I.

A SHORT CIST FOUND AT BRIDGE FARM, NEAR MEIKLEOUR, PERTHSHIRE. By JOHN RITCHIE, F.R.A.I. With a Description of the Skeletal Remains by Professor D. RUTHERFORD DOW, M.D., F.R.S.E.

On 9th August 1933 Mr Stirling, tenant of Bridge Farm, near Meikleour, informed me that while engaged in taking gravel from a hillock, he had exposed a large flat stone which was about a foot from the surface, and that on lifting the corner of it he observed a few bones.

On 10th August I visited the site, and ascertained that during the interval someone had dislodged the stone and removed from underneath a human skull, parts of a pelvis, and pieces of an urn.

The investigator had replaced the bones, but parts of the urn were left on the ground, and these were found by Miss Stirling who gave them to me.

There was evidence that a spade had been pushed into the underlying sand and gravel, but inquiry revealed that no further damage had been done.

Cist and Contents.—A view of the cist after removal of the cover stone is shown (fig. 1). It was situated near the summit of a mound composed of river gravel (x—fig. 2). On the east lay the River Isla, and on the west a tree-covered mound, part of which is seen in the photograph (fig. 2). At Birkhill, not far distant from this site, there is a similar configuration of the ground which was excavated by Lord Abercromby, who found skeletal remains in it.[1]

The sides and roof of the cist were formed by slabs of stone of varying

[1] *Proc. Soc. Ant. Scot.*, vol. xxxviii. p. 82.

thickness taken from the Lower Old Red Sandstone Series. That on the west was too short to meet the one on the north side, and flat pieces of

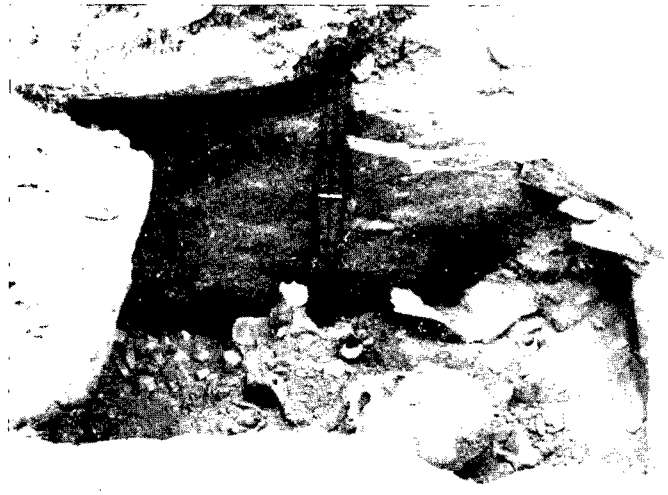

Fig. 1. View of Cist.

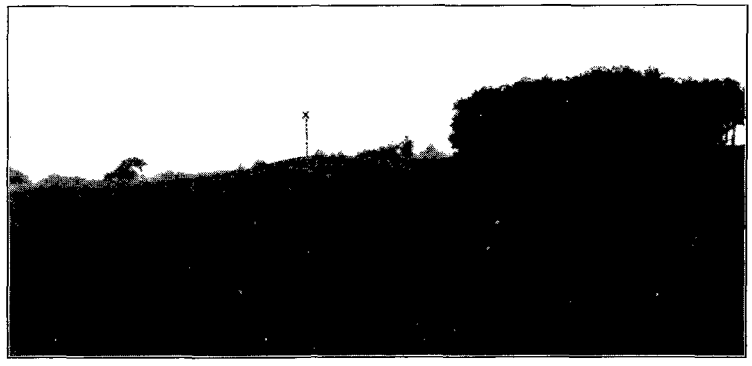

Fig. 2. View of Mound containing Cist.

gravel had been packed in to fill the gap in the corner. There was no slab on the bottom of the cist, only a smooth bed of river gravel.

The measurements taken from the interior of the cist were as follows:—

North side, 3 feet 7 inches; south side, 3 feet 3 inches; east end, 1 foot 8 inches; west end, 2 feet. Approximately two-thirds of the interior of the cist was filled with sand and gravel which had evidently

filtered into it during a very long period. On the surface of this gravel there lay exposed a skull, parts of a scapula, pelvis, femur, and vertebrae (fig. 1). On removing the gravel other bones were found in a soft and badly preserved state. They were carefully removed by hand and dried by the sun and wind.

As few skeletal remains have been described from Perthshire, a hydrogen-ion test of the soil in and around the cist where the skeleton lay was made. This showed the soil to be 6·9 or almost neutral.

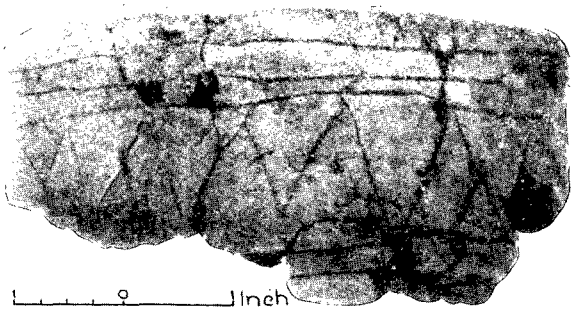

Fig. 3. Fragment of Cinerary Urn.

A piece of grey flint of triangular section, measuring 22 mm. long and 11 mm. broad, was found lying close to the rib bones. It showed slight working along the edges, as if it had been a saw.[1] There was no evidence of any mineral substances among the gravel.

Pieces of a small cinerary urn with simple line markings were found buried in the south-east corner of the cist. Three large parts of it which lay exposed were light in colour on the outside, and black on the inner surface (fig. 3). Several small portions of the urn were found in the detritus right down to the floor of the cist. Some of these pieces were much decayed and of a brick-red colour on the outer surface. On re-joining these fragments it appeared that the rim was not a true circle. The diameter of the mouth had measured approximately 6 inches. The markings were in the form of incised horizontal lines separated by a single zigzag pattern. An urn described by Sir William Turner,[2] and several others, 10 to 18 inches in height, found in a cemetery at Kirkpark, Musselburgh, and described by Anderson,[3] bore similar markings.

[1] Boyd Dawkins, *Early Man in Great Britain*, p. 358.
[2] "The Craniology of the People of Scotland," *Trans. Royal Soc. Edin.*, vol. li. p. 195, fig. 8.
[3] *Proc. Soc. Ant. Scot.*, vol. xxviii. pp. 62–78.

The clay of the urn was intermixed with large crystals which gave it a rough appearance. In order to ascertain if these were obtained from local rocks Mr Chas. F. Davidson, B.Sc., examined small pieces of the vessel. Adopting the method described by A. Holmes,[1] the pottery was cooked in canada balsam and thin sections cut and examined. Another method adopted was to crush small fragments in a mortar and after washing to get rid of the clay, the coarser grains were mounted in canada balsam and examined under the microscope. It was found that there was no trace of alumino-silicates, either as mullite or sillimanite. Innumerable particles of dolerite from 2 to 4 mm. in diameter were mixed with the clay of the urn. They were of the non-ophitic tholeiitic type, similar to the dykes exposed to-day near Blairgowrie and in other parts of Perthshire, and were as fresh as the rocks which are now being quarried. The augite showed no trace of decomposition and the felspar exhibited Karlsband and albite twinning.

The variations in the colour of the colloidal clay material might be attributed to slight differences in the degree of firing. Mr Davidson was of the opinion that these rock particles were probably obtained from one of the river terraces, and had been added to the clay to prevent shrinkage in the process of baking the urn. In much the same manner to-day, in the Carse of Gowrie, ashes are added to the excavated clays in the process of making bricks and tiles.

My thanks are due to the proprietor of Meikleour Estates and to the factor, Mr John Renton, for granting permission to examine the site.

REPORT ON THE SKELETON.

By Professor D. RUTHERFORD DOW, M.D., F.R.S.E.

Examination of the skeleton afforded information of considerable interest of the individual interred. The skull and mandible were in a very good state of preservation, while the bones of the limbs and trunk were complete only in parts. There were no indications of ante-mortem injury or disease. The skull was characteristically of the round-headed type, with all the other features of form and proportions which characterised the short-cist people of adjacent counties, viz. those in Aberdeenshire described by Reid[2] and Low,[3] and in Fifeshire by

[1] *Petrographic Methods and Calculations*, 1927.

[2] R. W. Reid, *Illustrated Catalogue of Specimens from Prehistoric Interments found in North-East Scotland, preserved in Anthropological Museum*, Aberdeen, 1924.

[3] A. Low, *Proc. Soc. Ant. Scot.*, 1929, etc.; *Proc. Anat. and Anthrop. Soc., Aber. Univ.*, 1906.

Waterston.[1] The teeth were exceptionally well preserved, and only two showed slight evidence of caries. In number they were complete, except the left lateral upper incisor which had been extracted during the life of the individual, possibly as a remnant of a rite or custom. Elliot Smith[2] has described somewhat similar dental mutilations affecting the incisor teeth in negroes from ancient burials in Nubia, and Jackson[3] and Wilson[4] have directed attention to the dental mutilation affecting upper and lower jaws from British prehistoric remains. At the present day, one or more incisor teeth are removed when the operation of sub-incision is performed among aboriginal Australians.

The thigh bones differed from those of modern man in their graceful curves, and like the tibia and fibula presented features which suggested that the individual had adopted a squatting posture.

The bones of the lower extremity were poorly developed, and had faint markings, in marked contrast with the muscular impressions on many of the upper limb bones.

This evidence of control by muscles which were well developed, suggested that the upper extremities were used to a considerable extent for manual work, such as the milling of raw food.

The skeleton proved to have been that of a female of between thirty-five and forty years of age, and of a calculated stature of 5 feet 4 inches (Manouvier) and 5 feet $3\frac{3}{8}$ inches (Pearson).

Detailed Examination of the Skeleton.

The Skull was complete and well preserved, except for two deficiences in the squamous part of the occipital bone, close to the foramen magnum. The distal third of the right nasal bone, and a small part of the left one were missing. The external surface of the skull felt smooth when examined by the hand, the compact bone was studded over with minute holes, and the anterior part of the frontal was eroded exposing the diploe. Muscular impressions were not well marked. In form the skull was short and round, the face rather small, the orbits low and wide, and the nasal aperture short and wide.

In regard to age one can state that there was very little obliteration of sutures, no indication of senile changes in the jaws, and from a general survey of its characteristics and an examination of the teeth that it belonged to a female of approximately the age mentioned.

[1] D. Waterston, *Proc. Soc. Ant. Scot.*, 1932–33 and 1926–27.
[2] Smith Elliot, *Arch. Survey, Nubia*, Bull. No. 5, 1910.
[3] Jackson, *Journ. Anat.*, vol. xlix, 1915. [4] Wilson, mentioned by Jackson, *op. cit.*

The general form of the skull in its different parts presented the following features:—

Norma Verticalis (fig. 4).—When viewed from above the cranium was

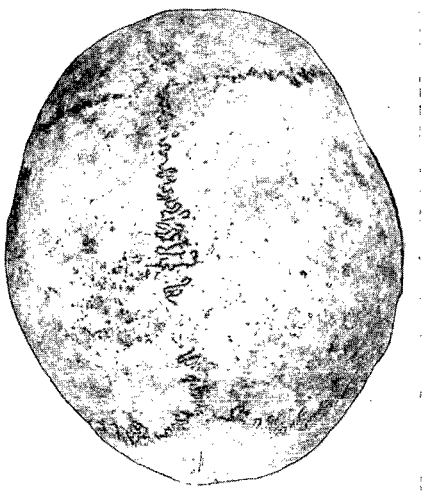

Fig. 4. Meikleour Cist Skull (*Norma verticalis*).

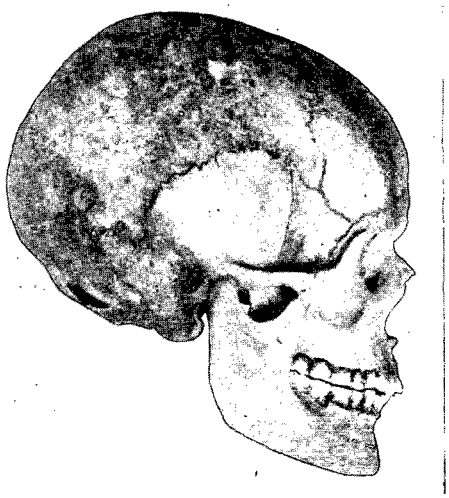

Fig. 5. Meikleour Cist Skull with Mandible (*Norma lateralis*).

broadly oval, its maximum width being below and slightly anterior to the parietal eminences which were distinct. The length-breadth index was 82·6.

Norma Occipitalis.—Viewed from behind the skull appeared to be decidedly broad when compared with its height. The lateral margins were almost vertical and nearly straight.

Norma Lateralis (fig. 5).—In profile the vault appeared relatively low. The frontal bone passed upwards and backwards, the vertex was very slightly convex, the post-parietal part flattened, and the posterior curve was not unduly sharp. The temporal fossa was not large, and the mastoid process small and somewhat pointed. The pteryion was H-shaped, and the external auditory meatus was elliptical.

Norma Facialis (fig. 6).—The face was distinctly wide and short in height. The alveolar arch made a wide curve indicating a very broad palate. The orbits were wide, and the zygomatic bones prominent.

The supra orbital margins were distinct, and on the left side there was a supra-orbital foramen. The anterior nasal aperture was some-

what broad, with only a slight amount of backward inclination. The nasal septum was deflected. The forehead was narrow. The glabella and superciliary arches had disappeared as the result of erosion.

Norma Basalis (fig. 7).—The hard palate and alveolar arch were well developed. There was no premaxillary bone present. The palate was markedly flattened and broad, and presented ridges and grooves on it.

The occipital condyles were elliptical and prominent, and the foramen magnum was circular in its posterior three-fourths, the anterior part of it being more convex forwards. Gnathic index 96·8.

Measurements of the Skull.—Using No. 8 shot, the capacity of the skull was 1390 c.c. Detailed measurements and indices are given in Table I.

Sutures.—The sagittal suture was open on the external surface, except for a short patch 25 mm. long and situated 30 mm. in front of the lambda, in which part the suture was obliterated (fig. 4).

Fig. 6. Meikleour Cist Skull with Mandible (*Norma facialis*).

The frontal suture had disappeared, except between the region of the glabella and nasion where there was an indication of its presence.

The lambdoidal suture was well marked on both sides. A large Wormian bone was present in the right one a short distance above the asterion, while several smaller ones were present in the suture on the left side.

The coronal suture was distinct throughout its whole extent.

The squamo-parietal suture stood out very prominently, the squamous part of the temporal having become released from the parietal, and on both sides there was persistence of the original squamo-mastoid suture (fig. 5).

Examination of the interior of the skull revealed that the sagittal suture was obliterated, while the coronal and lambdoidal were still distinct.

As the bones of the skull were completely articulated it was not possible to measure the thickness of the component parts of its wall, but the squamous part of the occipital was not more than 1 mm. in thickness.

The left occipital fossa was deeper than the right one as the result

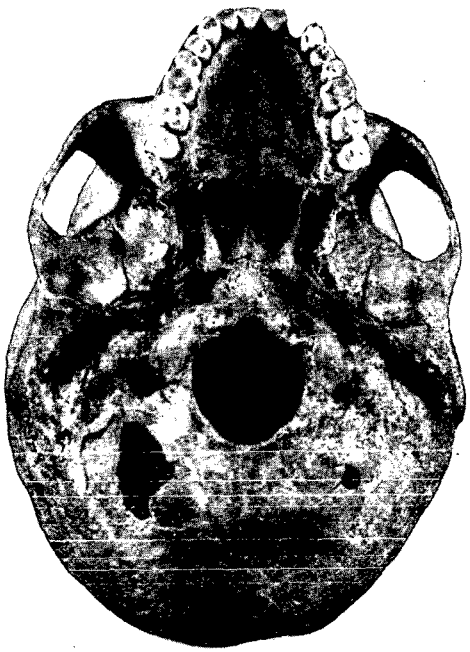

Fig. 7. Meikleour Cist Skull (*Norma basalis*).

of greater development of the left occipital lobe of the cerebrum. The individual had presumably been right-handed.

The Teeth of the Upper Jaws (fig. 8).—These were all present except the left lateral incisor, whose alveolar socket was completely filled with bone, suggestive that the missing tooth had been removed during the early life of the individual.

The condition of the teeth was good, and there was only slight caries in the second right molar, and to a less degree in the third right molar.

The crowns of all of the teeth were very much worn except in the case of the left canine and left first premolar.

The masticating surfaces of the incisors, right canine, and first right premolar were flattened, while those of the second premolars and first two molars were worn obliquely, especially on the lingual side.

The crowns of the first molar teeth showed the greatest degree of wear.

In most of the teeth there had been exposure of the pulp cavity which was filled with secondary dentine.

The third molars were much the smallest of the molar teeth.

Measurements of Molar Maxillary Teeth.—Right Side: 1st molar, breadth (side to side) 11 mm., length (ant.-post.) 9·5 mm.; 2nd molar, breadth 10·5 mm., length 9 mm.; 3rd molar, breadth 9·5 mm., length

Fig. 8. Meikleour Cist Maxillae, showing the wear on the crowns of the teeth.

8·7 mm. *Left Side:* 1st molar, breadth 11·3 mm., length 10 mm.; 2nd molar, breadth 11 mm., length 9·7 mm.; 3rd molar, breadth 10 mm., length 9 mm.

Mandible.—This bone was complete, and in appearance conformed to a modern type. The body was thickened on the medial aspect above the mylohyoid line, and formed a strong support for the molar teeth. This feature was more marked than in a modern mandible. The chin was protuberant, the angles were not everted, slightly obtuse, and the genial tubercles were prominent.

Mandibular Teeth.—These were complete in number. The central and lateral incisors were small and their cutting edges flattened, while the left canine, which was unopposed by a tooth in the upper jaw (fig. 6), projected above the surface contour of all the others, and its edge and that of the adjacent first premolar were not worn. As in the case of the maxillary teeth, the surfaces of the first and second molar teeth were worn obliquely, and this was greatest on the lateral side. The first

molar tooth was most affected in this way, while the third molar was the smallest of the molar teeth (fig. 9).

Measurements of the Mandibular Molar Teeth.—Right side : 1st molar, breadth 10 mm., length 9·5 mm.; 2nd molar, breadth 9 mm., length 9·5 mm.; 3rd molar, breadth 8·5 mm., length 9 mm. *Left side :* 1st molar, breadth 9·5 mm., length 9·5 mm.; 2nd molar, breadth 9 mm., length 9·8 mm.; 3rd molar, breadth 8 mm., length 8·5 mm.

The incisor teeth of both jaws had therefore met "edge to edge,"

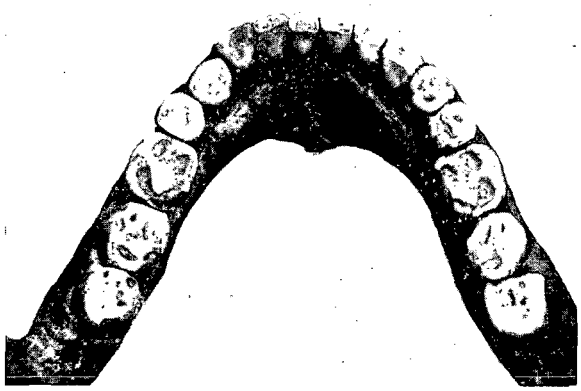

Fig. 9. Meikleour Cist Mandible, showing the wear on the crowns of the teeth.

while the obliquity of the surfaces of the molar teeth (like a set of inclined planes mutually adapted to one another) showed that the movement had been one of protraction and retraction of the mandible and not a "side to side one," for had this been so these surfaces would have worn flat. It is interesting to note that the wear and tear of the front and back teeth in this specimen corresponded to that described by Cameron[1] in Mediterranean and British Neolithic Man and in Minorcan Copper Age Man.

Bones of the Trunk and Limbs.

The Vertebral Column : The Cervical Vertebræ.—As is frequently the case, these vertebræ were in a better state of preservation than the dorsal or lumbar.

The atlas was complete except for the left transverse process. The lateral masses and arches were strong, and the groove for the vertebral artery on the right side was converted into a foramen.

[1] J. Cameron, *The Skeleton of Brit. Neolithic Man.*

The axis was also complete, and the depression on it indicated strong neck muscles. The dens was not increased in its antero-posterior diameter. Its superior articular surfaces were larger, but not more convex than in modern bones.

C3 to C7.—These bones were partly broken and presented no features of special interest.

Dorsal Vertebræ.—These were 12 in number, their bodies were much eroded, but their vertebral arches had resisted decay and were complete.

Lumbar Vertebræ.—Only four were found, and these were broken and eroded. The measurements of their bodies were as follows:—

Third lumbar. Ant. vert. diam., 25 mm., post. vert. diam., 26 mm.

Fourth lumbar. Ant. vert. diam., 26 mm., post. vert. diam., 29 mm.

These measurements suggested a slight degree of lumbar curvature as the vertical depth of the bodies was greater posteriorly than anteriorly. A similar observation was recorded by Low.[1]

Sacrum.—Except for the 5th vertebra this bone was complete. It presented no abnormal features. The upper part of the ventral surface was flattened and the auricular surface corresponded to $2\frac{1}{2}$ sacral vertebræ. Although its characteristics were not pronounced, it suggested a female type.

Measurements.—Anterior straight breadth, 115 mm.; mid straight breadth (lower marg. aur. surf.), 88 mm.; lower breadth, 63 mm.

Coccyx.—Only the first piece of this bone was found. Its cornua were prominent and transverse processes present.

Ribs and Sternum.—The manubrium sterni was broken along the right border, otherwise it presented no abnormal features. It measured vertically 45 mm. and transversely at its broadest part 53 mm. The right and left first ribs were complete except at their anterior ends. On the left one muscular impressions were well marked. The other ribs were fragmentary.

Clavicles.—These bones were complete, except the acromial end of the left which was broken off. Both were lightly built, the right one being the heavier bone. Muscular impressions on the left one were ill defined.

Scapulæ.—The right scapula was broken in several places, but its outline was discernible. The spine was complete and well developed, and the part of the acromion process which was present was much broader than in a modern bone measuring vertically 33 mm. This feature suggested powerful development of the shoulder muscles. There was no retroversion of the glenoid fossa. Only part of the left scapula was

[1] A. Low, *Proc. Soc. Ant. Scot.*, 1929, etc.; *Proc. Anat. and Anthrop. Soc., Aber. Univ.*, 1906.

available and this included the coracoid process and glenoid fossa which were complete, and presented no abnormal features.

Humeri.—The shafts only were present. They were complete, comparatively light, but with well-marked muscular impressions. There was no bowing.

Radius and Ulna.—The upper extremities with the proximal parts of the shafts of the ulnæ were complete. The radial notch of the left one presented a greater vertical height than the right one. Muscular impressions were well marked. The left radius was complete except that its shaft was fractured. Only part of the shaft of the right radius was present. These bones presented no abnormal features.

Carpus.—The following were found: Right navicular, lunate, and os capitate. Left navicular, lunate, hamate, os capitate, mult majus, mult minus.

Metacarpus.—The five left metacarpals which were found measured: the first, 44·5 mm.; the second, 65·5 mm.; the third, 65 mm.; the fourth, 57 mm.; the fifth, 53 mm. They were rather short and slender bones.

Fragments of right metacarpals and several phalanges were found, but they showed no features of special importance.

The Os Coxæ.—In both of these bones the ilia and ischia were partly destroyed, and the pubic portions absent.

The iliac fossæ were shallow. The acetabula looked laterally and distinctly forwards, and the sciatic notches were wide, distinctly of a female type. A preauricular sulcus was clearly defined on both bones.

When they were articulated with the sacrum the appearance and measurements suggested that the pelvis had been small.

Femora: The right femur (fig. 10) was complete and well preserved, except for slight erosion of the head, tip of the great trochanter, and medial condyle. The neck of the bone was short and the angle which it made with the shaft was 120 degrees.

The great trochanter did not project more laterally than in an average modern man. The oblique ridge on its lateral surface was not well marked, but there was a distinct impression for the attachment of the gluteus minimus. The tubercle and upper part of the anterior intertrochanteric line were not prominent, and the lesser trochanter did not project more from the general surface than in modern female femora.

The upper third of the shaft was hyperplatymeric, being markedly flattened with a lateral convexity so that part of the surface which should have been anterior was directed laterally.

Cameron in his examination of the Coldrum femora and the Anglo-Saxon femora from Guildown stated that platymerism is usually associated

with a small cervical angle, and this specimen bears out his assertion. There was no bowing of the shaft, and the linea aspera was not prominent.

The popliteal surface presented no unusual features, the lateral supra condylar ridge was not prominent, and the adductor tubercle only moderately well developed. The trochlear surface for the patella was not definitely deeper than in modern man, and its lateral margin did not encroach on the lateral condyle.

Viewing the lower end from behind, the articular surface of the medial condyle was prolonged towards the posterior surface of the shaft at the side of the intercondylic notch, which was not deeper than in modern man.

Using the length of the femur as a guide to stature, Manouvrier's tables showed that a femur length of 450 mm. corresponded to a stature of 161 cm.

The left femur was incomplete, only the head, neck, lesser trochanter, and upper three-fourths of the shaft were present. The gluteal ridge was slightly more prominent than on the right side, and the shaft hyperplatymeric. The linea aspera was not prominent.

The right tibia was found in three parts, viz. (*a*) the upper extremity and proximal half of the shaft, (*b*) three inches of the shaft, (*c*) the lower extremity.

There was slight retroversion of the upper end of the bone.

Fig. 10. Meikleour Cist Right Femur, showing platymeria.

The antero-posterior length of the medial condyle was greater than the lateral, but the difference did not appear to be greater than in modern bones.

The posterior border of the lateral condylar surface was more turned down than on the medial side. The anterior tubercle was not specially prominent, and there was no platycynemia.

The medial aspect of the medial malleolus was eroded, and the articular surface of the distal end of the bone was not more concave than in modern bones. There was a slight squatting facet on the anterior aspect of the lower end of the shaft.

The left tibia was incomplete, only part of the upper extremity and shaft being present.

The Right Talus.—This bone was small in size, and complete, but eroded in parts. There was no increase of the convexity of the superior articular surface as noted in many prehistoric specimens, nor was there marked inversion of the head. There was no marked prolongation forwards of the articular surface for the medial malleolus. On the

lateral part of the upper surface of the neck there was a smooth articular area suggestive of a squatting facet.

The Right Calcaneus.—This bone was slightly shorter than the average modern one. The posterior facet on its upper surface for articulation with the talus was slightly more convex than usual, and the facet on the upper surface of the sustentaculum had fused with the facet more anteriorly, giving an elongated facet for articulation with the under aspect of the talus.

The articular surface for the cuboid was more deeply concave than usual.

The tubercles on the under surface of the bone were worn and partly eroded.

Of the remaining bones of the foot, the right navicular and right first cunieform, right and left first metatarsals were found. On the heads of the latter the grooves for the sesamoid bones were deeply marked. The remaining metatarsals and phalanges were fragmentary.

The Right Fibula.—This bone was found in five pieces and there was no trace of the left one. The fibula is a bone which is frequently comminuted in prehistoric burials.

The right patella was a small bone. The vertical ridge on its posterior surface was not more prominent than in a modern one. It presented no features of special importance.

TABLE I.

Measurements in mm. of Skull.

Sex	Female	Orbital breadth, R.	38 mm.
Cubic capacity	1390 c.c.	,, ,, L.	38 mm.
Glabello-occipital length	179 mm.	Maxillo-alveolar length	52 mm.
Ophyro-occipital length	176 mm.	Maxillo-alveolar breadth	61 mm.
Nasio-inional length	167 mm.	Sagittal arc, 1 120 mm.	
Minimum frontal breadth	90 mm.	,, ,, 2 124 mm.	
Maximum frontal breadth	108 mm.	,, ,, 3 115 mm.	
Squamous breadth	148 mm.	—	359 mm.
Parietal breadth	145 mm.	Length Foramen Magnum	38 mm.
Basi-bregmatic height	132 mm.	Transverse arc	300 mm.
Basi-nasal length	96 mm.	Circumference	519 mm.
Basi-alveolar length	93 mm.	Palatal length	43 mm.
Nasi-alveolar height	57 mm.	Palatal breadth	39 mm.
Nasi-mental height	100 mm.		
Zygo-maxillary breadth	96 mm.	*Indices.*	
Bizygomatic breadth	135 mm.		
Nasal height	43 mm.	Length-breadth	82·6
Nasal breadth	24 mm.	Length-height	73·7
Orbital height, R.	30 mm.	Gnathic	96·8
,, ,, L.	28·5 mm.	Upper facial	42·2

Indices—contd.	
Total facial	73·3
Nasal	55·8
Orbital, R.	78·9
,, L.	75
Maxillo-alveolar	112·8
Palatal index	90·6

Mandible.	
Condylo-symph length	96
Height at symphysis	28·5
Height at second molar	27·5
Height: coronoid	57
Height: condyle	64
Bicondylar width	114
Bigonial width	88

TABLE II.

Measurements in mm. of Bones of the Extremities.

	R.	L.
Pelvis:		
Trans. diam.	128 mm.	—
Oblique diam.	120 mm.	—
Os coxæ. Acetabulum—		
Vertical	61	59
Transverse	52	53
Femur:		
Maximum length	458	—
Oblique length	450	—
Upper third of shaft—		
Ant. post. diam.	22·5	24
Upper trans. diam.	34	33
Platymeric index	66·1	72
Middle third shaft—		
Ant. post. diam.	26	26
Trans. diam.	26	26
Pilastric index	100	100
Cervical angle	120	
Tibia:		
Ant. post. diam. (level nutr. for.)	33·5	31
Trans. diam. (level nutr. for.)	26	24
Platycnemic index	77·3	77·4
Talus:		
Length	51	—
Breadth	40	—
Calcaneus:		
Length (maximum)	69	—
Breadth (at sustentaculum)	39	—
Breadth (least)	24	—
Patella:		
Height	40	—
Breadth	40·5	—
Thickness	19	—
Clavicle	140	143

	R.	L.
Humerus:		
Circumference diaph. upper third	71	70
Least circumference diaph.	64	63
Ulna:		
Maximum breadth olecranon	22	22
Height of olecranon	28	27
Thickness of olecranon	—	23
Shaft upper third—		
Dorso-ventral	—	16
Transverse	—	15
Radius:		
Circumference, neck	—	48
Circumference, below tuberosity	—	45
Scapula:		
Maximum length	136·5	—
Maximum breadth	100	—
Spinal axis	96	—
Length supra-spinous line	53	—
Length infra-spinous line	92	—
Transverse diam. glenoid	26	25
Length axillary border	121	—
Vertical diam. glenoid	—	35
Indices.		
Scapular index	73·2	—
Supra spinous	38·8	—
Infra-spinous	67·3	—
Axillary	88·5	—
Glenoid	—	71·4