ We are most grateful to the Rt. Hon. the Earl of Airlie for permitting us to excavate at this site. We would also like to express our gratitude to Mr A. B. Taylor, one of Lord Airlie's estate workers, who assisted us during our excavations.

colour on its smooth exterior but is a sooty grey-brown on the inner surface and black in the core. Just below the lip it is encircled by a slight moulding but no decoration has been revealed on the remaining sherds. Mr R. B. K. Stevenson has pointed out how the vessel has broken along its building rings, five being traceable in all. The rim, which is 0.43 in. thick, slopes internally and the external diameter at the mouth must have been 5 in. when the vessel was complete. The lowest



4. Food Vessel from a short cist at Mains of Airlie (shows building rings). (Scale $\frac{1}{2}$)

remaining sherd seems to have broken just above the base so the height may have been about 6 in. The Mains of Airlie example displays some Beaker influences and belongs to a small group of undecorated Food Vessels which seem to be relatively rare in Scotland.¹

APPENDIX

Report on the Skeletal Remains

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The following short summaries contain only the relevant details from more extensive reports which were prepared on the skeletal remains found in the seven short cists described above. To save repetition it can be said here that all the bones submitted for examination were human except where stated, the skeletons were all incomplete and in each case only one individual was represented. The general appearance of the bones was consistent with their having been in the earth for many centuries.

Newmonthill Cemetery, Forfar

Cist No. 1.

These bones were partially fragmented, brown in colour, eroded in places, but not calcined. The following could be identified: the left and right femora; portions of both hip bones; short lengths of the shafts of humerus, radius, ulna, tibia and fibula; small portions of both scapulae; a

¹ We are deeply indebted to Mr R. B. K. Stevenson and Miss A. S. Henshall of the National Museum of Antiquities for advising us on the Mains of Airlie Food Vessel.

first sacral vertebra apparently not united with the rest of the sacrum, a variation occasionally encountered; part of a lumbar vertebra and various other pieces of vertebrae and ribs. Apart from small fragments of skull, there were also present the anterior part of the foramen magnum formed by portions of the condylar and basilar parts of the occipital bone completely fused with the body of the sphenoid; a portion of the petrous and squamous parts of the left temporal bone together with part of the greater wing of the sphenoid; a fairly well-preserved mandible having an angle of 112° and with a complete set of permanent teeth in very good condition but showing some signs of wear, especially on the incisor edges. Further skull bones included the alveolar and palatine portions of both maxillae with 8 maxillary teeth, the frontal bone, 3 separate fragments of the left parietal and one fragment of the right parietal bone.

From an examination of the skeleton certain conclusions could be drawn. The lack of strong muscular markings suggested that the sex of the individual was female. The only bone sufficiently intact to allow an estimate of length to be made was the left femur which measured 42.5 cm. Using Pearson's formula (Pearson, K., *Phil. Trans. R. Soc.*, 192 (1899), 169-244) for the calculation of living stature from the dead femur, in the case of a female -

$$S = 72.844 + 1.945F$$

the height of the individual was found to be 155.5 cm. or about 5 ft. 1 in.

There were numerous indications of the age at the time of death; absence of any epiphysis, and of any trace of a joint between the basi-occiput and the sphenoid bones, the presence of a complete permanent dentition showing some wear, and of well-developed mastoid air cells all suggested that the individual was at least mature. There were, on the other hand, no signs of senility. The parts of the cranial vault available for study showed the presence of outer and inner tables with diploë between. Part of the coronal suture was present showing a serrated outline outside, but an almost straight line on the inside of the vault. The sagittal suture, so far as it was visible, showed a serrated outline both outside and inside, except for a part fairly near the bregma, where on the inside only it had begun to straighten. The age at death was therefore over 25 years and under 40 years, the best single estimate being perhaps around 30 years.

An attempt was made to reconstruct the skull. This was only partially successful, but although measurements of the cephalic index could not be made with sufficient accuracy to report here, there was little doubt that the head form was brachycephalic from its appearance alone. The above findings can be summarised as follows.

1. There was no evidence of cremation having been carried out.
2. The individual was female.
3. Her age was around 30 years at the time of death.
4. Her height was about 5 ft. 1 in.
5. Her skull was brachycephalic.

Cist No. 2

This skeleton was almost completely broken into small pieces. In all there were 438 fragments, including only 3 complete bones. In addition there were many unidentifiable flakes of bone. All the bones were calcined and fissured having the typical appearance which follows cremation.

Among the fragments which could be identified, the following gave most information: a portion of the mandible which showed the mandibular foramen, the canal for the inferior dental nerve and part of the socket for a molar tooth. There was also a small head and neck of mandible as a separate fragment. From the dimensions it would appear that the mandible had been a small bone, probably that of a child. Also present were fragments of the hip bones, slender ribs, the petro-mastoid part of one temporal bone, and various parts of the vault of the skull, which was rather thin but showed definite inner and outer tables with intervening diploë and serrated, open, sutures.

The three complete bones mentioned above were phalanges from the finger. There did not appear to have been any epiphyses at their bases, but it was difficult to be certain on this point. The general size of the fragments suggested a fairly young child. The condition of the cranial vault, the socket for a molar tooth and the separate petro-mastoid indicate an age of about one year.

We can draw only a few conclusions.

1. The appearance suggests that the bones had been cremated and then smashed into fragments.
2. The individual was a child of about one year of age.
3. The sex, stature and head form were impossible to determine.

Hodgeton Farm, Inverkeilor

Cist No. 1

These bones were not well preserved, being partially calcined and showing signs of charring of the spongy bone. The following were identified: the glenoid cavity and part of the spine of the right scapula; the right humerus; the head and upper end of the shaft of the right radius; part of the upper end of the right ulna; the lower end of the right femur and a small fragment of femoral shaft; two cervical and nine thoracic vertebrae; thirteen fragments of rib; the right and left rami and part of the body of the mandible with everted angles measuring 115° , and teeth showing extreme wear; parts of the right and left maxillae with extremely worn teeth; the right zygomatic bone; the right temporal bone; part of the frontal bone with well-developed frontal air sinuses, the remains of the interfrontal suture, and both nasal bones still attached; a fragment of the vault of the skull showing the coronal suture visible on the outside but not on the inside; seventy small fragments and flakes of bone which could not be identified with certainty.

From the heavy nature of the long bones, the strong muscular markings, and the eversion of the angles of the mandible it could safely be concluded that the individual was a male. The only complete long bone, the right humerus, measured 32.0 cm. and from Pearson's formula for the humerus, in the case of a male -

$$S = 70.641 + 2.894H$$

the height of the individual was found to be 163 cm. or about 5 ft. 4 in.

Almost all the evidence with regard to age at the time of death pointed to maturity at least. The absence of epiphyses, extreme wear on the teeth and the state of the coronal suture suggested an age of at least 30 years and probably nearer 40 years. Although the wisdom teeth were not erupted, this is not a reliable guide to age by itself.

The following conclusions may therefore be drawn.

1. The bones had been cremated and partly fragmented.
2. The individual was a male.
3. His age was between 30 and 40 years at the time of death.
4. His height was about 5 ft. 4 in.

Greymount Farm, Rattray

This was a fairly well preserved collection of bones, partially fragmented, brown in colour and not calcined. The following bones were identified, most being incomplete: both scapulae; the right clavicle; both humeri; both ulnae; both radii; bones of the hand, the right capitate, scaphoid, lunate and one metacarpal; the right hip bone; both femora; both tibiae; the left fibula; bones of the foot, the right calcaneum, a first metatarsal showing an exostosis, another metatarsal and five phalanges; three cervical, eleven thoracic vertebrae and the sacrum; 27 fragments of ribs and a complete right first rib; the hyoid bone; 50 small fragments and flakes of bone, one of which did not appear to be human. The bones were large and heavy with typical male characteristics. Three of them deserve further mention.

Right Humerus. This was complete and well preserved. It was a heavy bone with very prominent muscular markings. The length was 34.0 cm.

Using Pearson's formula for the calculation of living stature from the dead humerus, in this case a male -

$$S = 70.641 + 2.894H$$

the height of the individual was found to be 169 cm. or 5 ft. 6½ in.

Left Humerus. This was also complete and similar to the right but shorter, measuring only 33.2 cm. The individual was therefore probably right-handed, and the calculation of living stature from this bone gave a height of 167.9 cm. or 5 ft. 6 in., corrected for left side.

Right Ulna. This was complete and measured 27.7 cm. When articulated with the right humerus, the carrying angle was found to be 170° . The figure for the female is sometimes given as 167° , and for the male 173° although there is doubt about the existence of a sex difference. In any case the figure found, 170° is of no value in determining the sex of the individual.

The relevant findings may therefore be summarised as follows:

1. There was no evidence that cremation had been carried out.
2. The individual was a male.
3. The height was about 5 ft. 6 in.
4. The age could not be determined with any precision in the absence of the skull, which also made it impossible to determine head form. Absence of epiphyses excludes extreme youth, while senile changes were also missing. The individual was therefore mature.
5. There was no evidence of disease apart from the exostosis on the first metatarsal.
6. The individual was probably right-handed.

Hodgeton Farm, Inverkeilor

Cist No. 2

This was a poorly preserved collection of brown stained bones, fragmented but not calcined. Apart from 25 unidentifiable fragments and numerous flakes of bone, the following were present: part of the right clavicle; the right glenoid cavity and surrounding bone; the upper end of the left humerus, rather slender but showing no sign of an epiphysis; the anterior half of the upper end of the right humerus, artificially split; the lower end of the right humerus; a fragment of the shaft of a long bone; part of a radius; the intermediate phalanx of a finger; the upper end of the left tibia; the right half of the atlas which had been bisected artificially; the right temporal and adjacent part of the occipital bone; part of the vault of the skull showing a Wormian bone at the lower end of the lambdoid suture, which was visible on the outside but not on the inside, unlike the sagittal suture which was obliterated both outside and inside.

From these findings the following conclusions may be drawn.

1. Although fragmented, there was no evidence of cremation.
2. The sex was probably female.
3. The stature could not be determined.
4. The individual was 40-50 years of age as judged by the state of the sutures of the vault of the skull.
5. The head form could not be determined.

Fallows Farm, Monikie

This again was a rather badly preserved skeleton. The bones were slender with poorly developed muscular markings and could fairly confidently be declared to be female. They were not calcined and the surviving fragments included the following: the upper part of the left humerus; part of the left ilium; two separate portions of the left femur; part of the head of a long bone and twelve other unidentifiable small fragments of bone; the head of the left half of the mandible; part of the occipital bone; most of the left half of the skull, which appeared to have been rather small.

Although the skull was incomplete and no estimate of cranial capacity was possible, an attempt was made to determine some of the cranial indices. The following values can only be regarded as approximate, although they almost certainly give a true indication of the head form.

Cephalic index - 82.4 i.e. brachycephalic

Cephalic height index - 75 i.e. orthocephalic

Superior facial index - 54 i.e. leptoprosop

Gnathic index - 97. This suggests that the skull was just micrognathous, but an estimate of the

Frankfurt (Facial) angle gave a value of 85° indicating that it was orthognathous.

Orbital index - 87.5 i.e. mesosome.

Nasal index - 46.7 i.e. leptorrhine.

Dental index - 36.4 i.e. microdont

An indication of age at the time of death was obtained from the fact that both the coronal and

sagittal sutures were visible on the outside but not on the inside of the skull. This suggested an age of between 30 and 40 years, which was consistent with the degree of wear seen in the teeth. The left maxilla had a complete set of teeth but the second premolar and first and second molars were stunted and abnormal. The corresponding teeth from the lower jaw were not found, but the ten mandibular teeth present were normal apart from a considerable degree of wear.

The above findings may be summarised as follows.

1. The bones were badly preserved but cremation did not appear to have been carried out.
2. The sex was female.
3. The stature could not be determined.
4. The individual was between 30 and 40 years old at the time of death.
5. The skull was brachycephalic and various other indices were calculated.
6. There was some maldevelopment of the teeth of the upper jaw.

Mains of Airlie

Sixteen of these bones were probably of recent origin and were from a rabbit. The remaining twenty bones were human, fragmented and showed considerable charring. They included the following: a second rib from the left side, small in size; two sacral vertebrae and a portion of a third, all completely separate from each other; portions of the right ilium and left ischium including parts of shallow acetabula; short lengths of three calcined long bones; a small fragment of the left scapula; three epiphyses from the ends of long bones; a portion of the sphenoid, including the left lesser wing and the body which contained fairly well-developed sinuses and was obviously separate from the basilar part of the occipital bone; part of the right petrous temporal bone; a small left zygomatic bone; the left ramus and part of the left half of the body of the mandible which had an angle of about 130° ; four small and unidentifiable fragments of bone.

The teeth showed no sign of wear. All the permanent dentition had erupted with the exception of the third molar tooth. The latter could be seen in the mandible through a small hole in the bone overlying it.

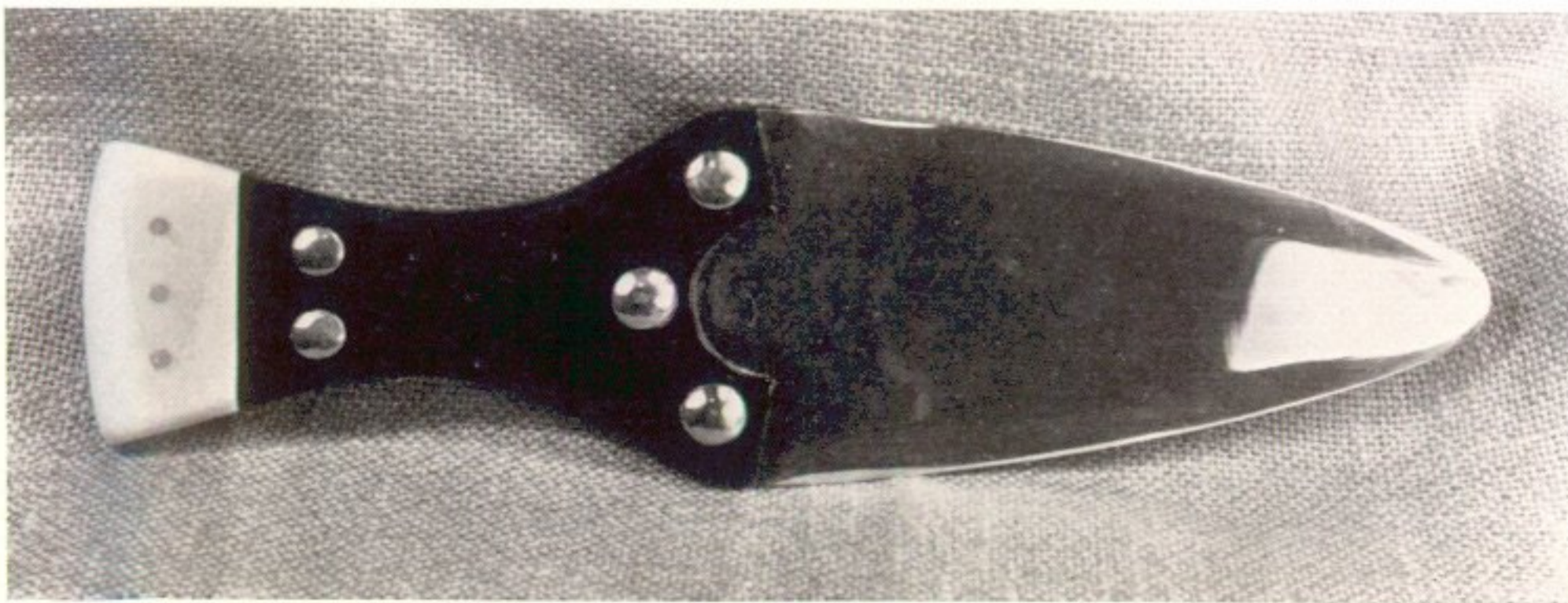
From the state of ossification of the sacrum, the presence of epiphyses for long bones and the degree of eruption of the teeth it is obvious that the skeleton belonged to a child. The age at the time of death was between 12 and 17 years, probably nearer 12 in view of the small size of the bones in general.

A few conclusions can be drawn.

1. The bones had been cremated and then smashed.
2. The individual was between 12 and 17 years.
3. The sex, stature and head form could not be determined.



1. Short Cist No. 2. - Newmonthill Cemetery, Forfar



2. Reconstruction of the dagger from Cist No. 1, Ashgrove