1903

Stonar - Human Bone report

Bones from 126 burials were examined. About a fifth of these contained the remains of more than one individual and about as many again contained occasional intrusive bones which probably derived from one or more of the other burials in the same part of the cemetery. Some of the burials themselves are rather fragmentary. Table 1 lists the burials together with the basic information on age, sex and stature where this could be determined.

Age was calculated from tooth eruption and epiphyseal fusion for immature individuals and from dental wear for adults. Infants are described as birth sized (0+), premature (0-) or very young (0+). These are separated partly on a size basis and also on the appearance of the temporal bone, as the tympanic ring does not fuse to the squamous part until just before birth.

The population as a whole

As can be seen from table 2 there were far more men than women buried in this cemetery.

Table 2 - Adult age distribution

Age (years)	Male	Female	Total No
15-25	5	2	7
25-35	16	6	23
35-45	11	8	21
45+	8	4	12
"Adult"	7	7	17
	47	27	80

The 'total' column includes those individuals for whom no sexing could be made.

The population from which they were drawn was probably much more even in composition, the bias being introduced by the comparatively small sample size and some selection in who was buried there or in the area that was excavated.

The age variation within each sex is much as expected with only a few adults dying before they were 25 and comparatively few living to more than 45. The men appeared to die younger than the women on average.

Burial No	Included burials	Sex	Age (years)	Height (cm)	
1		–	Adult		
	1B	–	1–1½		
2		F	17–23		+
	2B	–	5–6		
	2C	–	Infant		
3		–	6±1		W
4		–	2–3		
	3/4A		Adult		W
	3/4B	Prob. F	Adult		W +
5		Prob. F	30–35		
	5A	–	17–25		W
6		M	20–30	183	
	7	M	Adult		
		–	35+		
8		Prob. M	35–40	179	W +
9		M	35–45	159	
10		–	6–7		
11		F	30–40	161	
	11B		5±1		
12			0+		
13		M	30–35	176	W +
14			0+		
15			7±1		
17		Poss. M	Adult		
18		Prob. M	30–40		
19		Prob. M	25–35	168	
20			7±1		
21			0+		
22			18–25		
23A			6–7		
23B			4–5		
24A		Prob. F	25–35	160	
24B			5–6		
25			25–35		
26			0–		
27			0±		
28			0±		
30			0–		
31			0–¾		
32			4±2		

Burial No	Included burials	Sex	Age (years)	Height (cm)	
34			½±¼		
36A			6±1		
36B			5-6		
37			0±		
38			1½±½		
39			5±1		
40		Poss. F	35+		
40B		M	45+	163	W +
41		F	30-40	165	W
42A		F	30-35		W +
42B			1½-2		
44		Prob. M	25-30		W
45A		Prob. M	25-35		
45B		Prob. M	40+	175	
46			4±1		
47			10-11		
48		Prob. M	30-35		W +
49			3-4		W +
50		M	30-40	162	W
51			0-½		
52		F	20-25	147	
53A		Prob. M	25-35		+
	53B		6-8?		
	53C		Juvenile		
54A		Prob. M	25-35		W +
54B			15-19		
	54C		5±1		
	54D		0±		
55			½±½		
56A			3-4?		
	56B	M	Adult	168	
57		M	35-45	178	W
58			7±1		
60			4±1		
61			6±1		W
62			0±		
63		Prob. F	35-45	162	
64A		F	30+	158	W
	64B	M		171	

Burial No	Included burials	Sex	Age (years)	Height (cm)	
65		Poss. M	20–30	159	W +
66A			0–		
66B			0–		
67A		M	17–25		
68/78		Poss. F	35–45		
	68/78A	M	50+	171	
68A		F	25–35	168	W
	68B		30–40		
69		M	40–50	165	+
70		Prob. M	20–30	169	W
71		Prob. M	30–40	166	W +
72A		M	15–20		W
	72B		1±½		
73			1½–2		
74			5±1		W
75		Prob. F	30+	151	
	76		Adult		
77			1½–2		
78					*
79		M	35–45	179	
80		Prob. F	Adult		
81		Prob. F	25+		
82		M	30–40	172	W +
	82A	Poss. F	Adult		
83		F	40+	158	
84		F	45+	155	
85		M	40+	164	
86		M	25–35	175	W
87			8±1		
88			2±½		
90		Prob. M	Adult		
91A			10–11		
91B			8±1		
92		M	30–35		
93A			1±½		
93B			12±1		
94		M	50+	172	
95		Prob. M	35–45		
96		M	30–35	176	W

Burial No	Included Burials	Sex	Age (years)	Height (cm)	
97		M	25–35	175	
	97A		1–4		
	97B		0±		
98		Poss. F	25–30		
	98A		10±2		
99		Poss. F	30–40		
100		Poss. M	Adult		
101		Prob. F	30–40	156	
102		Poss. M	45+		
103A		M	25–35	164	W +
	103B	M	30+	175	
104		M	17–25	175	W +
105		F	40+	154	+
106			½±½		
107			8±1		
108			7±1		
109			6±1		
110			½±½		
111			1½–2		
112		M	30–40		
113		M	17–25	158	
114		Prob. M	35–45	158	
115		Prob. F	35–45	152	
116			11±1		
117			0±		
118		M	25–35	170	
119		M	18–23	175	W
	119A		0–		
120		Prob. F	45+		W +
121		M	45+		W +
122		F	25–35	155	W
123		M	45–50		W
Box 109			10–11		W +

* Burial 78 contained fragments of at least 3 adults

Key:–
W – Wormian bone(s) in lambdoid suture
* – Other accessary ossicles(s)

Diagram 1 – Age distribution by sexes

The high proportion of infants and juveniles is not unexpected in a fairly primitive society such as this.

Table 3 – Infant age distribution

Age (years)	Total No
0–	5
0+	8
0+	4
½+½	4
½–1½	4
"Infant"	1
	26

Table 4 – Juvenile age distribution

Age (years)	Total No
1½–3	6
3–5	11
5–9	17
9–13	6
"Juvenile"	1
	41

The highest proportion of them died as infants and then the death rate was at a lower, but fairly constant rate until they were aged about 10. If they survived that long they stood a good chance of reaching adulthood.

Diagram 2 - Juvenile age distribution

The statures for the adults were calculated from Troffer and G formulae. Diagram 3 (below) shows that the men were on average taller than the women. The tallest man was 180 cm (6 ft) and average height for men was 170 cm (5 ft 7 ins). The average height for women was about 157 cm (5 ft 2 ins).

Diagram 3 - Height distribution by sexes.

Skeletal anomalies

A number of cases of extra vertebrae were noted, although many of the skeletons were insufficiently complete for any definite conclusions to be reached.

Burial 70 had seven cervical, eleven thoracic, six lumbar and five sacral vertebrae. The normal number of vertebrae is seven cervical, twelve thoracic, five lumbar and five sacral (which fuse into the sacrum). The first lumbar had a pair of lumbar ribs and was really a lumbarised thoracic vertebra. The sixth lumbar vertebra also had a lower function in the vertebral column than normal as it was sacralised.

Burial 11 had six vertebrae in the sacrum in addition to the normal number of higher vertebrae. L2 and L3, which are fused, demonstrate the fairly common congenital condition "block vertebrae".

Burial 24A has 6 sacral vertebrae. In the last two lumbar vertebrae L4 and L5 the neural arch is separate from the vertebral body. This condition is known as spondylolysis or, if the vertebral bodies are displaced ventrally, spondylolisthesis. With skeletal material it is impossible to see if there was any displacement.

In Burial 84 the first sacral vertebra is partly lumbarised. There were the normal number of upper vertebrae but probably six sacral vertebrae.

Burials 48 and 44 both had cervical ribs on the last cervical vertebra.

In Burial 119 the distal epiphysis of the left humerus shows anomalous ossification. The medial and lateral epicondyles appear never to have formed as the areas on the diaphysis to which they would have fused have an irregular covering of dense periosteal bone.

Several other burials showed slight exostosis but these were mainly extensions of normal muscle attachment ridges, or else slight normal variations. Many of the older individuals showed exostosis at the joints, but these were due to osteo-arthrities (degenerative joint disease).

Non-metrical variants

These skeletal anomalies are quite distinct but would have had little or no functional effect on the individual concerned. Their occurence is thought to be genetically linked and so would possibly indicate some familial links in the population.

Thirty four individuals (see Table 1) have one or more wormian bones in the lambdoid suture. Some are only on one side and some on both sides of the skull. Seven indivs. (Burials 8, 13, 40B, 48, 49, 103A and Box 109) also have ossicles at lambda, four (Burials 42A, 65, 69 and 105) have wormian bones on the saggital suture and one (Burial 120) has coronal wormian bones. Three indivs. (Burials 48, 82 and 121) have ossicles at asterion, the last two bilaterally; four (Burials 2, 3/4B, 8 and 121) have parietal notch bones, only burial 8 bilaterally; and one (Burial 65) has epiptoric bones on both sides. There are 5 indivs. (Burials 53A, 54A, 71, 82 and 120) with Inca bones and 6 (Burials 25, 50, 64A, 67A, 81 and 86) with open metopic sutures. Three juveniles (Burials 24B, 108 and 109) show orbital osteoporosis in the 5-8 year old age range.

Tori mandibulares were noted in one case (Burial 11) toris palatinus in three cases (Burials 71, 92 and 103A) and tori maxillares in two cases (Burials 65 and 85).

Dental anomalies and pathology

Congenital absence of teeth is quite common, especially where the third molars are involved. Four individuals (Burials 52, 53, 63/73 and 101) have all four third molars missing; another two (Burials 18 and 68A) have just the lower two missing and one (Burial 67A) has only the lower right one missing. One individual (Burial 20) has both lower second premolars missing and one (Burial 122) has both upper lateral incisors missing.

In Burial 44 the upper left canine is malpositioned. Burial 71 shows widespread dental abscesses and Burial 45 is completely edentulous, having lost all his teeth ante mortem.

Pathology

A fair proportion of the individuals examined show evidence of schmorls' nodes in their vertebrae. This is a normal degeneration leading to herniation of the intervertebral dise material.

Burial 42A has a small pit in the distal articular surface of the left tibia similar to those caused by osteochondritis dissecans. The lower portion of the tibiae are affected by periostitis, possibly caused by injuries received at the same time as fracture of the left fibula.

The distal part of the shaft of the left radius in Burial 40B showed transverse ridging and some distortion of shape. It also showed some periostitis. On X-ray there appeared (just below the distal articular surface) three small round hollows, perhaps cysts. No firm diagnosis can be made, but some form of bone destruction and redeposition would seem to be indicated.

In the skull of Burial 115 there was severe pitting of the internal occipital protuberance.

Trauma

A number of well healed fractured bones were noted. Burials 19 and 103B both had a fractured left humerus and Burial 112 a fractured left clavicle. In burial 42A the left fibula was fractured just above the distal articular surface and on healing extra bone was laid down virtually bridging the gap between the tibia and the fibula.

In Burial 80 the sacrum appears to have been fractured at the fourth segment, as the fifth segment lies at right angles to its normal position. There is however, no trace of the exostosis normally associated with healed fractures so the angulation could be due to a developmental anomaly in this part of the skeleton.

Burial 19 also shows two grooves on the skull, possibly of traumatic origin. Out, at the front of the left parietal is of V-shaped sectiom, about 30 mm long and would be a well healed cut. The other, (on the right parietal) just above the mastoid process is 25 mm long and 5 mm wide and of U-shaped section. It too is well healed.