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Ancient Monuments Laboratory Report 64/88

TWO SKELETONS FROM IRTHLINGBOROUGH, NORTHAMPTONSHIRE.

Atthe File

Janet D Henderson MA Hons (Cantab)

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TWO SKELETONS FROM IRTHLINGBOROUGH, NORTHAMPTONSHIRE.

Janet D Henderson MA Hons (Cantab)

Summary

Two fairly complete skeletons of Bronze Age date were examined. Both were of adult males and the most notable finds were pathological (an injury to an ankle joint in one case and joint disease in the other).

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Two Skeletons from Irthlingborough, Northamptonshire

Examination of the human skeletal remains from this site showed that although the skeletons were nearly complete (approximately 90%) bone preservation was only fair at best. Observations were made for age, sex, stature, metrics, morphology and any abnormalities. A complete catalogue of the results is attached and a full archive inventory of the bones and teeth present is kept in the Ancient Monuments Laboratory.

Both skeletons were of adults with a sex attribution of 'probably male'. 6409 was assessed as c.20-30 years but 6410 was too poorly preserved for a more precise age estimate. Stature was estimated at 1.72 m (c.5' $7\frac{1}{2}$ ") and 1.77 m (c.5' $9\frac{1}{2}$ ") respectively.

With the exception of the presence of two wormian bones in the lambdoid suture of the skull of 6409 no metrical or morphological anomalies of any particular note were found.

Evidence for pathological change was noted on both the teeth and the bones of these individuals. Orally, on 6409 this was confined to slight polishing of the occlusal surfaces of the teeth. On 6410 the wear pattern was similar although it was more marked on the anterior teeth. There had been ante-mortem loss of two teeth (mandibular right canine and third molar) and there was evidence for abscesses adjacent to the mandibular left first molar and right third molar. Additionally there was marked bony recession of the alveolar margins. This is generally taken to indicate some form of gingivitis (gum disease) during life.

Skeletal evidence for trauma was seen on 6409 and for joint disease on 6410. On 6409 there were severe degenerative changes involving bones of the right ankle joint and foot (tibia, fibula, talus, calcaneus and navicular). In spite of any evidence for a fracture it was suggested that this was the result of trauma, the arthropathy being secondary, and that the most likely cause might have been an abduction or an adduction injury. In either case the absence of fracture, evidence for displacement or loss of length or height of any of the bones seemed to indicate that the original injury had not been of great severity although its consequences were definitely marked.

On 6410 there were changes to the chest, the shoulders, the spine and the hands. These were unremarkable except for marked grooving and eburnation of the right inferior posterior facet of the atlas (the axis was unfortunately missing) and slight marginal osteophytes, joint surface destruction and eburnation on the left first metacarpal and two proximal phalanges. It was not possible, on the available data, to comment further.

Human Bone Catalogue

6409

Nearly complete skeleton in fair condition, all parts represented (the skeleton was approximately 90% complete). There was minimal damage to the bone surfaces. Sex: Male, based on skull and pelvic morphology, the dimensions of the humerus, scapula and femur and the overall robustness of the bones (see Henderson (1984) for references). 20-30 years, based on dental wear and epiphyseal union. Age: Stature: $1.72 \text{ m} + / - .0327, \text{ c} \cdot 5' 7 \frac{1}{2}''$. Estimate based on Trotter's method (1970), using the left femur. Dental Pathology Note: Teeth are listed according to the F.D.I. system (see, for example, Downer (1975)) Wear: Slight polishing of the occlusal surfaces only. Skeletal Pathology The only evidence for pathological change was found on the bones of the right ankle and foot. Trauma Bones involved: R tibia, fibula, talus, calcaneus and navicular Other bones present: R cuboid, lateral cuneiform, metatarsals 1-5, 5 proximal phalanges. Bones of the left side all normal. Ankle joint: The joint surfaces of the tibia, fibula and talus were all enlarged and had a 'roughened' appearance. There were areas of trabecular exposure anteriorly on the tibia and talus (where they articulate) and marked marginal osteophytes around the facets, particularly anteriorly and posteriorly on the tibia and talus. The general impression was one of the addition of bone over the original joint surfaces and a consequential narrowing of the joint space, rather than destruction. Re-approximation and radiographic examination seemed to confirm this. Morphologically and radiographically there was no evidence for fracture or loss of length (tibia and fibula) or height (talus). Foot: There was osseous ankylosis of the talus, calcaneus and navicular bones. Radiographic examination demonstrated continuity across the joints in all cases. No other changes, such as sub-periosteal new bone, were observed. The anterior facets of the calcaneus (for cuboid) and the navicular (for the cuneiform bones) were apparently normal. Comment: Given this individual's estimated age and the absence of changes to the remaining bones it was suggested that the underlying cause was a traumatic event rather than an arthropathy (the degeneration being secondary to the original injury). The bony evidence would seem to have indicated the absence of fracture although it should be noted that the medial malleolus of the tibia was broken and a fracture of this could not be ruled out. External rotation, abduction, adduction and vertical compression injuries may all affect the ankle joint (Watson-Jones 1946). It was thought unlikely that the cause was external rotation (there was no fracture of the lateral malleolus) or vertical compression (changes insufficiently extensive) but either an abduction or an adduction injury would be possible as in both there may be fracture of the medial malleolus without displacement (ibid.). Whatever the particular event that had caused the injury the bony appearance seemed to indicate that whilst the original trauma had not been that extensive it had led to a considerable degree of secondary degeneration of the joint (Plates).

Partial skeleton in poor condition with many of the bones showing additional surface damage. All parts represented (the skeleton was approximately 90% complete).

Sex: Male, based on skull and mandible morphology, humeral head size and the overall robustness of the bones (see Henderson (1984) for references).

Age: Adult, there was too little evidence available for a more precise estimate.

Stature: 1.77 m +/- .0405, c.5'9½".

Estimate based on Trotter's method (1970), using the right humerus.

Dental Pathology

Note: Teeth are listed according to the F.D.I. system (see, for example, Downer (1975))

Ante-mortem Tooth Loss: 4,3 and 4,8

Wear: Slight polishing of the occlusal surfaces of the molars, wear was more marked on the anterior teeth (incisors and canines).

Abscess: 3,6 visible from the buccal side of medium size.

4,8 a large abscess, probably the cause of the loss of the tooth. A small deposit of sub-periosteal new bone was noted on the lingual surface of the mandible.

Periodontal Disease: Marked recession of the alveolar margins.

Skeletal Pathology

There was very little evidence available for this individual but some changes attributable to joint disease were noted.

Joint Disease

Slight marginal osteophytes were noted at the clavicular notches of the sternum, the glenoid fossa of the right scapula and both humeral heads (i.e. affecting the gleno-humeral joints). Additionally there was slight surface destruction of the medial left clavicle. There was evidence for costal cartilage ossification on the sternum at the level of the first rib on both sides. On the spine there was some development of marginal osteophytes and, more particularly, the right inferior posterior facet of the atlas was markedly eburnated and grooved. Unfortunately the axis was not present for comparison. Finally the first left metacarpal and two proximal phalanges had slight marginal osteophytes, damage to the joint surface of one of the phalanges and small eburnated patches.

<u>Comment</u>: The only other joints that could be assessed were the elbows and wrists, none of which had any changes. In view of the paucity of the data the overall significance of the joint disease that was seen could not be determined.

3

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Irthlingborough - List of Plates

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6409:	Anterior view of the distal ends of the right tibia and fibula
6409 :	End-on view of the distal joint surfaces of the right tibia and fibula
6409:	Superior view of the right calcaneus, talus and navicular
6409:	Lateral view of the right calcaneus, talus and navicular



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6409: Superior view of the right calcaneus, talus and navicular

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6409: End-on view of the distal joint surfaces of the right tibia and fibula

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6409: Anterior view of the distal ends of the right tibia and fibula

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Mandible Metrics

Number	H1	ML	GoGo	W 1	Ci Right,	rH /Left	Cy Right/	L Left	RE Right/	l Left	ZZ	M Right	2H /Left	M Right	2B /Left
6409 6410	- 37	-	-	-	- 69	- 69	- 23	-	- 35	-	- 49		29	_ 17	- 17

Index of Abbreviations

Note: All measurements are given in millimetres (mm)

H1: Symphyseal height ML: Condyle-symphyseal length GoGo: Bigonial diameter W1: Bicondylar width CrH: Height of ascending ramus RB': Minimum ramus breadth M1/2: Body height at M1/2 M2: Body thickness at M2

Cranial Morphology

Number	1	2 R/L	3	4 R/L	5	6 R/L	7	8 R/L	9	10 R/L	11 R/L	12	13 R/L	14 R/L	15 R/L	16 R/L	17 R/L
6409	0	1/1	0	0/0	0	1/0	0	1/1	0	-/-	0/-	-	-/-	-/-	0/0	-/-	-/-
0410	U	17 1	-	-/-	-	-/-	-	-/-		-/-	070	0	-/-	-/-	0/-	-/-	-/-

Index of Abbreviations

R = Right

L = Left

The following are all scored on an absent (0), present (1) basis, except where otherwise stated.

1. Metopism

2. Supra-orbital foramen (1 = notch, 2 = foramen, 3 = notch + foramen, 4 = other)

3. Bregmatic Bone

4. Coronal suture - wormian bones (1...x denotes number of bones present)

5. Sagittal suture - wormian bones (1...x denotes number of bones present)

- 6. Parietal Foramina
- 7. Wormian bone at lambda
- 8. Lambdoid suture wormian bones (1...x denotes number of bones present)
- 9. Os Inca

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10. Mastoid foramen (1 = sutural, 2 = temporal, 3 = occipital, 4 = other)
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- 11. Torus maxillaris
- 12. Torus palatinus
- 13. Occipito-temporal suture wormian bones (1...x denotes number of bones present)
- 14. Asterionic bone
- 15. Os japonicum
- 16. Parietal notch bone (1 = notch, 2 = parietal notch bone present)
- 17. Pterion Form (1 = H=shaped, 2 = K-shaped, 3 = X-shaped articulation)

Mandible	Morphology						
Number	1	2	3				
	R/L	R/L	R/L				
6409	0/0	0/0	1/1				
6410	0/-	0/0	1/-				

Index of Abbreviations

R = Right

L = Left

The following are scored on an absent (0), present (1) basis, except where otherwise stated.

- 1. Mylo-hyoid groove (1 = spur, 2 = bridge)
- 2. Mandibular Torus
- 3. Gonial Eversion (1...x denotes increasing severity)

(1) and (2) of the above are scored on an absent (0), present (1) basis.

(3) is scored be degree of severity: 1.....x

Upper Extremity Metrics

Number	ClL1		HuL1		HHD		HuE1		RaL1		UlL1	
	Right/Left		Right/Left		Right/Left		Right/Left		Right/Left		Right/Left	
6409 6410	156 -	-	345 345	-	50 49	- 49	62 66	62 65	-	- 257	269 _	272

Index of Abbreviations

Note: All measurements are given in millimetres (mm)

ClL1: Clavicle - Maximum length HuL1: Humerus - Maximum length HHD: Humerus - Maximum head diameter

HuD1: Humerus - Maximum diameter at the mid-shaft

HuD2: Humerus - Minimum diameter at the mid-shaft

HuE1: Humerus - Epicondylar breadth

RaL1: Radius - Maximum length

RHD: Radius - Maximum head diameter

UlL1: Ulna - Maximum length

Femoral Metrics

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Number	FeL1	FeL2	FHD1	FeD1	FeD2	FeD3	FeD4	FeE1
	Right/Left	Right/Left	Right/Left	Right/Left	Right/Left	Right/Left	Right/Left	Right/Left
6409 6410	- 463	- 461	48 47	25 26 - 29	35 35 - 34			- 81

Index of Abbreviations

Note: All measurements are given in millimetres (mm)

FeL1: Maximum length

FeL2: Oblique length

FHD1: Maximum head diameter

FeD1: Sub-trochanteric antero-posterior diameter

FeD2: Sub-trochanteric medio-lateral diameter

FeD3: Mid-shaft antero-posterior diameter

FeD4: Mid-shaft medio-lateral diameter

FeE1: Bicondylar breadth

Axial and Upper Extremity Morphology

Number	Sternum		Scapula			Humerus					
	1	2	1	2	1	2	3	4	5	1	2
			R/L	R/L	R/L	R/L		R/L		R/L	R/L
6409	0	1	0/0	4/-	0/0	1/1	S 3	0/0	0	0/0	0/0
6410	0		0/0	-/-	-/-	-/-	-	-/-	-	0/0	0/0

Index of Abbreviations

R = Right

L = Left

The following are all scored on an absent (0), present (1) basis, except where otherwise stated.

Sternum

- 1. Manubrio-corpal synostosis
- 2. Sternal aperture

Scapula

- 1. Os acromiale
- 2. Suprascapular area (1 = straight, 2 = notch, 3 = deep notch, 4 = foramen)

Vertebrae

- 1. Atlas posterior bridge (1 = spur, 2 = bridge)
- 2. Atlas lateral bridge (1 = spur, 2 = bridge)
- 3. Level of open sacral hiatus (eg. S3 = open to the level of the 3rd sacral vertebra)
- 4. Accessory sacral/iliac facets
- 5. Lumbo-sacralisation of a vertebra

Humerus

- 1. Septal aperture
- 2. Supracondylar process

Lower Extremity Morphology

Number		Femur		Pat	ella	Tibia	Talus		Calcaneus		
	1 2		3	1	2	1	1	2	1		
	R/L	R/L	R/L	R/L	R/L	R/L	R/L	R/L	R/L		
6409	0/1	0/0	0/0	0/0	0/0	-/0	-/0	-/1	-/1		
6410	-/0	-/	-/-	-/-	-/-	-/-	0/0	2/-	3/3		

Index of Abbreviations

R = Right

L = Left

The following are all scored on an absent (0), present (1) basis, except where otherwise stated.

Femur

- 1. Third trochanter
- 2. Allen's fossa
- 3. Poirier's facet or plaque (1 = facet, 2 = plaque)

Patella

- 1. Vastus notch
- 2. Bipartite patella

Tibia

1. Squatting facets (tibia and talus)

Talus

- 1. Os trigonum
- 2. Shape of talar facet (1 = single, 2 = double)

Calcaneus

1. Calcaneal facet - shape (1 = single, 2 = waisted, 3 = double)