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Proc Soc Antiq Scot, 114 (1984), fiche 1:A3-C10

REPORT ON THE EXCAVATION OF A NEOLITHIC MOUND AT BOSHEAD,  
SPEYMOOUTH FOREST, FOCHABERS, MORAY, 1972 and 1974

H A W BURL

BOGHEAD, FOCHABERS

H A W BURL

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TABLE 2

Numbers of sherds in the Layers of the NEQ and SEQ

Layer	Description	Rims	Bodysherds	Total	%
II	Under topsoil	4	42	46	5.5
IV	Cairn tapping	10	60	190	22.6
VII	" "	24	96	94	11.2
V	Cairn infill	17	77	83	9.9
VI	Under cairns	0	37	298	35.4
XII	" "	12	34	20	2.4
XIII	Black layer	48	250	76	9.0
VIII	Between cairns	0	20	34	4.0
XIV	Old land surface	12	6		
	Hollows and pits	8	26		
	Totals	135	706	841	100.0

TABLE 3

## Joining sherds from the 1974 excavations

Sample	Sherd No	Square	Layer	Description
1 (Pot 24)	20	I Ib	XIII	Rim with shoulder, decorated
	9	IIIa	VII	
	45	I Ib	XIII	
2 (Pot 1)	55	VIIa	XIV	5 sherds of fluted rim, fresh
	157	VIII f	XIII	
3 (Pot 23)	43	I Ib	XIII	Coarse rim, fresh
	50	IIa	XIII	2 sherds together
4 (Pot 16)	59	IIa	XIII	Coarse body sherds up to 5a apart under
	16A	IIa	XII	North and East cairns
	184	IX f	XIII	
	85	IIa	XIII	
5 (Pot 2)	51	I b	XIII	Fluted rim with thonghole
	247	VI f	XIII	
	47	I b	XIII	
6 (Pot 16)	277	IIIa	XII	Coarse rim, some weathering
	?	I Ib	XIII	
	2A	I b	XIV	
7 (Pot 14)	10	Ia	VII	Coarse, finger-tipped ware
	78	Ia	IV	
8 (Pot 33)	31	III f	VII	2 sherds of undecorated rim, fresh
	68	VIII f	V	
9 (Pot 1)	142	IX f	XIII	Fluted rim, finger-tipped
	160	VIII f	XIII	
10 (Pot 26)	28	I b	XII	7 sherds belonging to large segment of coarse red rim, ?grass-stroked
	28	I Ib	XIII	
11 (Pot 18)	23	IIIa	XIV	Coarse body sherds, some weathering
	22	Ia	XIV	

TABLE 3

Contd

12	68	Ib	IV	Well-burnished rim, fresh
(Pot 3)	34	Ib	II	
13	92	Ia	XIII	Coarse rim, ?grass-stroked on interior,
(Pot 16)	270	IIIIf	XIII	weathered
	17	IIa	XII	
	220	IIIf	XIII	
	215	IIIf	XIII	
	217	IIIf	XIII	
14	15	IIa	XII	Coarse rim, some weathering
(Pot 16)	16B	Ia	XII	
	24	IIa	XIII	
15	21	Ia	V	Fluted rim, some weathering
(Pot 3)	4	VIId	XVII	
16	243	If	XIII	Fine ware, burnished rim. Some weathering
(Pot 25)	3A	Pit	XIX	
17	55	VIIIa	XIV	2 sherds of fluted rim. Fresh
(Pot 1)	160	VIIIIf	XIII	
18	27	Ia	V	Coarse rim, some weathering
(Pot 17)	38	Ib	IV	
	6	Ib	IV	
19	52	IIa	XIII	Coarse rim, some weathering
(Pot 32)	112	IIa	XIII	
	102	IIIc	XIII	
20	49	IIa	XIII	Coarse, heavy bodysherds, weathered
(Pot 16)	35	IIIb	XIII	
	65	IIa	XIII	

TABLE 4

Distribution of Burnt Bone in the NEQ (Numbers of pieces)

	VII	VI	I	II	III
b		1	2	2	
a		1	4	7	
f	4	4	1	10	4
g			1	3	

## APPENDIX 6

### REPORT ON THE BOGHEAD MOUND SKELETONS

M M Burl

- with a report on the teeth of Skeleton 6 by D A Lunt

(a) Bones from the 1974 excavations

#### Introduction

There were six burials on the mound though not all the bones were present. Tree roots had damaged many bones. One skeleton had tree roots growing through its skull. In other cases tiny roots had enveloped the bones, making cleaning without damaging the outer structure of the bone very difficult.

There had also been considerable animal activity. Many animal holes were found around the skeletons and many missing small bones could have been due to rodent activity. In two cases scapulae were found some distance from their correct position, again presumably due to this. Other long bones must have been removed by man, and their subsequent position suggested that Skeleton 7 was interred before Skeleton 8 and that Skeleton 6 came next, followed and probably accompanied by Skeleton 4. Skeletons 1 and 2 were not linked in this way or with the other burials and their chronological relationship is unknown.

Of the six burials, four had their faces towards the S although they were all laid out on an E-W axis.

There had been considerable destruction to many bones due to erosion so that extremities of long bones were often incomplete and exposed the underlying cancellous bone. Two skeletons had definite Wormian ossicles and a third possibly had had, though they were uniting.



There were 12 examples of dental caries, five abscess cavities and eight examples of teeth lost pre-mortem. Of these, nine of the caries and all the lost teeth occurred in Skeletons 1 and 2 which were the two most elderly, so that the absence of teeth was probably due to them having fallen out with age.

Two skeletons had a full complement of teeth and no caries.

#### Skeleton 1

An extended burial with the head turned to the S. There had been considerable damage to the bones, especially at the extremities. No ribs, sternum or small bones. Three cervical and one dorsal vertebrae. The left scapula was found over the right hip, presumably due to animal disturbance.

The skull had quite prominent superior nuchal lines, external occipital proceruberances, and mastoid processes, all suggesting a male skeleton. There were no Wormian bones. The sagittal suture was almost closed except for the anterior 25mm. Lamboid and coronal sutures not closed. Signs of osteoporosis.

Seven loose teeth were found and assigned to cavities in the jaws.

													A														A					
													C	C	C	C														C	C	C
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8																
X	X	X	5	4	3	2	1		1	2	3	4	X	X	X	X																

Seven teeth in the lower jaw were absent and their sockets had healed, indicating a pre-mortem loss.

The attrition of the upper molars suggested that this was a youngish man. However, as this attrition presumably occurred before the loss of the lower molars, the individual may have been older.

The lower/

The lower jaw from which the lost teeth came was very well worn and hollowed out, with considerable reduction in depth of mandible; this suggests that some time had elapsed after the teeth had fallen out and before death.

The canine and incisor teeth all showed considerable wear down to the dentine with concave surfaces on the biting surface and many caries. The two upper lateral incisors were worn to a small stump with interproximal caries. There were also interproximal caries in the left canine and the right canine and the first premolar. There was considerable periodontal disease and medium deposits of calculus.

The sciatic notches were fairly narrow and auricular areas appeared to articulate with  $2\frac{1}{2}$  sacral vertebrae. The pubic area, although damaged, suggested a male skeleton.

The scapulae were quite wide, clavicle sturdy and humeri had quite well developed muscular impressions. However, the leg bones appeared somewhat short and slender by comparison, with some slight inward bowing of both femora. This suggested a short individual with well developed shoulder muscles.

Some possibility of osteoarthritis in lumbar region, osteophytes on Left 1 and Left 2 around the intervertebral foramina and some slight lipping of the bodies.

Probably a male of 30 years or more, c 1.65m in stature.

CI 79.66

#### Skeleton 2 (Male)

Found lying in an extended supine position with the head to the W in a shallow pit. Skull bones, right forearm and both clavicles missing, with only fragments of ribs and vertebrae. The left hand rested on the groin; the right forearm, on the edge of the pit, had been destroyed.

Prominent mastoid processes and fairly prominent nuchal crests and superciliary ridges. Supra orbital margin quite sharp - probably male. Slight prominence of occipital bone. The frontal or metopic suture persisted as in about 9% of people. Sagittal suture obliterated, coronal suture beginning to close on lower right and left 25mm. Lambdoid suture beginning to close near sagittal suture. Eight lambdoid Wormian ossicles, four on the right and four on the left.

C	C														
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Four loose teeth were identified to the upper jaw:

- 1 left medial incisor (root only)
- 2 left molar 3
- 3 right molar 2
- 4 right molar 3.

The right molars 2 and 3 had advanced interproximal caries and were less worn than those on the left. The left medial incisor was a root only - possibly due to caries. The right lower first molar was absent with a healed socket, presumably removed ante-mortem. The degree of attrition suggested middle age, most of the teeth being very well worn. Slight deposits of calculus and considerable periodontal disease and an edge to edge bite.

The left hip bone fairly complete but with some damage to pubis. It seemed that the symphysis pubis was deep with a pubic arch less than a right-angle and a suggestion of eversion of the pubic arch. Sciatic notches were not wide, all suggesting a male pelvis. Sacrum too badly damaged to be of value.

The femora were heavy, large and with distinct muscle and ridges, especially on linea aspera and gluteal tuberosities. Tibiae both showed distinct squatting facets with possible suggestion of the same on the necks of the tali. The right femur was 0.5cm longer than the left and the right tibia 1cm longer than the left/

than the left, the right leg being 1.5cm longer than the left. The left fibula was extremely bowed and lay posteriorly to the tibia which may have been due to some muscle imbalance.

The left calcaneum was slightly shorter than the right. All this suggested the possibility of some muscle weakness but it would not have been marked.

Probably male, in his thirties, c 1.70m in stature.

CI 76.50.

#### Skeleton 3 (Male)

Not a complete skeleton:

- F/63a a large right hip bone,
- F/64 a large left femur below and to the E. Lower extremity damaged,
- F/63b a portion of the left radius embedded into the soil around the above hip bone. Its upper end faced downwards and rested at the upper edge of the sciatic notch, and the lower end at the iliac crest. It would be difficult for this to have belonged to the right hip bone unless the hands had been forced behind the back in an abnormal position.

Other unidentified bones found during the 1974 excavations, cannot be certainly associated with Skeleton 3. They consisted of: F/58a and b; F/27, F/41; F/6a and b; F/28; F/29; F/30.

#### Skeleton 4 (Male)

This skeleton was found facing due W in a pit on the cairn stones. The pit consisted of sand on the S, E and W with cairn stones to the N. The forearms rested on the sides of/

of the pit. The knees were flexed to the S and slightly bent; otherwise the skeleton was in a supine extended position.

The left tibia and fibula were extended and complete. The right tibia and fibula were semi-flexed and lay beneath the left leg. They were broken off in the lower two-thirds. Some tarsals found previously may have belonged to this skeleton.

Beneath the left tibia and fibula were found some vertebrae and ribs of Skeleton 6. The left hand was resting on the skull of Skeleton 6. A tree root growing through the skull had caused considerable damage. The skeleton had prominent mastoid processes, external occipital protuberances, and superior nuchal lines. The right supra orbital ridge was prominent; the left was damaged. All this suggested a male skeleton.

The coronal suture was open, the sagittal suture pretty well closed, as was the lambdoid suture. Four possible lambdoid Wormian ossicles. Considerable protuberance of occipital bone. Skull was very friable.

All the permanent teeth had erupted and were in good condition with no caries. The right lower canine tooth had been pushed into an overriding position due to crowding. The teeth were very prominent and showed considerable wear due to edge to edge bite. Slight calculus and periodontal disease. The jaw was big and heavy.

8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8
<hr/>																
8	7	6	5	4	3	2	1		1	2	3	4	5	6	7	8

On the basis of the dental attrition it appeared that this individual was probably in early manhood.

The hip bones were much destroyed with nothing left of the pubic symphysis. The sciatic notches as far as could be judged appeared narrow as in a male skeleton. Sacrum was too badly damaged to have been of any value.

Some of the bones showed very marked muscle attachments indicating strong, well developed muscles, particularly Deltoid, Biceps, Tibialis anterior and Soleus. The lower end of the right tibia was too badly damaged to measure accurately, but it would appear to have been the same approximate length as the left. There was an unusual deep concavity on the antero lateral aspect of the lower extremity of the right tibia about 1.5 by 0.7cm where the anterior inferior tibio fibula ligament would have attached. Very little of vertebral bodies was left and was of no value in detecting arthritic changes.

There were some extraneous bones connected with this burial. A left femur (F/89) had its head resting on the mid shaft of the right femur with its lower end over the left forearm. This matched very well in size, colour and general muscle pull the right femur of Skeleton 8.

Also, a left tibia (F/90) lay across the lower legs of Skeleton 4 immediately below the knee, its lower end on the right side. This matched very well the right tibia found beside Skeleton 6. The upper extremity of this left tibia would have articulated very well with the left femur (F/89) and it was thought that they both belonged to Skeleton 8.

Another long bone (F/91) rested on a large stone which lay immediately below the left tibia. It appeared to have been a very badly worn lower third of a left fibula.

Possibly male in late teens of early twenties, c 1.72m in stature.

CI 81.14.

#### Skeleton 6 (Female)

Found in a pit which was an extension of that containing Skeleton 4. It was lying in a left crouched semi-prone position facing S. The ribs and vertebrae were entangled, lying over and between two large rocks.

The right hip joint was acutely flexed, the left less so. The right ankle rested on the left knee joint. The left tibia and fibula, projecting upwards, were at the highest level of the burial. A left foot was lying across the left femur and probably belonged to Skeleton 4 which also had its left hand resting on the skull of Skeleton 6. Hence, Skeleton 6 must have been placed in the pit first.

Another long bone, probably a right fibula (F/124), lay parallel to, and below, the right femur. It could have been the right fibula of Skeleton 6 which had been dislodged and fallen away from the tibia.

A further extraneous bone was associated with this burial, a right tibia (F/120). Its lower end lay on the right knee joint of Skeleton 6 and its upper end rested near the stone under the chest of Skeleton 6.

No forearm or small bones were present. The skull was badly damaged with only the facial region being fairly well intact. The left mastoid process was fairly prominent. The right side of the skull was absent and the right side of the lower border of the mandible had been destroyed. The coronal suture had not ossified, nor the basi sphenoid.

The left hip bone had been considerably damaged, the left less so than the right. There appeared to be no ossification of the three bones at the acetabulum. As ossification here begins at puberty this would suggest an age of early adolescence. The ilia were very slight and the acetabulae shallow. What little of either of the sciatic notches survived appeared to be fairly wide, suggesting a female.

There were many signs of ossification being incomplete. These include: ribs - no heads or tuberosities; vertebrae - no spinous or transverse processes; lower end of fibula; head - greater tuberosity of humerus; head - greater trochanter and lower extremity of femur; upper and lower extremity of tibia; edge of glenoid cavity, lower extremity of humerus; ilium, /

ilium, ischium and pubis ununited to form hip bone.

The evidence suggested an individual around puberty as all permanent teeth were present. The face and nasal apertures were small. The muscle pull on the bones was not well developed. Mandible was sub adult with mental foramen nearer lower margin than upper. The only sign of abnormality was a quite pronounced bowing of the left tibia in its lower third.

Could have been adolescent female, c 1.52m in stature.

Report on dentition of Skeleton 6

D A Lunt

The left side of the upper face, anterior part of the cranial vault and mandible are relatively well preserved, but the right side of face and skull shows some post-mortem bone damage. The teeth are also quite well preserved apart from some post-mortem chipping and flaking of the enamel, and some damage to the roots where bone destruction has occurred.

Twenty-eight permanent teeth are present, fully erupted into functional positions. Both mandibular third molars and the maxillary left third molar can be seen developing within bony crypts in the jaws, and the only tooth to have been lost post-mortem, the maxillary right third molar, has been lying in a similar crypt. The greater part of each third molar, has been formed but the apices are still incomplete, and the stage of development of these teeth indicates that the most probable age at death was c 16-19 years. This age estimate is supported by the relatively slight attrition of the functional teeth.

A very early carious lesion appears to be developing in the maxillary right first molar, but none of the other teeth is affected by dental caries. There is no evidence of periodontal disease. An apical abscess or dental cyst involves the/



the root of the mandibular left first incisor, and the cause of this lesion is obscure, as the tooth shows no sign of caries or periodontal disease, nor should there be any exposure of the pulp. Perhaps trauma to the tooth may be the cause: this incisor does appear to be slightly darker in colour than its neighbours and it may have become non-vital as the result of a blow.

The incisors and canines display some slight hypoplasia lines which may indicate some upset to metabolism at the age of c 3-4 years: perhaps a childhood fever or a period of severe malnutrition.

A slight abnormality of the occlusion is evident in the left maxilla, where the first premolar is situated too far buccally, so that the lingual aspect of its lingual cusp touches the buccal aspect of the buccal cusp of the first lower premolar. The upper premolar is thus virtually out of occlusion with its opponent.

Teeth present and in function	7654321 1234567 7654321 1234567
Developing teeth present in crypts	$\begin{array}{c}   \\ \hline 8 \quad 8 \\ \hline \end{array}$
Developing tooth lost post-mortem from crypt	<u>8</u> /

#### Skeleton 7 (Probably male)

Was found lying in the sand on the infill layer, feet towards E, in a supine position with head slightly turned towards the S. The hands were resting on the pelvis.

Both femora were absent as were the left tibia and fibula, right fibula and both feet bones. Foot bones found previously may have belonged to this skeleton. The head of Skeleton 8 lay between where the femora of Skeleton 7 should have been. The/

The right tibia lay with the lower end higher than the upper. Both the extremities were damaged, especially the upper. Lying beside this bone, on its right side, lay a left femur with its lower end directed towards the head of Skeleton 7 and its upper extremity resting just under the lower extremity of the right tibia.

There was much damage to the facial bones and the bones of the skull were in poor condition and quite friable. Some areas of possible osteoporosis.

The right supra orbital ridge was quite prominent. Mastoids very prominent, the right being larger than the left with some pitting around it. External occipital protuberances prominent with very pronounced occipital bone. Sagittal suture almost closed.

Sacrum was very short and female-looking but sciatic notches were not wide and the articulated pelvis looked male with a heart-shaped inlet.  $2\frac{1}{2}$  segments of sacrum articulated with hip bones. No signs of pre-auricular sulci. Vertebral bodies were damaged but there was no sign of osteoarthritis. There were six lumbar vertebrae.

The bones were sturdy with well marked muscular impressions, especially on scapulae. The right scapula was found post surface uppermost. Some slight bowing of the right radius possibly due to muscle pull.

Tooth attrition suggested an age of early manhood. Pubic symphysis was too badly damaged to be of any value for ageing. Teeth were large, lower jaw strong and heavy with very pronounced muscle pull. Two abscess cavities and four teeth showed caries, all in the upper jaw. Right 5 worn down to root; right 6 root found; right 7 and left 7 distal interproximal caries and abscesses. Medium deposits of calculus. Medium resorption due to periodontal disease.

None of the long bones was intact, therefore accurate measurement/

measurement was not possible. However, the right tibia was measured and approximated, to allow for lost extremities, 35.5cm.

An interesting feature of this burial was the absence of three out of four long leg bones as most other bones were present. A right femur and a left tibia were found lying at an angle to each other of about 90° with a right calcaneum between them. These bones were badly destroyed at each extremity. However, this tibia was quite a good match in size, colour, weight and muscular markings to the right tibia of Skeleton 7. Equally, the right femur was quite a good match to the left femur which was found on the other side of Skeleton 7.

It is possible that the two femora and the left tibia were removed in order to place the head of Skeleton 8 in association with Skeleton 7, perhaps before full decomposition had occurred. This would explain the extreme damage at the extremities of all these bones. However, the acetabula were not damaged at all.

	A	A?A?												A	
	C	C												C	
	7	5	4	3	2	1	1	2	3	4	5	6	7		
	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7

Probably male, in early manhood, c 1.68m in stature.

CI 79.37.

- F/142 Right femur,
- F/164 Left femur,
- F/143 Left tibia,
- Right calcaneum.

Probably all belong to Skeleton 7.

Skeleton 8 (Male)/

Skeleton 8 (Male)

Found lying on sand at the edge of infill in an extended, supine position facing E with face turned towards the S. The skull lay in the place where the two femora of Skeleton 7 should have been, these presumably having been displaced when number 8 was interred. The left femur and both tibiae and fibuli were missing. The right femur was broken mid-shaft, probably a recent break.

Some foot bones found previously could well have belonged to this burial. The right femur lay between two large boulders. The left hand lay beside and below the left hip, the right hand beside the right thigh. The vertebral column was somewhat twisted but on examination showed no structural abnormality to account for this.

A left femur subsequently found placed across Skeleton 4 matched this right femur very well in length, general structure, muscular development, colour and weight.

Two tibiae found lying across Skeleton 4 and beside Skeleton 6 seemed to be a pair matching well in shape, size, colour, etc. The left tibia had a fairly well preserved upper extremity which articulated well with the left femur.

The skull was in quite good condition apart from some damage in the facial region. There appeared to be some slight osteoporosis over the frontal bone. The mastoids were large, the left showing exposed large air cells on antero inferior aspect.

The superior nuchal line, occipital crest and external occipital protuberance were very prominent with considerable protrusion of the occipital bone, all suggesting a male skull. Closure of the coronal, sagittal and lambdoid sutures was not complete. There were nine Wormian ossicles along the lambdoid suture.

The/

The jaw was heavy and well developed and the teeth were large. All the teeth had erupted. Some teeth were missing but these had probably fallen out post-mortem and were not found during excavation. There were no dental caries. Dental attrition suggested early manhood. Medium deposits of calculus and periodontal disease.

8	7	6	5	X	X	X	X	X	X	X	4	5	6	7	8
8	7	6	5	4	3	2	1	1	X	X	4	5	6	7	8

Hip bones: the sciatic notches were narrow. The sub pubic angle was less than 90°. Obturator foramina large and oval. Auricular area articulated with 2½ sacral vertebrae. All this suggested a male pelvis. Pubic symphysis too eroded to be of any value.

On the basis of the length of the right femur a height of c 1.77m is suggested.

Bones were strong and well marked by muscle pull. Especially well developed were the forearm bones and femur. There were no signs of disease, damage or deformity.

Probably male in early manhood, c 1.77m in stature.

CI 81.11.

F/89	Left femur	-	appears to belong to Skeleton 8
F/120	Right tibia	-	" " " " " "
F/90	Left tibia	-	" " " " " "

**Loose bones**

Loose bones found not in articulation were given separate numbers according to their finds sequence and prefixed by F/. They were tentatively attributed to skeletons wherever possible according to position of find.

In square VI f: /

In square VI f:

F/217a - h	Four tarsals	Probably from Skeleton 7
	Four metatarsals	" " " "
F/59a - f	Right talus	" " " "
	Five tarsals	" " " "
F/94a, b	Left calcaneum	" " " "
	Left talus	" " " "
F/160a, b	Two phalanges	" " " "
F/62a, b	One metatarsal	" " " "
	One phalanx	" " " "
F/96	One phalanx	" " " "
F/98	One metatarsal	" " " "
F/99	Lower end of left fibula	" " " "
F/101	Section of long bone, possibly fibula	" " " "
F/189 - 192	Left calcaneum, talus, two tarsals, five metatarsals, one phalanx, found as an articulated foot across the femur of Skeleton 6	Probably from Skeleton 4
F/258	Lower end of right humerus matches Skeleton 7 perfectly	

In square VI g:

F/95	A right patella	Probably from Skeleton 3 or 8
F/30	A large left navicular	Probably from Skeleton 3

In square I f:

F/256	Right talus	Probably from Skeleton 8
F/257	Portion of skull	" " " "
F/42a, b	Shaft of small right humerus	Probably from Skeleton 6
	Right small navicular	" " " "

In square VIIg:

F/29	Dorsal vertebrae	Unidentified
F/28	Metatarsal	
F/6a, b	Metatarsal Phalanx	Found in 1971 by Dr. Stephens in disturbed area SWQ

In square IIg:

F/27	Portion of rib
F/41	Portion of rib
F/58a, b	Portion of upper end of a large left ulna

Dental Caries (%)

Teeth present in all skeletons:	163 (out of possible 192)
Showing caries:	11
Showing abscesses:	4
Teeth lost pre-mortem:	8 (7 from Skeleton 1; 1 from Skeleton 2)

Platymeria

Skeleton 1	- 70.59
Skeleton 2	- 73.68
Skeleton 3	- 83.78
Skeleton 4	- 71.42
Skeleton 6	- 77.42 (young)
Skeleton 7	- 87.00
Skeleton 8	- 70.00

Platymeria is an antero postero flattening of the upper end of femur, possibly caused by stress on femora during childhood and adolescence. May be due to calcium and vitamin deficiency. Platymeria below 84.9 is significant.

Edge to edge bite (present in all the Boghead mound skeletons)

More common in early peoples. In modern man lower jaw is slightly less prominent giving a slight overlap of upper teeth.

#### Cephalic Index

Less than 75 = Dolicephalic  
75 - 79 = Mesocephalic  
80 - 84.9 = Brachycephalic  
85 and over = Hyperbrachycephalic

Skeleton 1	79.66
Skeleton 2	76.50
Skeleton 4	81.14
Skeleton 6	Not possible to measure
Skeleton 7	79.37
Skeleton 8	81.11



Skull measurements - cm

	1	2	4	6	7	8
L	17.7	18.3	17.5	-	18.9	18.0
B	14.1	14.0	14.2	-	15.0	14.6
B'	9.6	10.1	9.5	-	10.6	10.2
H'	13.0	12.5	13.8	-	13.1	12.9
LB	9.3	9.4	8.6	-	9.5	9.3
S1	13.5	13.0	13.0	-	13.0	13.4
S2	12.1	12.8	14.2	-	12.5	12.7
S3	11.5	11.3	10.5	-	12.8	12.0
S'1	11.2	11.1	11.6	-	11.7	11.5
S'2	10.5	11.5	12.7	-	11.6	11.5
S'3	9.5	9.6	9.1	-	9.7	8.9
B1B	11.2	11.4	10.9	-	11.2	11.5
BQ'	31.9	-	31.5	-	32.2	30.6
U	52.9	53.5	52.9	-	54.6	53.0
G'H	6.8	6.4	7.1	6.2	6.9	7.1
GL	8.6	8.4	7.9	-	-	8.5
GB	8.2	9.6	9.2	-	-	9.6
G2	3.7	3.8	4.1	3.6	4.1	3.7
G'1	4.5	4.4	4.5	3.6	4.3	4.7
J	-	-	-	-	-	11.8
O'1	3.4	3.9	3.9	3.7	-	4.7
O'2	3.4	3.5	3.6	3.1	-	3.9
FL	3.9	3.6	3.5	-	3.5	3.4
FB	3.4	2.9	3.1	-	2.8	3.1
NH'	5.0	4.8	4.7	4.5	5.0	5.1
NH	4.9	4.8	4.8	4.5	-	5.1
NB	2.5	2.7	2.2	2.2	-	2.3
SC	.9	1.2	1.2	1.2	1.1	1.0
OA	3.3	3.7	3.1	3.4	-	3.0
OC	1.8	2.6	2.0	2.0	-	1.8
MI	11.0	-	-	-	11.8	11.8
GoGo	10.1	-	9.3	-	11.1	10.9
ZZ	4.5	4.7	4.9	-	4.3	4.4
RB'	2.7	2.8	3.0	3.0	2.5	3.1

Skull measurements - cm  
(Contd)

	1	2	4	6	7	8
H1	2.8	3.1	3.3	2.4	2.9	2.9
ML	9.8	9.2	10.0	9.4	10.2	9.8
CrH	6.3	6.4	7.3	5.0	7.4	6.8
CIndex	79.66	76.50	81.14	-	79.36	81.0

KEY to tables on frames B14 and C1-2

- Where ends of bones were too badly eroded to take accurate measurements
- A Where bones were absent
- \* Where careful estimated measurements were taken in damaged bones

Post cranial measurements

	1		2		4		6	
<u>Femur</u>	R	L	R	L	R	L	R	L
L1	42.8	43.0	47.5	47.0	44.9	44.9	39.2	39.2
L2	47.6	42.8	47.5	47.0	44.9	44.9	39.2	39.2
L3	40.0	40.0	45.8	45.3	43.0	42.9	35.8	-
O1	2.4	2.6	2.8	2.8	2.5	2.5	2.4	2.2
O2	3.4	3.2	3.8	3.9	3.4	3.5	3.1	3.0
Hd.C	4.3	4.4	-	-	-	4.3	4.1	4.1

	1		2		4		6	
<u>Tibia</u>	R	L	R	L	R	L	R	L
L1	32.4	32.1	37.5	36.5	-	37.9	-	29.5
O1	2.7	3.0	3.7	3.7	3.4	3.3	3.0	3.1
O2	2.2	2.4	-	-	2.2	2.2	2.2	2.1

	1		2		4		6	
<u>Humerus</u>	R	L	R	L	R	L	R	L
L1	-	31.1	-	-	33.0	-	A	-
O1	-	1.9	-	-	2.2	-	A	-
O2	-	1.9	-	-	2.2	-	A	-

	1		2		4		6	
<u>Radius</u>	R	L	R	L	R	L	R	L
L1	-	-	A	-	-	-	A	A

	1		2		4		6	
<u>Ulna</u>	R	L	R	L	R	L	R	L
L1	-	-	A	-	-	-	A	A

	1		2		4		6	
<u>Fibula</u>	R	L	R	L	R	L	R	L
L1	-	-	-	-	-	-	-	-

	1		2		4		6	
<u>Stature</u>	R	L	R	L	R	L	R	L
	165.29	174.19	174.19	171.41	153.65			

	1		2		4		6	
<u>Platymeria</u>	R	L	R	L	R	L	R	L
	70.58	81.25	73.68	71.78	73.52	71.42	77.41	73.33

7		8		F/142	F/164	F/143	F/89	F/120	F/90	F/64
R	L	R	L	R	L	L	L	R	L	L
A	A	47.9	A	-	-		47.9			-
A	A	47.8	A	44.5	44.5		47.8			46.0
A	A	45.8	A	43.0	42.2		45.4			45.0
A	A	2.8	A	3.0	2.8		2.7			3.1
A	A	4.0	A	3.3	3.2		4.3			3.7
A	A	4.8	A	-	-		4.8			4.8
35.5	A	A	A			35.4		37.4	37.8	
3.6	A	A	A			3.5		3.7	3.7	
2.5	A	A	A			2.4		2.5	2.5	
-	-	35.2	34.6							
-	-	2.4	2.3							
-	-	2.2	2.0							
-	-	-	24.4							
-	-	-	26.6							
A	A	-	-							
167.84		176.65	168.77	168.77	167.59	176.65	172.43	173.40	172.25	
		70.0	90.9	87.5		62.7			83.78	

F/142, 164, 143 appear to belong to Skeleton 7

F/89, 120, 90 appear to belong to Skeleton 8

(b) Human bones in the Anthropological Museum, Aberdeen University

The following bones were deposited in the museum following the visit by Professor Lockhart to the Boghead mound in 1971. Many of them were difficult to measure because of damage to the extremities. Photographs in the museum showed that an almost complete skull had been wedged between two large boulders. Other bones appeared to have been well down in the cairn below the turf and the leached layer II. Some bones were jutting from the sand on the bulldozed S face of the mound and a note accompanying the photograph stated that they had been found above the black layer XIII.

Bones

The bones did not, as once believed, belong to 'skeleton' 3 most of whose skeleton must have been destroyed. The existing bones had been boxed in collections of longbones, all vertebrae, all cranial material, etc and, in consequence, it was not possible to determine which bones came from particular situations. Professor Lockhart stated that they represented the remains of at least three individuals and it followed, therefore, that at least ten corpses had been interred on the mound, nos 1, 2, 3, 4, 6, 7, 8, plus the three whose bones were taken to Aberdeen.

In the museum collection there are: 6 femora; 6 tibiae; 5 humeri; 4 radii; 4 ulnae; 58 vertebrae; numerous ribs; 3 skulls; 6 hip bones; 3 sacra; 6 scapulae.

Assessment of the bones

Three adults whose ages, estimated from the teeth were: 17-25; 25-35; 35-45. Sex, from the hip bones, two male, one with massive bones and signs of arthritis; one female. Disease: osteoarthritic changes in two very large lumbar vertebrae and hip bones. Just possibly, a healed fracture, healed osteitis, bowing of a leg.

Other/

Other peculiarities: three of the six tibiae showed squatting facets. One of the males had very large bones with well-marked muscle ridges indicating a powerful physique. He was also arthritic and may have been the oldest of the group.

#### Measurements

##### Box 1:

Right and left femora. (Right repaired). Very robust.  
Right and left tibia. Left showed squatting facets.  
Fe<sub>1</sub> Right 47.7  
Left 48.3  
Tib<sub>1</sub> Right Too much damage  
Left 39.2

##### Box 2:

Two right femora. (One repaired).  
Two left femora. (One with some inward bowing).  
Two right tibiae. (One right showed squatting facet and was very robust).  
Two left tibiae. (One with squatting facet and robust).  
Fe<sub>1</sub> Right 43.8 + 48.0  
Left 43.6 + 49.9  
Tib<sub>1</sub> Right 33.5 + 37.3  
Left 33.3 + 38.6  
One of these limbs seemed longer than the other in femur and tibia and was also bowed.

##### Box 3:

Left humerus. Badly destroyed lower end. Torsion of shaft may indicate healed fracture.  
Left humerus. Very slender.  
Two other fragments of humeri.  
Three radii.  
Three ulnae.  
All too badly damaged to measure.

Box 4:

40 vertebrae. Representing two individuals. Some very large. Two of the largest lumbers showed bad arthritic changes.  
Many rib fragments. Representing two individuals.

Box 5:

Parts of two skulls.  
One lower jaw.  
(i) Supra orbital ridge not well pronounced.  
Sutures healed.

8 7 6 5 4 3 2 1 | 1 2 3 4 5 6 7 8  
8 7 6 5 4 3 2 1 | 1 2 3 4 5 6 7 8

Some periodontal disease.  
No caries.  
Age 25-35.

(ii) Segments only of cranium.  
Wormian ossicles.  
Unhealed sutures.  
No lower jaw.  
Only left side of upper jaw, small.

1 2 3 4 5 6 7 8

Age 17-25.

Box 6:

One fairly complete skull.  
One left humerus.  
One left radius and ulna.  
18 vertebrae.  
Ribs and sternum.  
These were the skull and other bones removed by Professor Lockhart.

Skull

L 18.8  
B/

B 13.25

H<sup>1</sup> 13.10

Other measurements not possible.

Skull sutures were well healed.

A bony protruberance on the left frontal bone could indicate some healed inflammatory condition.

#### Teeth

Considerable periodontal disease.

Very small teeth.

Very badly worn to the dentine.

W 7 6 5 4 3 2 1 | 1 2 3 4 5 6 7 W

8 7 6 5 4 3 2 1 | 1 2 3 4 5 6 7 8

C

Age 35-45.

Other measurements:

Left humerus H<sub>U</sub>L<sub>1</sub> 32.9

No others possible.

#### Box 7:

Three left and three right hip bones.

They represent: one female,

one large powerful male,

one smaller male.

#### Box 8:

Three sacra.

One large sacrum.

Two smaller sacra.

#### Box 9:

Portions of six scapulae, three right, three left.



## APPENDIX 7

### EXAMINATION OF THE CREMATION FROM THE CIST, BOGHEAD FOCHABERS

K Manchester

#### Skeleton 5

The contents of the soil containing Skeleton 5 were excavated in layers in quadrants. The specimen contained cremated human bone only; there being no associated grave-goods or non-human bone. No selective anatomical placing of the bone in the soil was noted, either horizontally or vertically, the bones being randomly distributed throughout.

An assessment of the degree of calcination (ie efficiency of cremation) was made by the observation of colour, brittleness, twisting, and fissuring of the bone. In Skeleton 5, the degree of calcination was poor. By comparison with pagan Saxon cremations, which themselves are compared with examples from modern known cremating conditions, fired at temperatures of about 950 C, it is assumed that the temperature of cremation of Skeleton 5 was somewhat less than this figure. The duration of firing is not known. There is no differential colouring of the bones to indicate the position of the corpse relative to the pyre (ie above or below).

The total weight of cremated bone is 756g, indicating only a fairly incomplete collection of the bones from the site of cremation. No evidence of the instrument used in the breaking of the bones after cremation is found, and the fragments of bone range in size from minute to 12cm in length. The anatomical specification of bones represented is as follows. Cranial: right petrous temporal, occiput, 'vault', mandible (head, ascending ramus), tooth root, infant maxilla (palatal length 3 cm). Axial: scapula, rib, vertebral body (adult + infant). Upper limb: humerus, ulna, radius, carpus, phalanx. Lower limb: femur, tibia, fibula, patella, tarsus, metatarsus. The weights of the bones represented are as follows: Cranial 108g, Axial 42g, Upper Limb 113g, Lower limb 98g, Unidentified 398g.

The specimen Skeleton 5 is found to contain the cremated remains of two individuals. One is a young adult as assessed by cranial suture closure, and one is an infant as assessed by maxillary size. The young adult is considered by osteometric criteria to be female. There is no evidence of pathological features.

VII F. 11. 1

This specimen consists of 120-150 fragments of cremated human bone. The efficiency of cremation is poor, and the collection of bone from the site of cremation is very poor. One individual is represented and the age is considered to be young/mature adult. Determination of sex has not been possible because of the small number of bones present. No evidence concerning the position of the corpse relative to the pyre has been found. The anatomical specification of the bones present is as follows. Cranial: 'vault', squamous temporal. Axial: vertebral body. Limbs: long bone fragments.

VII 6F 61

This specimen consists of a single fragment of unidentifiable cremated bone.

TABLE 5

Comparison of the sizes of grains from Boghead with other sites (Measurements in millimetres)

## A. Emmer

	Length			Breadth			Height (thickness)		
	mean	max	min	mean	max	min	mean	max	min
Boghead	4.63 <sup>±</sup> 0.49	5.82	3.88	2.63 <sup>±</sup> 0.39	3.14	1.85	2.34 <sup>±</sup> 0.24	2.96	2.03
Skara Brae	3.88 <sup>±</sup> 0.56	4.52	2.86	2.27 <sup>±</sup> 0.39	3.32	1.66	1.89 <sup>±</sup> 0.28	2.40	1.57

## B. Naked 6-row barley

	Length			Breadth			Height (thickness)		
	mean	max	min	mean	max	min	mean	max	min
Boghead	4.48 <sup>±</sup> 0.40	5.26	3.75	2.73 <sup>±</sup> 0.43	3.88	1.66	2.31 <sup>±</sup> 0.31	2.86	1.66
Skara Brae	4.06 <sup>±</sup> 0.50	4.80	3.23	2.89 <sup>±</sup> 0.50	3.60	1.94	2.06 <sup>±</sup> 0.29	2.68	1.20
Rosinish	4.87 <sup>±</sup> 0.49	5.72	4.06	2.66 <sup>±</sup> 0.38	3.32	1.85	2.18 <sup>±</sup> 0.33	2.86	1.57
Ness of Gruting	3.84 <sup>±</sup> 0.44	4.80	3.23	2.14 <sup>±</sup> 0.31	2.77	1.66	1.69 <sup>±</sup> 0.27	2.40	1.29
Dalladies	4.60 <sup>±</sup> 0.40	5.54	3.42	2.70 <sup>±</sup> 0.29	3.23	2.12	2.25 <sup>±</sup> 0.31	3.05	1.57