

GAIRNEYBANK

COWIE & RITCHIE

CONTENTS

Skeletal remains

Dorothy A Lunt & A Young

1 : 32

Skeletal Remains from Gairneybank, Perth & Kinross District

by Dorothy A Lunt* & A Young†

Cist 1

Skull: the largest portion comprises most of the calvarium and the L temporal bone down to the temporo-mandibular joint and external auditory meatus; part of the L orbital margin of the frontal bone is also present. The next in size is a strangely blackened and distorted part of the frontal bone, coming forwards to include parts of both frontal sinuses; there is very little sign of supra-orbital ridging. The next largest piece consists of the median portion of squamous occipital bone from the torcula down to a small portion of the L margin of the foramen magnum. There are also a number of minor fragments, some of which seem to be heavily impregnated with lime salts. The two largest portions are deformed, probably by long exposure in wet conditions, and it was not possible to fit them together nor to establish the skull form. Dentition: only two loose teeth are present, and their identification is open to some doubt; they are probably the mandibular left second and third permanent molars,

* Department of Oral Biology, University of Glasgow Dental Hospital and School,

† Department of Anatomy, University of Glasgow

and on this assumption the degree of attrition indicates an individual aged about 32.

Other bones: a portion of the shaft of a long bone; this is much disintegrated, but it is probably from a femur; the head of a metacarpal bone.

Cist 2

Skull and dentition: basi-occipital bone; part of R temporal bone with almost the complete temporo-mandibular joint surface; a portion of the L temporal bone with part of adjacent skull base and complete temporo-mandibular joint surface; a portion of L petrous temporal bone; R lesser wing of sphenoid and part of R side of sphenoid bone. The mandible is almost complete; part of the right maxilla is also present, with some additional maxillary teeth. The maxillary third molars are just erupting, while those in the mandible are already in situ. This suggests an age of about 18-20 years. There is no evidence of caries, nor of periodontal disease. The first premolars of both jaws show a marked hypoplasia line at the base of the cusps, and the position of the lines indicates an upset in the formation of these teeth between two and three years. The second premolars show no hypoplasia, but the condition is present in the cervical region of the canines. Vertebrae: cervical vertebra, the anterior arch of 1; lumbar vertebra, part of the body of a lumbar vertebra, the epiphyseal rings have not yet fused completely, indicating an age of under 25 years. Several other fragments including transverse processes together with parts of neural arch and articular processes. Sacrum: two segments, unfused, indicating an age of between 18 and 25 years. Clavicle: most of R. Scapula: the major part of R; the age is over puberty, but no upper limit can be given. Ribs:

several fragments including R1. Humerus: part of the head and the adjacent shaft of R; epiphyseal fusion is not complete indicating an age probably under 20 years; the medial half of the lower end of L; the epiphyses have fused, and the age is thus probably over 18; this is, on the whole, a rather small bone. Radius and ulna: probably the upper end of R ulna; these fragments have been damaged, but a small laterally-placed articular facet and smooth bone beyond suggest this interpretation; the upper end of L ulna; parts of what may be ulnar shafts. Hand: R trapezoid; R scaphoid; bases of R 1st and 2nd metacarpals (the epiphyses have fused, indicating an age of over 20 years); the head of another metacarpal; proximal phalanges, three complete and one basal half (fusing as above), one probable proximal phalanx; middle phalanges two; distal phalanges three; two proximal phalanges and one terminal phalanx of thumbs. Ilium: parts of R and L. Femur: the much fissured and distorted shaft and neck of a femur, probably R; part of the lower end of R; as epiphyseal fusion is virtually complete the age may therefore be estimated at about 20 to 21; L, damaged at the lateral condyle and lacking the head; assuming that there is normally approximately 40 mm of the length of a femur from the inferior margin of the head/neck junction, this femur probably measured 420 mm when complete. This would give a rough estimate of the height of the individual as 1.6 m. Patella: L; this was very much stained a dark brown colour, especially on its antero-lateral aspect. Tibia: part of the shaft and upper end of R; most of the upper end of shaft of L; there is a considerable gap on the anterior part of the upper shaft; possibly the condylar surface of the upper end of a tibia. Among a number of fragments that cannot be identified with certainty are what may be the head of a humerus; the glenoid surface of a scapula; part of the head of a humerus, though it is possible that these

fragments originated from a knee joint rather than a shoulder joint; a portion of a carpal bone, but this has not positively been identified and may not even be human.

Cist 3

Skull and dentition: the skull lacks the L zygoma and most of the parietal bones and the postero-lateral part of the R temporal bone and the occipital bone, posterior to the anterior condylar canals. The mandible lacks the R side from behind the first molar; the R head of a mandible was found separately. The maxillary permanent dentition is complete, and only two teeth have been lost post mortem from the mandible. The hard palate is high and rather square anteriorly, despite the crowding of the incisors. The supra-orbital ridges are moderately developed, but the eversion of the supero-lateral orbital margins suggests that the individual may have had heavy eyebrows. The R zygoma suggests that facially, the cheek-bone eminences were prominent and fairly wide-set. Yet, when the mandible is articulated, the impression is that of an individual with a high forehead, broad upper lip, probably a wide-set nose and a heavy, square chin. Perhaps too, from the development of the R mastoid process, a strong, even thick neck, might be postulated. The individual was a young adult, probably about 20-22 years. The mandibular left 3rd molar has erupted normally, but both maxillary 3rd molars are impacted against the 2nd molars. Neither caries nor periodontal disease is present.

Vertebrae: cervical, most of atlas and axis lacking posterior portions, parts of the bodies of two cervical vertebrae, one showing incomplete fusion of the epiphyseal rings, thus indicating an age of under 25 years; thoracic, two thoracic vertebral bodies. The major portions of seven thoracic vertebrae (including T1), the epiphyseal rings are not fully

fused, indicating an age of under 25 years; five vertebrae, probably thoracic 9, 10, 11, 12 and lumbar i.e. first; these are damaged posteriorly, but the bodies are more or less intact though the epiphyseal rings are not fused; lumbar, possibly 3, 4 and 5 and the body of another lumbar vertebra with incompletely fused upper epiphyseal ring indicating an age of under 25 years. Several pieces of vertebral body ring epiphyses. Ribs: anterior end of the R1; two pieces of R2, heads of ribs including three from R, posterior half of L1, head, neck and tubercle of a L rib (the epiphysis for the neck articulation has not fused, indicating an age under 25 years), eight epiphyses for heads of ribs (age under 25), head of an 11th or 12th rib with incompletely fused epiphysis (age under 25), various rib fragments. Sternum: upper part of manubrium; lower half of the body of the sternum, the lower segments have fused together, but fusion to the first segment has not yet occurred (age probably under 21 years). Clavicle: part of the medial end of a R clavicle; portion of bone, probably lateral end of R clavicle; a portion of a clavicle shaft. Scapula: a portion of bone almost certainly the inferior angle of R scapula; this is fairly heavily built and would appear to come from an individual of 25 years or over; the lateral (articular) portion of a R; the glenoid portion of a L scapula; age 20-25 years; three fragments of bone - possibly of scapula which seem more heavily mineralised than the rest. Humerus: fragment of the end of a long bone with part of the incompletely fused epiphysis, probably from the upper end of a R humerus (age 20-25 years); lower third of shaft and lateral half of the lower end of a R humerus; middle third of the shaft of the same R (age over 18 years), upper two thirds of a L, epiphyseal fusion is incomplete (age around 20 years); portion of capitellar surface of L with two other adjacent fragments. Radius: R, lower epiphysis is not fully fused, indicating an age of about 20 years; length is 255 mm, giving an approximate height of 1.75 m; a L in which

fusion of the lower epiphysis is almost complete, length 247 mm. Estimated height of this individual, from the L radius would be 1.74 m. Ulna: distal epiphysis of a R (age around 20 years) and the shaft of a R, lacking the epiphysis of lower end (age 20-25 years). L with its separated lower epiphysis (age around 20 years); shredded, distorted fragments of what is probably the cortical tissue of the upper end of R; the arm bones give the impression that this individual had rather long and slender arms, and as will be noted later, the calculation of height varies according to whether one employs measurements of the forearm bones or the femur. Hand: R, scaphoid, trapezium, capitate, trapezoid, lunate; metacarpals 1, 2, 3, and 5 and fragments; finger phalanges; L scaphoid, trapezium, capitate, triquetral, hamate, trapezoid, lunate; metacarpals 2, 3, 4 and 5 and fragments; phalanges. Hip: portion of R hip joint and adjacent iliac bone, portion of a L. Femur: R, some damage to the region of the great trochanter and upper shaft and neck, length approximately 432 mm; this would give an estimated height of only 1.68 m. All epiphyses are fully fused, and the probable age is thus 20 years or more. L, lacking the head, neck and great trochanter; the lower epiphysis is completely fused, again giving an age of 20 years or more. Patella: a R and another patella, this is incomplete, but is probably a L. Tibia: most of the upper end of R plus numerous fragments, probably from the same bone; most of L, but lacking medial malleolus, and with an area of damage to the upper third of the medial aspect of the shaft; both epiphyses are fully fused, indicating an age of 20 years or more. Fibula: shaft of L, lacking both ends.

Examination of the skeletal remains leaves the general impression of a young individual, probably male, aged about 21 years, with a fairly broad face and high forehead with arms rather long for his height, which may be estimated to have been somewhere between 1.68 m (estimated from femur) and 1.75 m (estimated from the arm bones).

Non-human: three other bones were found - the lower end of R humerus and the R radius and ulna of a youngish animal, probably a pig.

The skeletal report remains as prepared in 1971, and certain aspects of the report might now have been addressed rather differently. The estimation of age from the dentition, for example, would make greater use of X-rays showing the development of the teeth rather than their eruption status.